

# 2022-2023

## UNDERGRADUATE BULLETIN

# Wilkes University

84 W. South Street  
Wilkes-Barre, Pennsylvania 18766  
570-408-4235  
1-800-WILKESU, ext. 4235  
(1-800-945-5378)  
[www.wilkes.edu](http://www.wilkes.edu)

### **STATEMENT OF DISCLAIMER**

The statements in this bulletin are for the purposes of information. The University reserves the right to change any provisions or requirements, including tuition and fees, any time within the student's term of residence. No contract is created or implied. Students must fulfill all prevailing degree or program requirements.

# TABLE OF CONTENTS

Wilkes University.....	10
Policy Statement of Nondiscrimination.....	11
Federal and State Act Compliance.....	12
<b>Introduction.....</b>	<b>13</b>
A Message from the Provost.....	13
<b>Calendars.....</b>	<b>13</b>
<b>Wilkes University.....</b>	<b>15</b>
A Guide To Learning.....	15
Institutional Student Learning Outcomes.....	15
Our Mission, Vision, and Values.....	16
<b>Undergraduate Admissions.....</b>	<b>16</b>
Application for Admission.....	16
Acceptance for Admission and Advanced Deposit.....	17
Recommended High School Preparation.....	17
Admission of Transfer Students.....	18
Admission of International Students.....	19
Early Admission of High School Students.....	21
Admission of Part-time Students.....	22
Admissions Decision and Rescind Policy.....	22
Changing from Part-time to Full-time Status.....	22
Readmission to the University.....	22
Campus Visits.....	22
<b>Student Life at Wilkes.....</b>	<b>23</b>
Bonner Leader Program.....	23
Cultural Affairs.....	23
Intramural and Intercollegiate Athletics.....	23
Residence Life.....	24
Student Development.....	25
The Office of Student Affairs.....	25
The Office of Student Affairs.....	26
University Activities.....	26
<b>Student Services.....</b>	<b>26</b>
Advising Services for Special Academic and Student Development Programs.....	27
Bookstore.....	27
Campus Counseling.....	27
Career Services.....	27
Health and Wellness Services.....	27
New Student Orientation Program.....	28
Office of Diversity Initiatives.....	28
<b>Financial Matters: Tuition and Fees.....</b>	<b>28</b>
<b>Financial Aid.....</b>	<b>31</b>
Financial Aid Application Procedure.....	31
Financial Aid for Part-time Students.....	32
Financial Aid for Pharmacy Students in Years Five and Six.....	32
Financial Aid for Students Seeking a Second Degree.....	32
Scholarships.....	32
Veterans' Assistance (VA) Programs.....	33
Withdrawal -- Return of Financial Aid Funds.....	33
<b>Payment Options.....</b>	<b>34</b>
Pricing Schedule.....	34

Refund Schedule.....	44
Refunds.....	46
Veterans Benefits.....	46
<b>Academic Matters.....</b>	<b>47</b>
University Calendar.....	47
Accreditation.....	47
Course Numbering.....	47
Course Scheduling and Enrollment.....	48
<b>Academic Policies and Procedures.....</b>	<b>48</b>
Appeal of Grade Policy.....	48
Attendance.....	49
Auditing Courses.....	50
Change of Major.....	50
Enrollment Status Policy.....	50
Registration.....	50
The Family Educational Rights and Privacy Act of 1974.....	50
Transfer of Credits.....	51
Wilkes-Misericordia-King's Cross-Registration.....	51
Withdrawal from Courses.....	51
<b>Academic Requirements and Regulations.....</b>	<b>53</b>
<b>Academic Credit for Demonstrated Competency.....</b>	<b>53</b>
Advanced Placement Program.....	53
Challenge Examinations.....	53
Credit for Military Experience.....	54
Experiential Learning.....	54
Standardized Examinations of College-Level Learning: CLEP,DANTES, and Excelsior.....	56
Academic Honesty.....	56
Academic Honesty.....	57
Academic Honors and Awards.....	58
Academic Standing, Probation, and Ineligibility.....	59
Course Credit and Grade Point Averages.....	59
Degree Honors.....	61
GPA Adjustment Policy.....	62
Grades.....	63
Graduation Requirements.....	63
Honors Program.....	64
<b>Academic Resources and Support Services.....</b>	<b>66</b>
Center for Global Education and Diversity.....	66
English Language Center .....	67
International Student and Scholar Services.....	69
Office of International Engagement (OIE).....	70
<b>University College.....</b>	<b>70</b>
Act 101 Program.....	70
Disability Support Services.....	70
Student Advisement.....	70
University Library Services.....	71
University Preparatory Program.....	72
University Writing Center.....	73
<b>Degree Programs &amp; Curricula.....</b>	<b>73</b>
<b>Elective Courses: The Third Curricular Component.....</b>	<b>73</b>
Double Major.....	73
Minors.....	73

Second Baccalaureate Degree.....	73
General Education: The First Curricular Component.....	74
<b>Programs to Serve Adult and Non-Traditional Learners.....</b>	<b>78</b>
Advanced Placement Summer Institute.....	78
Graduate, Post-Baccalaureate and Certificate Programs.....	78
Non-Credit Continuing Education.....	79
Part-time Studies.....	79
Summer Courses.....	79
Winter Courses.....	79
The Curriculum.....	79
<b>The Major: The Second Curricular Component.....</b>	<b>80</b>
Bachelor of Arts Degree.....	80
Bachelor of Business Administration Degree.....	80
Bachelor of Fine Arts Degree.....	80
Bachelor of Science Degree.....	80
Bachelor of Science in Nursing Degree.....	81
Teacher Education.....	81
<b>Colleges and Schools.....</b>	<b>83</b>
<b>College of Arts and Sciences.....</b>	<b>82</b>
<b>College of Business and Engineering.....</b>	<b>83</b>
<b>The Jay S. Sidhu School of Business and Leadership.....</b>	<b>84</b>
<b>College of Health and Education.....</b>	<b>86</b>
<b>School of Education.....</b>	<b>87</b>
<b>The Nesbitt School of Pharmacy.....</b>	<b>87</b>
<b>The Passan School of Nursing.....</b>	<b>88</b>
<b>Departments</b>	
<b>DEPARTMENT OF AEROSPACE STUDIES.....</b>	<b>90</b>
<b>DEPARTMENT OF BIOLOGY AND EARTH SYSTEMS SCIENCE.....</b>	<b>93</b>
<b>DEPARTMENT OF CHEMISTRY &amp; BIOCHEMISTRY.....</b>	<b>94</b>
<b>DEPARTMENT OF CIVIL AND ENVIRONMENTAL ENGINEERING.....</b>	<b>95</b>
<b>DEPARTMENT OF COMMUNICATION STUDIES.....</b>	<b>96</b>
<b>DEPARTMENT OF EDUCATION.....</b>	<b>97</b>
<b>DEPARTMENT OF ENGLISH.....</b>	<b>110</b>
<b>DEPARTMENT OF FINANCE, ACCOUNTING AND MANAGEMENT.....</b>	<b>111</b>
<b>DEPARTMENT OF INTEGRATIVE MEDIA, ART AND DESIGN.....</b>	<b>112</b>
<b>DEPARTMENT OF MARKETING, SPORTS MANAGEMENT, AND HOSPITALITY LEADERSHIP.....</b>	<b>114</b>
<b>DEPARTMENT OF MATHEMATICS, PHYSICS AND COMPUTER SCIENCE.....</b>	<b>115</b>
<b>DEPARTMENT OF MECHANICAL &amp; ELECTRICAL ENGINEERING.....</b>	<b>116</b>
<b>DIVISION OF BEHAVIORAL AND SOCIAL SCIENCES.....</b>	<b>119</b>
<b>DIVISION OF GLOBAL CULTURES: HISTORY, LANGUAGES &amp; PHILOSOPHY.....</b>	<b>120</b>
<b>DIVISION OF PERFORMING ARTS.....</b>	<b>121</b>
<b>INTERDISCIPLINARY MAJORS.....</b>	<b>122</b>
<b>INTERDISCIPLINARY MINORS.....</b>	<b>123</b>
<b>SPECIAL PROGRAMS.....</b>	<b>124</b>
<b>Degrees and Programs</b>	
<b>Majors.....</b>	<b>127</b>
Accelerated Baccalaureate Program.....	127
Accounting.....	129

Biochemistry.....	132
Biology.....	134
Cannabis Chemistry.....	137
Chemistry.....	139
Civil Engineering.....	144
Communications, B.A. - Media Production Concentration.....	146
Communications, B.A. - Multimedia Journalism Concentration.....	148
Communications, B.A. - Rhetorical Studies Concentration.....	150
Communications, B.A. - Strategic Communication Concentration.....	152
Computer Information Systems.....	154
Computer Science.....	156
Corporate Finance.....	159
Criminology, B.A.....	161
Earth and Environmental Science, B.A.....	163
Electrical Engineering.....	165
Elementary and Early Childhood Education Major leading to PK-4.....	167
Elementary and Early Childhood Education Major leading to PK-4 Certification with Dual Certification in Special Education (PK-12).....	169
Elementary and Early Childhood Education Major with Dual Special Education Certification.....	171
Engineering Management.....	172
English, B.A.....	174
Environmental Engineering.....	176
Environmental Science, B.S.....	178
Financial Investments.....	181
Geology.....	183
Health Sciences.....	185
History, B.A.....	196
History, B.A. - Public History.....	200
Hospitality Leadership.....	201
Integrative Media, B.A. - Cognate Minor in Art.....	203
Integrative Media, B.A. - Cognate Minor in Business Administration.....	204
Integrative Media, B.A. - Cognate Minor in Communication Studies.....	205
Integrative Media, B.A. - Cognate Minor in Computer Science.....	206
Integrative Media, B.A. - Cognate Minor in English.....	207
Integrative Media, B.A. - Cognate Minor in Entrepreneurship.....	208
Integrative Media, B.A. - Cognate Minor in Game and Emergent Technology Minor.....	209
Integrative Media, B.A. - Cognate Minor in Marketing.....	210
Integrative Media, B.A. - Cognate Minor in Theatre Arts and a Concentration in Acting and Directing.....	211
Integrative Media, B.A. - Cognate Minor in Theatre Arts and a Concentration in Theatre Design.....	212
Integrative Media, B.F.A. - Major in Digital Design + Media Art.....	213
International Relations.....	215
LPN-BSN Program.....	217
Management.....	218
Marketing.....	220
Mathematics.....	222
Mechanical Engineering.....	229
Middle Level Education Major leading to Certification with a Concentration in English, Language Arts, and Reading with Dual Certification in Special Education (PK-12).....	231
Middle Level Education Major leading to Certification with a Concentration in English, Language Arts, and Reading.....	233
Middle Level Education Major leading to Certification with a Concentration in Mathematics.....	235
Middle Level Education Major leading to Certification with a Concentration in Mathematics and Science.....	237
Middle Level Education Major leading to Certification with a Concentration in Mathematics with Dual Certification in Special Education (PK-12).....	239
Middle Level Education Major leading to Certification with a Concentration in Science.....	241

Middle Level Education Major leading to Certification with a Concentration in Social Studies.....	242
Middle Level Education Major leading to Certification with a Concentration in Social Studies and Dual Certification in Special Education (PK-8) .....	243
Musical Theatre, B.F.A.....	245
Neuroscience, B.S.....	247
Nursing.....	249
Pharmacy.....	252
Philosophy, B.A.....	259
Physics.....	261
Political Science, B.A.....	263
Psychology, B.A.....	264
Sociology, B.A.....	266
Spanish, B.A.....	267
Special Education PK-12 Major with Reading Minor.....	269
Sports Management.....	271
Theatre Arts, B.A.....	273
Theatre Arts, B.A. with a concentration in Acting and Directing.....	274
Theatre Arts, B.A. with a concentration in Dance.....	275
Theatre Arts, B.A. with a concentration in Theatre Design and Technology.....	276
Theatre Design and Technology, B.A.....	278
<b>Minors</b> .....	279
Accounting Minor.....	279
Actuarial Science Minor.....	280
Aerospace Studies.....	281
Art History Minor.....	282
Biology Minor.....	283
Business Administration Minor.....	284
Business Analytics Minor.....	285
Chemistry Minor.....	286
Communication Studies, Minor.....	287
Computer Engineering Minor.....	288
Computer Information Systems Minor.....	289
Computer Science Minor.....	290
Criminology Minor.....	291
Dance Minor.....	292
Digital Design + Media Art - Cognate Minors.....	293
Digital Design and Media Art Minor.....	295
Earth and Environmental Sciences.....	296
Economics Minor.....	297
Energy Studies Minor.....	298
Engineering Management Minor.....	299
English Minor.....	300
English Minor in Creative Writing.....	301
English Minor in Workplace Writing.....	302
Entrepreneurship Minor.....	303
Environmental Policy Minor.....	304
Ethics Minor.....	305
Financial Investments Minor.....	306
Game and Emergent Technology.....	307
Geology.....	308
Global Cultures Minor.....	309
History Minor.....	310
Hospitality Leadership Minor.....	311

International Relations Minor.....	312
Leadership Minor.....	313
Legal Studies Minor.....	314
Management Minor.....	315
Marketing Minor.....	316
Mathematics Minor.....	317
Music Minor.....	318
Neuroscience Minor.....	319
Philosophy Minor.....	320
Physics Minor.....	321
Policy Studies Minor.....	322
Political Science Minor.....	323
Psychology Minor.....	324
Public History Minor.....	325
Reading Minor.....	326
Secondary Education Certification.....	327
Sociology Minor.....	328
Spanish Minor.....	329
Sport Psychology Minor.....	330
Sports Management Minor.....	331
Statistics Minor.....	332
Studio Art Minor.....	333
Supply Chain Management Minor.....	334
Sustainability Management.....	335
Theatre Arts Minor.....	336
Women's and Gender Studies Minor.....	337
<b>Other.....</b>	<b>338</b>
Army Military Science.....	338
Bioengineering 4 + 1.....	340
Cannabis and CBD extraction.....	341
Creative Writing 4 + 1.....	342
Ethics Concentration.....	343
Geographic Information Science (GIScience), Certificate.....	344
Leading to a Commission in the United States Air Force.....	347
MBA 4 + 1.....	348
Mechanical Engineering 4+1.....	349
Middle Level Education Major leading to Certification with a Concentration in Mathematics and Science and Dual Certification in Special Education (PK-8).....	350
Middle Level Education Major leading to Certification with a Concentration in Science and Dual Certification in Special Education (PK-8).....	352
Other Special Programs.....	354
Personal And Professional Development.....	355
PharmD/MBA.....	356
Pre-Law Studies.....	357
Secondary Education Certification for the Major with Dual Certification in Special Education 7-12.....	358
Secondary Education Certification for the Minor with Dual Certification in Special Education 7-12.....	359
Secondary Education Certification for the Minor with Dual Certification in Special Education PK-12.....	360
Sustainability Management, Certificate.....	361
<b>University Personnel.....</b>	<b>362</b>
<b>Academic Departments.....</b>	<b>362</b>
College of Arts and Sciences.....	362
College of Business and Engineering.....	362
College of Health and Education.....	362

Office of the Vice President for Student Affairs.....	362
School of Education.....	363
The Jay S. Sidhu School of Business and Leadership.....	363
The Nesbitt School of Pharmacy .....	363
The School of Nursing.....	363
Administration.....	363
<b>Board of Trustees</b> .....	364
Officers.....	364
Trustees Emeriti.....	365
Correspondence Directory.....	365
Executives Emeriti.....	366
Faculty.....	366
Faculty Emeriti.....	374
Office of the Provost.....	377
Presidents Emeriti.....	377
<b>Course Descriptions</b>	
ACT.....	378
Accelerated Bachelor of Business Administration (ABBA).....	378
Accounting.....	380
Aerospace Studies.....	382
Anthropology.....	383
Art.....	384
Biology.....	385
Business Administration.....	391
Careers.....	393
Chemistry.....	393
Civil Engineering.....	399
Communication Studies.....	401
Computer Science.....	405
Dance.....	409
Earth and Environmental Sciences.....	411
Economics.....	414
Education.....	415
Education: Special Education.....	418
Electrical Engineering.....	420
Energy Studies.....	423
Engineering.....	424
Engineering Management.....	425
English.....	426
English as a Second Language.....	429
Entrepreneurship.....	430
Environmental Engineering.....	431
Finance.....	433
First-Year Foundations.....	434
Foreign Languages.....	434
Geographic Information Science.....	435
Geology.....	436
Global Cultures.....	439
History.....	439
Honors Program.....	441
Hospitality Leadership.....	442
Integrative Media.....	443
Intercollegiate Athletics.....	446

International Relations.....	446
Leadership.....	446
Management.....	447
Marketing.....	448
Mathematics.....	449
Mechanical Engineering.....	452
Military Science (Army ROTC).....	456
Music.....	456
Nursing.....	458
PHA.....	461
Personal and Professional Development.....	470
Philosophy.....	470
Physics.....	473
Political Science.....	476
Psychology.....	479
SM.....	482
Sociology.....	482
Spanish.....	485
Study Tour Experience.....	487
Sustainability Management Certificate.....	487
Theatre Arts.....	487
Women's and Gender Studies.....	489
<b>Index.....</b>	<b>490</b>

# **Wilkes University**

## **2022-2023**

### **Undergraduate Bulletin**

### **Baccalaureate Studies**

WILKES UNIVERSITY  
Wilkes-Barre, Pennsylvania 18766

---

- [Introduction](#)
- [Policy Statement of Nondiscrimination](#)
- [Federal and State Act Compliance](#)
- [Colleges and Schools](#)
- [Degrees and Programs](#)
- [Course Descriptions](#)
- [University Personnel](#)

## Policy Statement of Nondiscrimination

Wilkes University is committed to providing a welcoming environment for all members of our community and to ensuring that all educational and employment decisions are based on individuals' abilities and qualifications. Wilkes University prohibits discrimination in its educational programs, employment, admissions or any activities on the basis of race, color, national or ethnic origin, age, religion, disability, pregnancy, gender, gender identity and/or expression, sexual orientation, marital or family status, military or veteran status, genetic information, or any other characteristic protected under applicable federal, state or local laws.

Consistent with this principle, Wilkes University will comply with state and federal laws such as the Pennsylvania Human Relations Act or other applicable state law, Title IX, Title VI and Title VII of the Civil Rights Act, the Americans with Disabilities Act, Section 504 of the Rehabilitation Act of 1973, the Age Discrimination in Employment Act of 1967, the Ethnic Intimidation Act of 1982 (P.L. 537-154) and other laws that prohibit discrimination.

As a recipient of federal financial assistance for education activities, Wilkes University is required by Title IX of the Education Amendments of 1972 to ensure that all of its education programs and activities do not discriminate on the basis of sex/gender, including in admissions and employment. Sexual harassment, sexual assault, dating and domestic violence, and stalking are forms of sex discrimination, which are prohibited under Title IX and this Policy.

All members and visitors of the Wilkes University community have the right to raise concerns or make a complaint regarding discrimination under this Policy without fear of retaliation. Inquiries about this Policy statement may be addressed to the University's Title IX Coordinator in person, by mail, by telephone, or by email, using the contact information listed below. A report may be made at any time (including during non-business hours). Anonymous complaints may also be made online via our [discrimination and harassment form](#).

### Title IX Coordinator

**Elizabeth C. Leo, Esq.**  
Title IX Coordinator  
Weckesser Hall, 2nd Floor  
Wilkes-Barre, PA 18766  
(570) 408-7788  
[elizabeth.leo@wilkes.edu](mailto:elizabeth.leo@wilkes.edu)

### Deputy Title IX Coordinators

#### Student Coordinator

**Philip J. Ruthkosky, PhD**  
Associate Dean of Student Affairs  
Office of Student Affairs  
2nd Floor Passan Hall  
Wilkes-Barre, PA 18766  
(570) 408-4108  
[philip.ruthkosky@wilkes.edu](mailto:philip.ruthkosky@wilkes.edu)

#### Faculty/Staff Coordinator

**LynnMarie Shedlock**  
Human Resources Manager - Employee Relations & Development  
84 W. South Street  
Wilkes-Barre, PA 18766  
(570) 408-2034  
[lynnmarie.shedlock@wilkes.edu](mailto:lynnmarie.shedlock@wilkes.edu)

Inquiries about Title IX may be directed to Wilkes University's Deputy Title IX Coordinator, the Assistant Secretary, or both. The Assistant Secretary can be contacted at U.S. Department of Education, Office of Postsecondary Education, 400 Maryland Avenue S.W., Washington, D.C. 20202, or (800) 421-3481. For further information on notice of non-discrimination, you can find the [address and phone number of the OCR office that serves your area](#) or call 1-800-421-3481.

## **Federal and State Act Compliance**

The Wilkes University Police Department (WUPD) prepares, publishes, and distributes this annual report in compliance with the Jeanne Clery Disclosure of Campus Security Policy and Campus Crime Statistics Act (The "Clery Act"). This document is prepared in compliance with Act 73 of 1988 of the Commonwealth of Pennsylvania and the Jeanne Clery Disclosure of Campus Security Policy and Campus Crime Statistics Act, 20 USC §1092(f). This report is available in hard copy format upon request, during normal business hours, at the University Police Communications Center, 148 S. Main Street, UCOM Garage; the Office of Admissions, Chase Hall's Reception Area; and the Office of Student Affairs, Passan Hall, second floor. Additionally, an electronic copy of this report is available on the University website at: [www.wilkes.edu](http://www.wilkes.edu). In addition, daily logs and crime logs are available for review during normal business hours at the University Police Communications Center. Any questions regarding this report and the specific requirements of the Acts that govern its production may be addressed to the Lieutenant of Support Operations, University Police Department, at ext. 4982.

# INTRODUCTION

## Wilkes University

- [Message from the Provost](#)
- [Mission, Vision, and Values](#)
- [A Guide to Learning](#)
- [Institutional Student Learning Outcome](#)
- [Student Life at Wilkes: An Inclusive Community](#)
- [Campus Resources, Services, and Programs](#)
- [Undergraduate Admissions](#)
- [Financial Matters](#)
- [Academic Matters](#)
- [Academic Policies and Procedures](#)
- [Academic Requirements and Regulations](#)
- [Academic Resources and Support Services](#)
- [Undergraduate Academic Calendars and Schedules](#)
- [Degree Programs & Curricula](#)

## A Message from the Provost

As the Chief Academic Officer of the University, it is with pleasure that I extend a welcome to you on behalf of the members of the Faculty, Staff, and Administration of Wilkes University. The Wilkes' Mission is to prepare our students to be life-long learners. All of us at the University are dedicated to the future success of our students. That dedication is reflected in the quality of teaching, thoughtful advising, and mentorship of the University faculty and staff.

Wilkes faculty and advisors will guide you through the course work that is outlined in the pages of this document. The lecture or on-line courses, writing seminars, laboratories, discussion groups, service learning and research projects are only a portion of your overall educational experience. You will be challenged by a variety of pedagogical approaches by the Wilkes faculty who are active scholars in their respective fields. Wilkes students are expected to be active participants in this scholarly activity which will contribute to your intellectual and professional growth. Community engagement, citizenship, ethics, leadership, and the development of effective communication skills are integral components of the Wilkes undergraduate experience. A general education in the liberal arts and sciences along with the depth of knowledge in your field of study, will prepare you for success in an ever changing world.

You will be exposed to many curricular and extra-curricular experiences that will contribute to your personal growth in the next few years. Take this time in your life to experiment with new activities and get out of your comfort zone. All of us are dedicated to helping you make your learning journey a great success and your Wilkes experience one of excitement and continuous discovery. Enjoy your time with the Wilkes family, work hard, and make these next few years the best that they can be. The time will go quickly so cherish it and realize that the friendships you forge here with faculty and classmates are friendships that will last a lifetime. You will become part of the ever growing Wilkes family.

David M. Ward. Ph.D.

Senior Vice-President/Provost  
Wilkes University

## Calendars

### Undergraduate Academic Calendars and Schedules

<b>UNDERGRADUATE ACADEMIC CALENDAR 2022-2023</b>	Approved 8-18-2021	
<b>SUMMER PRE-SESSION</b>		
Classes Commence	Monday, May 23, 2022	8:00 a.m.
Classes End	Friday, June 10, 2022 (INCLUDING FINAL EXAMINATIONS)	12:00 p.m.

## Introduction

<b>SUMMER FIRST DAY SESSION</b>		
Classes Commence	Monday, June 13, 2022 (No class July 5th)	8:00 a.m.
Classes End	Friday, July 15, 2022 (INCLUDING FINAL EXAMINATIONS)	12:00p.m.
<b>SUMMER NINE-WEEK EVENING SESSION</b>		
Classes Commence	Monday, June 13, 2022 (No class 6/20 or 7/4)	6:00 p.m.
Classes End	Tuesday, August 16, 2022 (INCLUDING FINAL EXAMINATIONS)	10:00 p.m.
<b>SUMMER SECOND DAY SESSION</b>		
Classes Commence	Monday, July 18, 2022	8:00 a.m.
Classes End	Friday, August 19, 2022 (INCLUDING FINAL EXAMINATIONS)	12:00 p.m.
<b>FALL SEMESTER - 2022</b>		
Classes Commence (Undergraduate and Graduate)	Monday, August 29, 2022	8:00 a.m.
Labir Day Recess Begins	Saturday, September 3, 2022	8:00a.m.
Classes Resume	Tuesday, September 6, 2022	8:00 a.m.
<b>Summer Commencement</b>	Sunday, September 11, 2022	1:00 p.m.
Fall Recess Begins	Thursday, October 13, 2022	8:00 a.m.
Classes Resume	Monday, October 17, 2022	8:00 a.m.
<b>FOLLOW THURSDAY CLASS SCHEDULE</b>	Tuesday November 22, 2022	
Thanksgiving Recess Begins	Wednesday, November 23, 2022	8:00 a.m.
Classes Resume	Monday, November 28, 2022	8:00 a.m.
<b>FOLLOW FRIDAY CLASS SCHEDULE</b>	Monday, December 12, 2022	
Classes End (Undergraduate Only)	Monday, December 12, 2022	5:00 p.m.
Final Examinations Begin	Monday, December 12, 2022	6:30 p.m.
Final Examinations End	Monday, December 19, 2022	4:00 p.m.
Final Examination Conflict Make-up Days	Tuesday/Wednesday, December 20/21, 2022	
<b>INTERSESSION 2023</b>		
	Monday, December 26, 2022 through Friday, January 13, 2023 (No class January 1st)	
<b>SPRING SEMESTER - 2023</b>		
Classes Commence	Tuesday, January 17, 2023	8:00 a.m.
Spring Recess Begins	Saturday, March 4, 2023	8:00 a.m.
Classes Resume	Monday, March 13, 2023	8:00 a.m.
Holiday Recess Begins	Thursday, April 6, 2023	8:00 a.m.
Classes Resume	Monday, April 10, 2023	8:00 a.m.
<b>FOLLOW THURSDAY CLASS SCHEDULE</b>	Tuesday, May 2, 2023	
Classes End	Wednesday, May 3, 2023	5:00 p.m.

	(FOLLOW <b>FRIDAY</b> CLASS SCHEDULE)	
Final Examinations Begin	Thursday, May 4, 2023	6:30 p.m.
Final Examinations End	Thursday, May 11, 2023	4:00 p.m.
Final Examination Conflict Make-up Days	Friday/Saturday, May 12/13, 2023	
<b>SPRING COMMENCEMENT</b>	Saturday, May 20, 2023 Master's & Doctoral Ceremony Bachelor's Ceremony	10:00 a.m. 3:00 p.m.

# Wilkes University

## A Guide To Learning

Wilkes University is a dynamic community of learners that encourages students to take an active role in their education. Within the framework of a carefully considered and integrated curriculum, the University provides a broad variety of learning experiences designed to place individual learning at the center of academic life. Students will be challenged to think critically and creatively, invited to read and write extensively, and expected to become adept at quantitative reasoning and the use of contemporary technology as they prepare to become productive and responsible citizens of the global society. Mindful of the rapidly expanding body of knowledge and the vast array of learning and teaching styles in this academic environment, the University remains committed to the values articulated by Dr. Eugene S. Farley, Wilkes University's founding president, and adopted by the Wilkes University faculty as a Guide to Learning.

### An educated person:

- seeks truth, for without truth there can be no understanding;
- possesses vision, for we know that vision precedes all great attainments;
- is aware of the diversity of ideas and beliefs that exists among all people;
- has faith in the power of ideals to shape the lives of each of us;
- knows that mankind's progress requires vigor, moral courage, and physical endurance;
- cultivates inner resources and spiritual strength, for they enrich our daily living and sustain us in times of crisis;
- has ethical standards by which to live;
- respects the religious convictions of all people;
- participates constructively in the social, cultural, and political life of the community;
- communicates ideas in a manner that assures understanding, for understanding unites us all in our search for truth.

These values are supported by the Wilkes University Mission, Vision, and Values and are projected in the Institutional Student Learning Outcomes, which guide all learning opportunities and experiences at Wilkes.

## Institutional Student Learning Outcomes

(Adopted by the faculty, November 1, 2007)

The students will develop and demonstrate through course work, learning experiences, co-curricular, and extracurricular activities

- the knowledge, skills, and scholarship that are appropriate to their general and major field areas of study;
- effective written and oral communication skills and information literacy using an array of media and modalities;
- practical, critical, analytical, and quantitative reasoning skills;
- actions reflecting ethical reasoning, civic responsibility, environmental stewardship, and respect for diversity; and
- interpersonal skills and knowledge of self as a learner that contribute to effective teamwork, mentoring, and lifelong learning

# Our Mission, Vision, and Values

## Mission

To continue the Wilkes tradition of liberally educating our students for lifelong learning and success in a constantly evolving and multicultural world through a commitment to individualized attention, exceptional teaching, scholarship and academic excellence, while continuing the university's commitment to community engagement.

## Vision

Wilkes University will provide exceptional educational experiences that transform students and develop innovations through scholarly activities that lead to national recognition and shape the world around us.

## Values

- Mentorship: Nurturing individuals to understand and act on their abilities while challenging them to achieve great things.
- Scholarship: Advancing knowledge through discovery and research to better educate our constituents.
- Diversity: Embracing differences and uniqueness through sincerity, awareness, inclusion and sensitivity.
- Innovation: Promoting creative scholarly activities, programs, ideas and sustainable practices.
- Community: Appreciating and collaborating with mutual respect to foster a sense of belonging.

# Undergraduate Admissions

- [Application for Admission](#)
- [Acceptance for Admission and Advanced Deposit](#)
- [Recommended High School Preparation](#)
- [Admission of Transfer Students](#)
- [Admission of International Students](#)
- [Early Admission of High School Students](#)
- [Admission of Part-time Students](#)
- [Changing from Part-time to Full-time Status](#)
- [Readmission to the University](#)
- [Campus Visits](#)

## Application for Admission

Applications for admission to Wilkes University may, generally, be completed and submitted online or sent directly to the Wilkes University Office of Admissions.

Students who wish to enroll at the University full-time or part-time must contact the Office of Admissions to obtain an Application for Admission. Information and instructions regarding secondary school transcripts and records, essays and/or letters of recommendation (which are required for admittance to some programs), standardized test reports, and entrance examinations may be obtained by contacting the Office of Admissions.

**Note: Several degree and specialty programs have special application procedures.**

Pre-Pharmacy applicants who are interested in the Pre-Pharmacy Guaranteed Seat Program in addition must submit an essay, three letters of recommendation and successfully complete an interview with the School of Pharmacy's Admissions Committee to gain early admission to this program.

Applicants for any of the Pre-Medical Scholars, Health Science Specialty Programs, or other doctoral-related programs, must note their interest on the application for admission and successfully complete an interview with the selection committee to qualify for acceptance into these programs.

Applicants for the degree programs in Musical Theatre or Theatre Arts must successfully complete an audition, and applicants for the degree program in Theatre Design and Technology must provide samples of their art or design work and complete an interview with the departmental faculty, in order to gain admission into these programs.

Applicants who are accepted into the Digital Design and Media Art program and are interested in the B.F.A., must submit a portfolio to the Department of Integrative Media, Art and Design.

Admitted students who qualify for an honors application, will be notified during the admission process. Students invited will be asked to complete the online application and submit additional essays and portfolio materials.

In all cases, invitations to interview or audition for these identified degree programs are extended by the academic departments at their discretion. All departments reserve the right to interview applicants or request additional documentation.

## Acceptance for Admission and Advanced Deposit

### All applicants for admission to the University must submit the following:

- 1) a completed and signed application for admission to the University;
- 2) an official copy of the most recent high school or college transcript or both (a official final high school transcript is required after the applicant graduates high school);

After the application file is complete, the Office of Admissions will review the file, render a decision, and notify the applicant of that decision. Admissions decisions are made on a "rolling" basis, and notification is generally made within two to four weeks from the date the file is complete. An applicant may be required to complete an evaluative interview prior to the rendering of a final decision.

All students guarantee their place in the entering class by forwarding a \$300 tuition deposit to the Office of Admissions. May 1 is the priority deadline for receipt of deposits.

Wilkes University also accepts applications for the spring semester. Procedures are similar to those for students entering in the fall semester.

While Wilkes practices "rolling" admissions, the University reserves the right to close admission with a two-week notification.

Wilkes University also offers Early Decision Admission.

Committing early to Wilkes University comes with several advantages:

- priority housing, based on preference and availability
- advanced registration for courses within your intended field of study
- access to an early advising session
- scholarship priority with early FAFSA submission

The same application requirements listed above are applicable for Early Decision. The deadline to apply for Early Decision is November 15th. Additional information about Early Decision and the full admissions process can be found here: <https://www.wilkes.edu/admissions/undergraduate-requirements/index.aspx>

## Recommended High School Preparation

In order to best prepare for the academic demands of collegiate study, undergraduate applicants to Wilkes University are strongly encouraged to follow a rigorous, college preparatory curriculum throughout their secondary educational experience.

Such a curriculum generally includes four years of progressive course work in English, three years of mathematics, two years of science (including, at least, one laboratory component), three years of social studies, and an introduction to computing. Some degree programs may require additional curriculum completion for science and mathematics. Although not required, the faculty of the University recommends this schedule of progressive course work as a foundation for collegiate level study and for admission to the University. Many undergraduate degree programs at Wilkes University have additional college preparatory course requirements. General and special requirements for secondary course work are described more fully in the Admissions section of the Wilkes University Web site at <https://www.wilkes.edu/admissions>.

Elective courses in the secondary educational experience should be drawn from academic subject areas and chosen with care to reflect individual interest and proposed college major areas of study. High school electives supportive of college academic majors include computer science, foreign language, communications, the fine and performing arts, and specialized technical courses.

Applicants whose college preparation curriculum does not follow the pattern described may still qualify for admission to Wilkes University if there is other strong evidence of the student's readiness to engage in college-level work.

## **Admission of Transfer Students**

### **Wilkes University welcomes transfer students from other accredited colleges and universities for both the fall and spring semesters.**

Transfer students must submit an application for admission and a transcript from every post-secondary institution attended (even if no credits were earned). An official final high school transcript and SAT or ACT scores may be required, and some transfer students may be asked to complete assessment tests prior to admission or registration for courses. Admission of transfer students is conducted on a "rolling" basis. In addition to an admissions decision, transfer students will receive a free transcript evaluation. Admission of transfer students is conducted on a "rolling" basis. In addition to an admissions decision, transfer students will receive a free transcript evaluation.

Applicants must be in good academic standing and must hold a minimum cumulative grade point average of 2.00 (C) at their current or most recently attended institution in order to be considered for admission to Wilkes University. All courses with a grade of 2.00 (C) or higher that are comparable to those in the curriculum at Wilkes and from recognized accredited institutions will be accepted for transfer. Students transferring into the nursing program may register for courses only after consultation with the Chairperson of the Department of Nursing.

Enrollment in the life science majors (Biology, Chemistry, Biochemistry, Nursing, and Pharmacy) is limited, and admission to programs in these areas is competitive. Applicants into the life science majors must be in good academic standing and must hold a minimum cumulative college grade point average of 3.00 (B) from their attended institution(s) in order to be considered for admission to Wilkes University. Additional Nursing application documents and/or nursing entrance exams may be required prior to a decision and/or would be noted in the acceptance letter. Students transferring into the nursing program may register for courses only after consultation with the Chairperson of the Department of Nursing.

Applicants for the degree programs in Musical Theatre or Theatre Arts must successfully complete an audition, and applicants for the degree program in Theatre Design and Technology must provide samples of their art or design work and complete an interview with the departmental faculty, in order to gain admission into these programs.

Transfer students applying directly to the School of Pharmacy for entry into the professional school must additionally complete a School of Pharmacy application and forward three letters of recommendation to the School of Pharmacy Admissions Committee. After the file is complete, the School of Pharmacy may schedule a personal interview, as the School deems appropriate. Students with questions applying directly into the Pharmacy Professional Program can contact 570-408-4280.

Transfer students applying for the fully online degree completion pathway in the Elementary and Early Childhood (PreK-4) program must apply and be accepted BEFORE May 1st. This program has a Fall Cohort ONLY admission.

In all cases, invitations to interview or audition for these identified degree programs are extended by the academic departments at their discretion. All departments reserve the right to interview applicants or request additional documentation.

University policy prohibits the Office of Admissions from knowingly admitting any student who has been dismissed from any other college or university for any reason until a period of one year has elapsed from the time of dismissal. Students who have been placed on probation by another college or university will be considered on a case-by-case basis.

## **Degree Completion and Graduation Requirements for Transfer Students**

Transfer students from two-year institutions must complete a minimum of 60 credits at an accredited degree granting institution.

To graduate, all transfer students must complete a minimum of 30 credits (exclusive of advanced placement credit awarded by Wilkes) and a minimum of 50% of their major field (and any minor field) credits at Wilkes University.

Additionally, all transfer students must satisfy the University's General Education Requirements. (See the bulletin section entitled "General Education: The First Curricular Component" for an explanation of these requirements and associated student learning outcomes.) The University makes every effort to recognize course work and apply credits that are transferred into the University from an accredited institution in satisfaction of the General Education Requirements or to make other accommodations to ease the transition from one institution to another. For example, students who transfer certain science courses or sequence of science courses to Wilkes may, with the approval of the appropriate Dean, be permitted to apply these courses or course sequences to the requirements for Area II (The Scientific World) of the General Education Curriculum. Approval of the application of credits for courses or sequences of courses to satisfy specific requirements in the General Education Curriculum is not automatic and is dependent upon a complete review and analysis of submitted transcripts (and other pertinent documentation, as requested). Transfer students and potential transfer students are, therefore, encouraged to consult with the Office of Admissions on these matters.

Students who hold a baccalaureate degree from Wilkes University or another regionally accredited institution and who seek a second baccalaureate degree will be considered exempt from the Wilkes General Education Curriculum for the purposes of seeking a second bachelor's degree or Doctor of Pharmacy degree.

Transfer students should consult the "Graduation Requirements" section of this bulletin for an explanation of institution-wide requirements for graduation.

## Prior Learning Assessment for Transfer and Adult Degree Completion Students

A special office, the Office of Prior Learning Assessment (PLA), has been created to help students in their transition into the Wilkes University academic community and in the evaluation of their prior learning in the award of academic credit for demonstrated competency. The Office of Prior Learning Assessment works in collaboration with the Office of Admissions and with academic departments to inform and advise entering students about opportunities by which academic credit might be awarded for learning that takes place outside of the "traditional" college classroom (e.g., CLEP, DSST, and Excelsior exams, departmental challenge exams, and experiential learning portfolio) and to familiarize students and their advisors with the policies and procedures associated with the award of credit for demonstrated learning and Prior Learning Assessment at Wilkes. The Office of Prior Learning Assessment is housed in University College, Conyngham Hall.

## An important note for all students regarding the transfer of credits to Wilkes University:

While course credits may be transferred to the University from another accredited institution in fulfillment of Wilkes University graduation requirements, grades earned in those courses accepted for transfer are not included in the computation of the cumulative grade point average earned at Wilkes University.

## Admission of International Students

International students are defined as those who do not hold U.S. citizenship, who are not permanent residents of the U.S., or who do not hold resident alien status in the U.S.

Undergraduate International students must submit the following in order to be considered for admission to Wilkes University:

- 1) A completed application;
- 2) Official results of English Proficiency
  - Undergraduate students must earn a paper-based score of 500 or computer-based score of 173 or an iBT score of 60 on the TOEFL,
  - IELTS of 5.5 or higher
  - Successful completion of ELS Level 112
  - STEP/EIKEN Level 10
  - GTEC 1076
  - PTE 42
  - Successful completion of WESLI Level 700
  - Duolingo Score of 85 or higher
  - or evidence of the successful completion of an accredited intensive English language program, graduation from a U.S. High School, or English must have been the language of instruction for the student,

All international applicants whose education has been primarily outside the United States of America must provide objective evidence of proficiency in the English language. However, the following exceptions apply:

Applicants primarily educated in the following countries/territories:

- American Samoa
- Anguilla
- Antigua
- Australia
- Bahamas
- Barbados
- Bermuda
- Belize
- Botswana
- British Virgin Islands
- Canada
- Cayman Islands

## Introduction

- Christmas Islands
- Cook Islands
- Dominica
- Falkland Islands
- Federated States of Micronesia
- Fiji
- Gibraltar
- The Gambia
- Guyana
- Ghana
- Grenada
- Guam
- Hong Kong
- Ireland
- Jamaica
- Kenya
- Kiribati
- Lesotho
- Liberia
- Malawi
- Malta
- Marshall Islands
- Mauritius
- Montserrat
- Namibia
- Nauru
- New Zealand
- Nigeria
- Niue
- Norfolk Island
- Northern Mariana Islands
- Palau
- Papua New Guinea
- Pitcairn Islands
- Saint Helena
- Saint Kitts and Nevis
- Saint Lucia
- Saint Vincent and the Grenadines
- Samoa
- Sandwich Islands
- Sierra Leone
- Singapore
- Solomon Islands
- South Africa (English-speaking, i.e. not Afrikaans)
- South Georgia Islands
- Swaziland
- Tanzania
- Tonga
- Trinidad and Tobago
- Turks and Caicos Islands
- Tuvalu
- Uganda
- United States
- United Kingdom
- US Virgin Islands (St. Thomas, St. Croix, St. John)
- Zambia
- Zimbabwe

Wilkes University will now accept the TOEFL ITP Plus for Chinese students.

If a student falls below the minimum English requirement they can begin in the University Preparatory Program (UPP). The one-semester University Preparatory Program, offered on campus or online, provides international students with the necessary skills and strategies needed to effectively transition and succeed in college. UPP lets you expand and refine your language and academic skills while fostering the appreciation of educational growth and diversity necessary to contribute to the global learning community.

Submitting one of the following scores in addition to the other admission requirements would allow a student to be considered for admission into the UPP.

- [International English Language Testing System \(IELTS\): 4.5 - 5.0](#)
- [TOEFL iBT: 53-59](#)
  - 169-179 Computer
  - 480-499 Paper
- [STEP/EIKEN: 2-2A STEP](#)
- [Duolingo: 80-84](#)
- [PTE: 35-42](#)
- [SAT: 350-450](#)

3) Copy of current passport or visa, if applicable;

4) Official transcripts of all secondary or post-secondary work completed to date (all transcripts should also be accompanied with a translation if in a language other than English); and

5) a copy of the secondary or post-secondary diploma or leaving certificate.

If you attended a college or university syllabi may be required to determine transfer credits.

**If you attended a college/university outside of the U.S.**, you may be required to submit a course-by-course evaluation of your foreign transcripts to be considered for admission and transfer credits. Emailed copies of the transcript are acceptable for the admissions process, however official transcripts are required to be submitted to Wilkes by the first day of mandatory orientation. To be considered official, the evaluation must be received directly from one of the following companies:

- [Academic Evaluation Services](#)
- [CGFNS International](#)
- [Educational Credential Evaluators](#)
- [Educational Perspective](#)
- [Educational Records Evaluation Service](#)
- [Foundation for International Services \(FIS\)](#)
- [Josef Silny & Associates, Inc., International Education Consultants](#)
- [SDR Educational Consultants](#)
- [SPANTRAN](#)
- [World Education Services](#)

**If you attended a college/university in the U.S.**, you must submit an official transcript. Please contact the registrar's office at your prior institution to submit a transcript request. Transcript(s) must be sent directly from the college/university to Wilkes in order to be considered official.

After the application file is complete, the Office of Admissions will review the file, render a decision, and notify the applicant of that decision. Admissions decisions are made on a "rolling" basis, and notification is generally made within two to four weeks from the date the file is complete. An applicant may be required to complete an evaluative interview prior to the rendering of a final decision.

For admission in the fall semester, applicants who reside outside of the USA must return their completed application and attendant documents by June 15. Applicants who reside within the USA, and have a valid visa, must return their completed application and attendant documents by August 1. International Nursing Applicants must apply no later than May 15th for the fall semester. An interview is required for the nursing program.

For admission in the spring semester, applicants who reside outside of the USA must return applications and documents by November 15. Applicants who reside within the USA, and have a valid visa, must return applications and documents by December 10. International Nursing Applicants must apply no later than October 15th. An interview is required for the nursing program.

All students guarantee their place in the entering class by forwarding a \$300 tuition deposit to the Office of Admissions. May 1 is the priority deadline for receipt of deposits.

An I-20 form will only be issued after the application process is complete, the student has been admitted to the institution and financial statement showing sufficient funds or scholarship letter has been received.

## Early Admission of High School Students

Wilkes University will consider admission for exceptionally gifted and motivated students who wish to enter the University without completing the requirements for a high school diploma.

## Introduction

In order to be considered for admission to the University, applicants must provide all of the materials listed under the "[Acceptance for Admission and Advanced Deposit](#)" section of this bulletin and must submit at least one letter from a high school official granting permission for early admission. Applicants must also successfully complete an interview with a counselor in the Office of Admissions.

## Admission of Part-time Students

Those who wish to enroll as part-time students must contact the Office of Admissions to discuss their plans and to obtain an Application for Admission. Students who have completed college-level work at another institution must submit an official transcript as part of the admission process. Those who have completed no college work must submit an official high school transcript as evidence of high school graduation or the GED as evidence of readiness to pursue college-level studies. All documentation should be sent to the Office of Admissions.

## Admissions Decision and Rescind Policy

Wilkes University seeks to enroll talented and capable students who have the potential to be active and productive members of our campus community.

Wilkes University reserves the right to revoke an admissions decision or enrollment on various circumstances deemed appropriate by the University; including, but not limited to personal behavior, academic performance, or social conduct that may poorly reflect our values of "an educated person" (please reference in the bulletin: [A Guide to Learning](#)).

## Changing from Part-time to Full-time Status

Part-time, non-degree seeking students who wish to enroll as full-time students must consult with the Vice president of Enrollment and Marketing as the first step in this process. Students who have completed 30 or more credits and have maintained a cumulative grade point average of 2.00 (C) or higher will be accepted as full-time students. Students who have completed fewer than 30 credits will be required to provide high school transcripts and appropriate test scores in support of their petition to enroll full-time before a decision will be made. Requests for change of status must be made through the Office of Admissions.

Part-time, degree-seeking students who wish to enroll as full-time students must consult with their academic advisor. Students who have completed 30 or more credits and have maintained a cumulative grade point average of 2.00 (C) or higher will be accepted as full-time students.

## Readmission to the University

Students who previously attended Wilkes University and did not graduate, must contact the Registrar's Office for re-admission into the University.

Wilkes University allows service members and reservists to be readmitted to their program of study if they are temporarily unable to attend class, or need to suspend their studies, due to Service requirements.

## Campus Visits

A campus visit and an interview are strongly recommended for all students interested in studying at Wilkes University. Students and family members may schedule an interview by calling or writing the Office of Admissions. Campus visits may include an interview with an admissions professional, appointments with faculty members, sessions with coaches and co-curricular leaders, campus and residence hall tours, attendance in selected classes, and financial aid counseling.

In addition to individualized campus visits, the Office of Admissions hosts a number of Open Houses throughout the academic year. These visitation days usually include an introduction with admissions staff, academic department meetings, campus tours, financial aid sessions, an information session with current students, administrators and faculty, and a complimentary meal. Specific information about the agenda and dates for these days is available from the [Admissions Visit Days page](#).

# Student Life at Wilkes

## Student Life at Wilkes: An Inclusive Community

### Student Life

Creating and nurturing diversity of thought, culture, and belief are among the key values upon which Wilkes University was founded. These values are acknowledged in our motto, “Unity Amidst Diversity.” Thus, Wilkes welcomes and supports a diverse campus community and invites students of all races, ethnicities, religions, and other diverse backgrounds to join our University family. The members of the Wilkes faculty and staff are committed to providing mentorship and support to all Wilkes students in order to empower them to meet their full potential and to ensure student academic and personal success.

In an effort to provide a welcoming and supportive environment for students of all backgrounds, we offer a range of programs, services, and activities as diverse as our campus community:

- an established and interconnected system of peer, faculty, and staff mentorship programs;
- a rich and varied schedule of extra-curricular activities and opportunities, including social events, multicultural activities for students, faculty, and staff, concerts, recitals, theatre productions, readings, and lectures;
- specialized and individualized support for international and minority students;
- an extensive list of opportunities for community service, internships, service-learning, and leadership;
- individualized academic advising;
- career advising and counseling;
- personal counseling and advising;
- academic support services;
- health and counseling services;
- a variety of housing options, including the Multicultural Residence Hall and First-Year Student Living-Learning Communities;
- accommodation for special dietary needs that includes attentiveness to religious and personal diet requirements;
- a comprehensive resources library; and
- a variety of merit- and need-based financial aid options.

Wilkes University is a community of learning in which co-curricular and extra-curricular activities complement academic life. Students, faculty, and staff work together to promote individual student development by means of a variety of activities, programs, organizations, and cultural opportunities. All campus organizations are open to all students, and all function in collaboration with faculty advisors and the Student Affairs staff.

Resources, services, and activities pertaining to Student Life are outlined in the following section of this bulletin. Academic resources and support services are described in the “Academic Information” section of this bulletin.

## Bonner Leader Program

The Bonner Leader Program is a multifaceted civic engagement and leadership program for undergraduate students. Introduced by the Bonner Foundation in 1990 with the motto “Access to Education, Opportunity to Serve,” Bonner has grown into a nationally acclaimed, four-year, service-based program at a network of more than 70 colleges and universities. Each year, a new cohort of incoming first-year students are selected into the program by way of a competitive application process. Wilkes Bonner leaders follow a four-year student development model that blends direct service in the community along with enrichment and training activities designed to promote students’ leadership, self-awareness, and professional skill set.

## Cultural Affairs

A variety of programs, including lectures, exhibits, workshops, and performances, is provided to enhance life in the Wilkes community and to help individuals attain educational and career goals. The Sordani Art Gallery brings programming in the fine arts to both the campus and the Wilkes-Barre communities. The Office of Global Engagement sponsors programming and activities that foster cross-cultural and multicultural understanding and provides space for people of different cultures to interact and learn from one another. Throughout the year, the Division of Performing Arts offers a regular schedule of dance performances, concerts and recitals, and dramatic and musical productions in the Dorothy Dickson Darte Center for the Performing Arts.

## Intramural and Intercollegiate Athletics

Wilkes sponsors an active intramural sports program as well as intercollegiate competition in twenty-three varsity sports. Varsity sports for women include basketball, cross-country, field hockey, golf, ice hockey, lacrosse, soccer, softball, swimming, tennis,

## Introduction

and volleyball. Men compete at the varsity level in baseball, basketball, cross-country, football, golf, ice hockey, lacrosse, soccer, swimming, tennis, volleyball, and wrestling. Varsity teams compete at the Division III level. Wilkes University is a member of the Middle Atlantic Conference (MAC), the Eastern Collegiate Athletic Conference (ECAC), and the National Collegiate Athletic Association (NCAA).

The goal of the intramural program is to provide a comprehensive set of recreational and fitness activities throughout the academic year for the University community. Students participate in individual, dual, and team competitions in traditional sports as well as in innovative activities like cornhole and kan jam, free-throw competition, and aerobics. Events are organized in structured tournament competition and in one-day special events, using the indoor facilities of the Marts Center and the McHale Athletic Center. Outdoor events are conducted at Schmidt Stadium and Bruggeworth Field located at the Ralston Athletic Complex.

Wilkes places the highest priority on the overall quality of the educational experience and on the successful completion of the student's academic program. The University, therefore, seeks to establish and maintain an environment in which a student's athletic activities are conducted as an integral part of the entire educational experience. The varsity and intramural programs function, then, in an environment that provides for the health and welfare of the student-athletes and values cultural diversity, gender equity, principles of fair play, and amateur athletic competition throughout the University community.

## Residence Life

The Residence Life Program at Wilkes is committed to providing a living environment that is supportive of academic pursuits while contributing significantly to personal growth.

The residence hall staff serves to help students enjoy and benefit from their on-campus living experience. Each residence hall is staffed by one or more Resident Assistants, each of whom has been selected on the basis of character, demonstrated qualities of leadership, and the ability to interact effectively with students. Throughout the year, the residence hall staff sponsors various educational and social programs for their residents. The Resident Assistants are also responsible for crisis management, discipline, maintenance requests, and ensuring that the University policies are upheld.

The Residence Life Program offers students a wide variety of residential options. Each residence hall has its own unique style, whether it is a traditional residence hall such as Evans, one of the older Victorian mansions such as Weiss, or an apartment-style residence hall like University Towers. Some residential spaces are reserved exclusively for students enrolled in the University First-Year Student Living-Learning Communities. Each residence hall has a full kitchen and laundry facilities. Single-sex or coed facilities are available. Rooms are equipped with cable television access, internet (wireless or data ports), telephones, single beds, dressers, desks, desk chairs, and closet space.

All resident students are required to participate in the University Meal Plan, and Wilkes offers a variety of meal-plan and dining options. These options are described on the [Dining Services Web site](#).

## Dining Services

**Contact: Business Operations ([studentmeals@wilkes.edu](mailto:studentmeals@wilkes.edu)), or Dining Services (570-408-4991)**

Wilkes University's dining services provider is committed to providing well-balanced meal plans, offering a variety of food options to students at each meal. Our students are encouraged to make the best choices for their own health and well-rounded diet. The University's on-campus dining locations include: Henry's Cafeteria, Which Wich, Grille Works, Greens to Go/P.O.D., and Starbucks at Gambini's. These locations will accept dining dollars, flex dollars, and meal swipes (with the exception of Starbucks), as well as cash and credit/debit. Dining Dollars and Flex Dollars may be redeemed at any dining service outlet on campus. Flex Dollars may be redeemed at participating off-campus vending outlets, including Barnes & Noble Bookstore, and on-campus dining facilities. Participating vendors may be found online. Additional Dining and Flex Dollars may be purchased through GET Funds at any time. Wilkes University requires all resident students participate in the dining program. Resident meal plans offer unlimited dining in the cafeteria. Students on all meal plans have the option of eating at Which Wich, Grilleworks, P.O.D., Greens to Go, or Starbucks at Gambini's using dining or flex dollars. Meal plans are also available to commuter students and Wilkes faculty/staff. Henry's Cafeteria, located in the Student Center, is also open to members of the Wilkes community.

### Regulations:

1. All participants in the meal plan program are required to present their student ID card at entry or point of purchase. ID cards are not transferable and WINs will not be accepted in place of ID card.
2. It is expected that eating in the University dining hall should be a pleasant experience for all. Therefore, any individual whose conduct interferes with this atmosphere may be subject to disciplinary action.
3. All silverware, dishes, glasses, and trays must remain in the dining hall. Exceptions to this policy may be made only by the General Manager of Dining Services.
4. Proper attire must be worn in the University dining hall at all times. Shoes and shirts must always be worn in an area where food is being prepared or served.
5. Students are expected to assist in maintaining order and cleanliness in the dining hall. The violation of any of these regulations may result in disciplinary action.

6. Meal plan exemption requests will only be considered for those who demonstrate that Wilkes Dining Services cannot accommodate their dietary needs, and provide the required supporting documentation. Full academic year exemption requests must be submitted by August 15th, and Spring exemption requests must be submitted by January 15th. Contact [studentmeals@wilkes.edu](mailto:studentmeals@wilkes.edu) for complete guidelines and instructions.
7. Resident students wishing to change their meal plan for Fall may do so until August 1st by sending an email from their @wilkes.edu email to: [studentmeals@wilkes.edu](mailto:studentmeals@wilkes.edu). Changes for Spring meal plans are accepted during the official change period of October 1 – November 15.

#### Available Services:

- Students who are required to be off campus because of a University commitment (e.g., student teaching) during lunch/dinner hours may request a box meal from Wilkes Dining Services at least one day in advance. Students are expected to pick up the box meals they have signed for, and not to eat that particular meal in the dining hall that day.
- Sick trays: Sick trays will be provided for students who are unable to leave their residence hall because of illness. Arrangements for such trays will gladly be made by the Wilkes Dining Services staff. Contact General Manager, Dining Services at (570) 408-4991 for more information.
- Reusable containers are available at a nominal fee for students who wish to select and package a "take out" meal from Henry's for consumption at a different time/location.
- Guests are welcome at the University dining hall and may make cash purchases.
- Meal plans are available for commuter/off-campus students. Those wishing to participate in a meal plan may select a commuter plan by accessing the Wilkes Portal Student Services page, or a Colonel plan by emailing [studentmeals@wilkes.edu](mailto:studentmeals@wilkes.edu).

## Student Development

The Student Development Office enhances student life by offering leadership programs, experiential education opportunities, and a variety of extracurricular and social activities designed to complement students' classroom education. A few of the programs offered include the Cultural Series, Wilkes Adventure Education (WAE) programming, and the Weekend Entertainment Series. The Cultural Series introduces students to the world of art and performance by providing opportunities for students to experience visual art, music, theatre, and dance, both locally and in larger metropolitan areas such as New York City, Philadelphia, and Washington, D.C. The WAE program provides an alternative learning experience designed to challenge students to engage in both physically demanding and relaxing activities such as hiking, biking, yoga, and rock climbing. In addition to local outdoor attractions, previous WAE programs have also included excursions to Ireland, the California coast, North Carolina and Grand Canyon National Park. Students can also serve as WAE facilitators, providing practical leadership tools, lessons on teamwork and experience leading team-building activities. The Weekend Entertainment Series gives students a variety of low-cost entertainment options to choose from each weekend, including free bowling passes to the local bowling lanes and reduced priced movie tickets to Movies 14. An active Student Government, together with campus clubs and special interest organizations, also provides an array of activities to enrich student life outside the classroom. Student Government and Wilkes University recognize more than 70 clubs and campus organizations. The University requires that clubs and organizations be open to all students; consequently, groups that are exclusive do not exist on the Wilkes campus. Volunteer action and community/civic engagement are the cornerstone of the Wilkes Mission and of the University's rich student life tradition. Thus, eligibility for Student Government funding requires that all recognized clubs and organizations be involved actively in community engagement. Community and civic engagement and curricular community engaged learning activities are coordinated by the Office of Civic Engagement, which maintains a current list of community partners. A Residence Hall Council, a Multicultural Student Coalition, and a Commuter Council organize activities for undergraduate students, and the University Programming Board oversees a full schedule of weekly social and cultural events at the University. Student publications include the Beacon, a weekly student newspaper published during the academic year, the Manuscript, an annual journal of original student art, poetry, and fiction, and the Amnicola, the University student yearbook. The University also maintains a television station and WCLH, an FM radio station that is operated by students; WCLH broadcasts daily at 90.7 MHz.

## The Office of Student Affairs

### Grievance Policy/Internal Complaint Procedure

The purpose of this policy is to serve as a guide for students who wish to file a complaint about any aspect of Wilkes University's operations/policies/procedures or about the actions of any student, visitor, or employee of Wilkes University. This policy is to be implemented only when dealing with circumstances not covered by existing academic or student conduct procedures. See the Undergraduate Student Handbook for further information: <https://wilkes.edu/campus-life/student-affairs/wilkes-undergraduate-student-handbook/student-rights-and-responsibilities.aspx#grieve>  
Procedures and Guidelines

1. Complaints, other than those being filed against persons, should be directed, in writing, to the appropriate Administrator (e.g. Director, Dean, Department Chair, Faculty Member). It is the responsibility of that person to address the situation and, if possible, see that it is corrected. This must be done within a reasonable amount of time which will of course, depend upon what must be done to rectify the situation. The Administrator (Director/Dean/Department Chair/Faculty Member) should inform the student in

## Introduction

writing of the measures that were taken or are being taken to address the issue. If a student does not receive a response from the Administrator within two weeks from the date of originally filing the complaint, the student may then bring the complaint to the appropriate Vice President or the Provost.

2. Complaints being filed against a person, should be directed, in writing, to that person's immediate supervisor. If it is an anti-harassment complaint the procedures, outlined in the Equal Opportunity, Harassment and Nondiscrimination Policy should be followed. If the complaint is not one of anti-harassment, then it is the responsibility of the supervisor to address the issue with the respondent. The supervisor must inform the student of the measures that were taken or are being taken to address the issue. If the student does not receive a response from the supervisor within two weeks from the date of originally filing the complaint, the student may then bring the complaint to the appropriate Vice President or Provost.

3. All documentation regarding a complaint, as well as its disposition, must be securely stored in the office of the person who received the complaint and acted upon it. These records must be maintained for a period of six (6) years from the date final action was taken on said complaint.

4. In all instances of a student filing a complaint, the student must be assured in writing that no adverse action will be taken against the student for filing a complaint.

5. If a student feels that a response to a complaint is unacceptable and/or unreasonable, the student may bring the complaint to the immediate supervisor of the person who initially acted in response to the matter. If a student does not receive a response from that supervisor within two weeks from the date of originally filing the complaint with that person, the student may then bring the complaint to the appropriate Vice President or Provost.

## The Office of Student Affairs

The Student Affairs staff works with students in a holistic manner, providing guidance and support in students' pursuit of their educational goals and in their development as persons preparing to assume the responsibilities of maturely educated persons. The Office of Student Affairs works actively to coordinate the various aspects of student life and development at Wilkes. The Offices of Residence Life, the Center for Career Development and Internships, Health and Wellness Services, Campus Counseling, the Center for Global Education and Diversity, Act 101, Civic Engagement, Athletics, and Campus Interfaith report to the Vice President for Student Affairs.

Wilkes takes seriously its commitment and responsibility to encourage students to discover their own abilities and potential and to assist them in making sound and independent decisions. Students are expected to consult regularly with academic instructors, faculty advisors, the Student Affairs Deans, department chairpersons, or academic deans regarding academic matters. Recognizing, however, that students sometimes need additional guidance in resolving personal, social, or academic problems, the University has institutionalized within the Office of Student Affairs a variety of programs to assist and support students, individually and in groups. Staff members are specially trained and available to help students resolve problems, coordinate emergency situations, and handle referrals from members of the University community. The Vice President and Deans of Student Affairs, having familiarity with University resources, serve as ombudsmen, as well as "sounding boards," for student concerns.

Wilkes takes equally seriously its role in the development of the whole person and provides a wealth of programs for the social, cultural, and civic engagement of its students. Many of the programs offered or advised by units within the Office of Student Affairs contribute to the holistic nature of a Wilkes education. The campus resources, services, and activities described in brief in this bulletin are discussed more extensively in the online Wilkes University Student Handbook, which explains the University student governance system, outlines University regulations, and provides a directory of student activities.

## University Activities

In addition to the curricular and co-curricular activities sponsored by specific organizations and academic units, many all-campus and campus-community events are held each year. Family Day, Homecoming, and the Annual Block Party are typical of the social events that help to promote an active and involved student body. The University joins area cultural groups each year for the annual Cherry Blossom Festival and for the Fine Arts Fiesta, a four-day festival of music, drama, and the arts presented each spring on the Public Square in downtown Wilkes-Barre. A series of University sponsored concerts and lectures is presented throughout the academic year at the Dorothy Dickson Darte Center for the Performing Arts and in other venues on or close to campus. These university-sponsored events are open to University students, faculty, and staff, and to members of the surrounding communities. Admission for most events is free of charge. Consult the Events Calendar on the University Web site for schedules of events and admission information.

## Student Services

Wilkes University provides a rich array of programs and services designed to support students, academically and personally, throughout their time at the University. Following are brief descriptions of these services and programs. Additional information about each program or service may be obtained from the Office of Student Affairs or by consulting the University Web site.

## Advising Services for Special Academic and Student Development Programs

Due to the intricacies of certain programs or requirements imposed by professional and graduate schools and external accrediting agencies, the University has identified advisors in a number of areas of interest. Specially trained Pre-Medical Advisors serve all students interested in professional or graduate school opportunities in medical or health-related fields. The Pre-Law Advisors work with students from any discipline who wish to go on to law school. The International Studies Advisors counsel students in matters pertaining to Study Abroad as well as to career and professional opportunities in this field. The office of Student Development counsels and advises students interested in a variety of internship possibilities. Information on any of these services is available in the Office of the Registrar, the Office of Student Affairs, and the Student Development Office.

## Bookstore

The University's bookstore facility, named Colonel Corner, is a partnership with Barnes & Noble College Booksellers, Inc. The Colonel Corner is located just inside the South Street entrance of the Henry Student Center.

A revamped and expanded space in the hub of student activity makes it a convenient and memorable location to serve our students, faculty and staff, offering proximity to classrooms and dining options, as well as providing a place to meet. The academic superstore is designed to meet the specific needs of students at Wilkes, with comprehensive physical and virtual textbook services, spirit wear, lounge areas, and standard [Barnes & Noble bookstore](#) stock.

## Campus Counseling

Counseling is an opportunity to discuss personal concerns or issues with a therapist and explore ways of working through them. Some students may choose to utilize counseling services over the course of a semester or year, while others may only need a few appointments to discuss a current situation in order to gain clarity and/or direction.

At Wilkes University, students access support for concerns such as stress, anxiety, depression, grief, identity issues, eating issues, interpersonal conflicts with peers and family, substance issues, adjustment issues, etc. Individuals can schedule appointments Monday - Friday between 8:30 a.m. - 4:30 p.m. Referrals to community agencies and other professionals are made as necessary. Counseling staff welcomes the opportunity to provide education and support to the campus community. We collaborate with student groups and professional staff of the University to provide workshops or trainings on topics of special interest or concern.

Wilkes University Support Line 570-408-CHAT (2428) will be available 24/7 for any student crisis. This line is staffed with Masters and Doctoral level counselors who are trained specifically in college student mental health. Support is available to students who may be experiencing any mental health issue as well as students who may be experiencing an emergency situation. Our hope is that our Support Line service will be complementary to counseling services presently available to students. We want to provide comfort and care for students by letting them know that despite their circumstances, support is always available.

## Career Services

Students are encouraged to become proactive in their career development throughout their time at Wilkes by becoming engaged with the professional staff and offerings of the Center for Career Development and Internships, located at rear 236 S. River Street by the Student Center Gateway. Consultations, events, and career education programs are offered each semester to all class levels and all majors. An academic internship program is also housed there. Students can access the Center via [www.wilkes.edu/career](http://www.wilkes.edu/career) and by utilizing the Wilkes Handshake program and app at [www.joinhandshake.com](http://www.joinhandshake.com).

## Health and Wellness Services

The Office of University Health and Wellness Services maintains regular hours while the University is in session for the fall and spring semesters and is staffed by a Nurse Practitioner and a Registered nurse. A physician is available at specified hours during the week. Appropriate referrals are made as necessary to community physicians and hospitals. During the summer months, students can obtain care from local emergency rooms or urgent care centers, with any questions directed to University Police Department at ext. 4377.

In these times of escalating health care costs, all students enrolled at Wilkes University are required to have health insurance coverage and to provide proof of that coverage.

## Introduction

Due to COVID 19, appointments should be made prior to coming to the Health and Wellness Services at 570-48-4730. Masks must be worn during your visit to the Health Services. If you do not have one, one will be provided for you. All allergy injections, must be given during physician hours which are Tuesday between 9am and 11am and Wednesday between 10am and 12 noon.

## New Student Orientation Program

The transition from the directed work of the high school environment to the independent and more intensive work of the university environment is eased by introducing new students to the University and its services before classes formally begin. Two orientation periods—one during the summer and another in the days immediately preceding the start of the academic term—are set aside to assist new students in planning their academic programs and in learning about the curriculum, available student activities, and about the campus and its many resources. Orientation sessions provide opportunities for each new student to meet with his or her academic advisor, to discuss personal and professional goals, and to begin to plan an academic course of study.

## Office of Diversity Initiatives

The Office of Diversity Initiatives (ODI) supports students from underrepresented groups through advising, advocating, and programming. The office is the institutional leader in diversity and inclusion for students and faculty/staff of Wilkes University through acting as a role model for tolerance, acceptance, respect, support and resources for people of all cultures and backgrounds, while celebrating differences and commonalities in a learning and developmental environment. ODI oversees the activities of the Multicultural Student Coalition. ODI provides campus-wide programming to facilitate the development of cultural competence.

Special programming includes:

- Annual Diversity & Inclusion Student Conference
- Multicultural Awards
- Metamorphosis Alumni Presentation Series
- D.I.V.E certificate

## Financial Matters: Tuition and Fees

### Tuition, Fees, Room and Board

#### Student Expenses for 2022-2023

The following chart summarizes student expenses for the 2022-23 academic year, which officially begins with the Summer Session, 2022. Students are referred to the course descriptions in this bulletin for laboratory and other fees associated with specific courses. Inquiries about particular charges should be addressed to the Bursar's Office.

Full-time Undergraduate Tuition & Fees	Assessment	Per Semester	Annual Total
Tuition (12 - 18 credits)*	Per semester	\$19,567.00	\$39,134.00
General University Fee	Per semester	\$529.00	\$1,058.00
Technology Fee	Per semester	\$203.00	\$406.00
Student Union Fee	Per semester	\$38.00	\$76.00
Recreation Fee	Per semester	\$43.00	\$86.00
Student Activity Fee (Fund 1188)	Per semester	\$176.00	\$352.00
Accelerated - Nursing FT (New) (All Terms)	Per semester	\$19,567.00	\$39,134.00
Accelerated - Nursing FT (Returning) (All Terms)	Per semester	\$18,997.00	\$37,994.00
IEP - Intensive English Program	Per semester	\$4,999.00	\$9,998.00
Total Full-time Undergraduate Tuition & Fees:		\$20,556.00	\$41,112.00

School of Pharmacy First Professional Tuition & Fees	Assessment	Per Semester	Annual Total
Tuition (12–18 credits)*	Per Semester	\$20,912.00	\$40,606.00
General University Fee	Per Semester	\$518.00	\$1,036.00
Technology Fee	Per Semester	\$198.00	\$396.00
Student Union Fee	Per Semester	\$37.00	\$74.00
Recreation Fee-Full Time Undergrads	Per Semester	\$42.00	\$84.00
Student Activity Fee	Per Semester	\$173.00	\$346.00
Total First Professional Tuition & Fees (per Semester):		\$21,880.00	\$43,760.00
P 4's Fee Discount (Student Union/Recreation/Activity)	Per Semester	\$252.00	\$504.00
<i>Pharmacy Professional Fees</i>			
Professional Fee - P1	Per Semester	\$700.00	\$1,400.00
Professional Fee - P2	Per Semester	\$700.00	\$1,400.00
Professional Fee - P3	Per Semester	\$700.00	\$1,400.00
Professional Fee - P4	Per Semester	\$700.00	\$1,400.00
Total School of Pharmacy First Professional Tuition & Fees:		\$21,243.00*	\$42,486.00*
<i>*Plus the applicable P1 - P4 fees listed above.</i>			

Part-time Undergraduate Tuition & Fees	Assessment	Rate
Summer Study (all sessions)	Credit hour	\$530.00
Fall & Spring Sessions (1 - 11 credit hours)	Credit hour	\$1,088.00
Intersession	Credit hour	\$530.00
Excess Credit Hours	Credit hour	\$1,088.00
Pharmacy Overload Excess Credit Hours	Credit hour	\$1,162.00
Accelerated BBA Degree (Beginning Fall 2021)	Credit hour	\$422.00
Accelerated BBA Course Fee	Credit Hour	\$50.00
General University Fee	Credit hour	\$43.00
Technology Fee	Credit hour	\$43.00
Off Campus - Nursing PT (Detail Code TP3X)	Credit hour	\$675.00
IEP Technology Fee	Semester	\$100.00
NEW IEP Activity Fee	Semester	\$100.00

Other Mandatory Fees		
Applied Music Fees @ \$400 per credit		
• 1 credit (14 30-minute private lessons)	Credit hour	\$350.00
• 2 credits (14 60-minute private lessons)	Credit hour	\$700.00
Musical Theater Major Fee	Semester	\$75.00
Graduation Fee	One time	\$170.00

## Introduction

Graduation Fee (Late)		\$340.00
Matriculation Fee	One time	\$135.00
<i>Undergraduate Application &amp; Admission Fees</i>		
Undergraduate Application	One time	\$40.00
Online Application	One time	\$20.00
Online Transfer Admission	One time	\$20.00
Online International Undergraduate	One time	\$40.00
Online Freshman Admission	One time	\$20.00

<b>Miscellaneous University Fees</b>	<b>Assessment</b>	<b>Rate</b>
Acceptance Tuition Deposit	One time	\$300.00
Challenge Examinations	Credit hour	\$90.00
Disciplinary Fine	Each	\$200.00
Miller Analogies Testing Fee	Per semester	\$60.00
ERI Test Packaging	Semester	\$60.00
Health Care Charge	Semester	\$10.00
Insurance Late Fee	Semester	\$24.00
<i>Parking Fees and Fines:</i>		
Parking Fee	Per semester	\$120.00
Parking Fee (Summer)	Per Month	\$10.00
Ralston Field Parking	Per semester	\$40.00
Parking Tickets	Each	\$25.00
Handicap Violation Parking Ticket	Each	\$50.00
Lost Parking Tag on campus	Per semester	\$120 maximum*
Storage Fee	Per day	\$50.00
Towing Fee	Each	\$175.00
Replacement of Lost ID Card	Each	\$30.00
Returned Check Charge	Each	\$50.00
Study Abroad	Per Semester	\$75.00
Transcript/Verification (same day)	Each	\$20.00
Transcript Fee	Each	\$15.00
Transcript Surcharge (FAX)	Each	\$20.00
*Lost parking tag fee decreases by 25% each month after the first two weeks of the semester.		

<b>Exceptions</b>	<b>Assessment</b>	<b>Rate</b>
Senior Citizens Discount (62 and older) all attached fees full price	Per Credit	\$544.00
Senior Citizens Discount (62 and older)	Per Credit	\$20.00
Summer Co-op and Internship* all attached fees full price	Per Credit	\$544.00
Audit Courses	Per Credit	\$544.00
Young Scholars	Credit Hour	\$50.00
Lehigh Valley UG Nursing	Per Credit	\$410.00
LCCC Tuition (general fee only)	Per Credit	\$86.00
Elementary Early Childhood Pathway Program	Per Credit	\$510.00

ED 398 Information Technology for Schools	Per Credit	\$422.00
ED 398 Analyze/Present School Business Data/Statistics	Per Credit	\$422.00
ED 398 Optimizing School Support Operations	Per Credit	\$422.00
ED 398 Strategic Decision Making for School Business	Per Credit	\$422.00

<b>Residence Hall Rates</b>	<b>Assessment</b>	<b>Per Semester</b>
Residence Hall-Dorm Style (Double/ Triple)	Per semester	\$4,793.00
Residence Hall-Single Room or Efficiency	Per semester	\$5,040.00
Residence Hall-Rifkin	Per semester	\$5,058.00
Residence Hall-Apartment Style (Towers)	Per semester	\$5,316.00
Residence Hall - Premium Apartment	Per semester	\$5,572.00
Summer Room Rent (Includes Upward Bound/Creative Writing)	Per week	\$280.00
Residence Hall Assistant Room Rate (Same as Single Room rate)	Semester	\$5,040.00
Administrative Fee		\$300.00

<b>Meal Plans</b>	<b>Assessment</b>	<b>Per Semester</b>
Colonel Blue	Per semester	\$2,687.00
Colonel Blue Plus	Per semester	\$2,787.00
Colonel Blue Premier	Per semester	\$2,937.00
Colonel Gold	Per semester	\$3,082.00
Colonel Gold Plus	Per semester	\$3,132.00
Colonel Gold Premier	Per semester	\$3,282.00
Senior Plan	Per semester	\$1,304.00
Commuter 60 Meal Plan + \$100 flex dollars	Per request	\$636.00
Department 50 Meal Plan	Per request	\$350.00
<i>Summer Meal Plans:</i>		
Creative Writing: 10-Meal Block & Residency Meals	Per week	\$250.00

## Financial Aid

At Wilkes University, financial assistance is a vehicle to help all students achieve their educational goals. Although the student and family are primarily responsible for financing the educational process, we're here to offer additional resources to make a Wilkes University education affordable. There are various scholarship and need-based University funds in addition to assistance from the Federal Department of Education and in some cases, the state of Pennsylvania. If it is your first time applying for financial aid or you've worked with us before, it is our pleasure to help you in any way we can.

Please note the information included in this bulletin is just a basic guide and [www.wilkes.edu](http://www.wilkes.edu) includes more information regarding the Office of Student Financial Services.

## Financial Aid Application Procedure

At Wilkes University, we ask students and families to complete the Free Application for Federal Student Aid (FAFSA) if they are interested in being considered for any of the following programs:

## Introduction

1. Wilkes University need- based grants
2. Federal grant programs
3. PA state grant programs
4. Federal work-study
5. Federal student loan programs

### Completing the FAFSA

Typically, you must meet the following requirements before applying for financial aid through the Department of Education ([studentaid.gov](https://studentaid.gov)):

- Looking to enter or continue education in a degree-seeking program
- Be a United States citizen or eligible non-citizen
- Maintain satisfactory academic progress
- Register with Selective Service, if a male at least 18 years of age
- Not be in default on a loan made under any Title IV, HEA loan program or owe a repayment on any Title IV funds
- Be registered for the appropriate number of credits for the semester in which you are applying for financial aid
- Have a valid social security number or alien registration card

*Note: Non-degree seeking students are not eligible for federal or state financial assistance.*

Students can begin to file the FAFSA on or after October 1 proceeding the year they are seeking financial aid. For example, students looking to attend for the 2022-2023 academic year could file the FAFSA on or after October 1, 2021.

## Financial Aid for Part-time Students

The federal Pell Grant, PA. State Grant, federal Direct Student Loan, and the federal Direct Parent Loan for Undergraduate Students (Direct PLUS Loan) are available to part-time students. Interested students must complete the Free Application for Federal Student Aid (FAFSA) and the appropriate loan applications in order to apply for these programs. In addition to financial need, eligibility is based on enrollment status. Except for the federal Pell Grant program, students must be enrolled at least half-time to qualify for financial aid. In addition, there are various private educational loans available to part-time students. Contact the Student Financial Services Office for more information.

## Financial Aid for Pharmacy Students in Years Five and Six

Years five and six of the Pharmacy program entail coursework that is considered to be at the post-baccalaureate level. For financial aid purposes, this means that in years five and six of the program, you are identified as a "professional or graduate level student". Students enrolled at this level of study in the Pharmacy program are independent for financial aid purposes and only qualify for financial aid available to graduate and professional students. Typically, this financial aid includes the federal unsubsidized Direct Loan (with an annual loan maximum of \$33,000), Graduate Direct PLUS Loan (after the student has used his/her unsubsidized loan eligibility for the year), and private loans. Currently enrolled fifth and sixth year Pharmacy students do not qualify for any federal, state, or institutional grants or scholarships. However, effective with the class entering their freshman year at the University in the fall of 2022, academically successful Pharmacy students will retain 30% of their merit-based scholarship, per year, in the final two years of the professional program.

## Financial Aid for Students Seeking a Second Degree

Students seeking a second degree may be eligible for the federal Direct Loan program. In addition, if enrolled on a full time basis, students seeking a second degree may qualify for Wilkes University need-based grants.

In many cases, seeking a second degree does not mean a student is now independent for financial aid purposes. A particular section of the FAFSA determines dependency status for aid purposes. Additional information is available from the Office of Student Financial Services.

## Scholarships

Students who are offered Wilkes University scholarships will be eligible to receive them each academic year provided the student is making satisfactory academic progress. They are divided evenly between the fall and spring semesters (unless otherwise stated) and are not available at the graduate level for non-Pharmacy students.. Students who will complete their undergraduate

degree in less than 4 years (or 8 academic semesters which are comprised of fall and spring) will then forfeit the remainder of any scholarships funds offered during the admission and/or financial aid process. Scholarships will not exceed ½ of the annual amount offered when it is allocated in one semester.

## Grants

- All students applying for federal, state, and Wilkes grants must first complete the Free Application for Federal Student Aid (FAFSA).
- The FAFSA must be submitted for each academic year that the student would like to be considered for grants.
- Find a complete listing of grants offered through the federal and state governments at [Wilkes University](#).

## Private/Outside Scholarships

If the student anticipates receipt of a private/outside scholarship that is not already listed on the invoice and/or the financial aid information on the student portal, the student should provide the information to the Bursar's Office immediately. Please note that Wilkes University reserves the right to adjust Wilkes University funds based upon the amount of the scholarship regardless of the timing of the notification.

## Loans

- All students applying for federal loans must first complete the Free Application for Federal Student Aid (FAFSA).
- For a complete listing of all the federal loan programs, please visit the federal [student aid](#) website for more information.

## Private Educational Loans

If you already have a relationship with a bank or lending agency, please feel free to explore that option. Students and families who wish to explore alternative loan options can do so at [ELMSelect](#). Wilkes University does not endorse any particular outside lender but does provide information through Elm Select of lenders that families have used in the past plus other companies that can offer financial assistance.

## Student Employment

- All students applying for federal and state work-study programs must first complete the Free Application for Federal Student Aid (FAFSA).
- When a student participates in the federal or state work-study program, he/she will receive a paycheck for hours work. These funds are not deducted from the student's balance due to the University.
- Find out more on the [student employment opportunities available](#).

## Veterans' Assistance (VA) Programs

Interested persons should contact the Student Financial Services Office and/or their local VA Office to obtain information concerning GI Education Assistance, Veterans Education Programs, Veterans Rehabilitation, Veteran Educational Loans, the Veteran Work-Study Program, and other sources of veterans' assistance. Wilkes University is a participant in the Yellow Ribbon Program of the U.S. Department of Veterans Affairs. For details about this special program, go to: <https://wilkes.edu/admissions/financial-aid/yellow-ribbon-program-for-veterans>

## Withdrawal -- Return of Financial Aid Funds

The Return to Title IV Funds (R2T4) policy applies to any student who receives federal financial aid, begins classes, and subsequently either withdraws from the courses the student was scheduled to complete or receives all failing grades because the student ceases enrollment at some point during the semester but neglects to complete the formal withdrawal process (known as an unearned "F") during a semester or payment period.

When a student withdraws from his/her courses for any reason including medical withdrawals, he/she may no longer be eligible for the full amount of Title IV funds the student was originally scheduled to receive. Wilkes University follows the federally prescribed policies and procedures for calculating whether the student has earned all or a portion of their federal financial aid.

Once the amount of the federal funds to be returned to the Department of Education has been calculated, the funds will be returned in the following order:

- Unsubsidized Direct Loans
- Subsidized Direct Loans

## Introduction

- Nursing Loans
- PLUS Loans (Parent)
- Pell Grant
- Supplemental Education Opportunity Grant (SEOG)

Pennsylvania and other state grants will be adjusted in accordance with the agency's stated guidelines.

Wilkes University grant and scholarship funds will be adjusted based on the percentage of reduction of tuition received by a student when withdrawing from the University.

Please note that students who receive a refund of financial aid prior to withdrawing from the University may owe a repayment of federal financial aid funds received. Students will be contacted by the Office of Student Accounts in such situations and will be given 30 days to repay the funds to the University. Students who fail to return the unearned portion of federal financial aid funds given to them will become ineligible for continued receipt of financial aid until such time as there payment is made.

# Payment Options

## Payment Options

Wilkes requires that all students obtain financial clearance no later than two weeks prior to the start of the [semester](#) by doing one of the following:

1. Pay your bill in full
2. Have a financial aid award that covers your balance
3. Enroll in the online payment plan
4. Have a third-party payor or an employer tuition deferment form submitted.

Payments can be made in the following manners:

1. Cash, Credit Card or Check Payment can be made at the Bursar's Office located in Miller Hall during regular business hours (Monday through Friday, 9:00 am – 4:00 pm) or payments may be mailed to:

Wilkes University – Student Lockbox  
P.O. Box 824696  
Philadelphia, PA 19182-4696

2. Electronic Check and Credit Card Payments can also be made on the [student portal](#). Enter your user name and password. Select “Student Services” and follow the remaining prompts. A password should be assigned by the time the bill is due; if, however, a password has not been issued, please call the Help Desk at 1-800-WILKES-U ext 4357.

Wilkes University accepts credit or debit cards with MasterCard, Discover, Visa, American Express.

Financial aid shown on the tuition bill will be applied to the account balance.

Promissory Notes for Federal loans, Perkins loan, Wilkes Nursing Loan, Rulison Evans Loan, and Blue and Gold Loan are to be signed electronically at [USA Connect](#). You will be notified by e-mail when the Promissory Notes are available for signature.

Please Note: Students who fail to pay all indebtedness to the University shall not be permitted to receive any degree, certificate, transcript or grades.

## Pricing Schedule

### Tuition & Fees

Pricing Schedule	Cross Listed Courses	2022-2023
<b>Tuition/Fee Description</b>		
<b>Creative Writing Fees</b>		
Application Fee - Creative Writing Program		\$35
Thesis Reader Fee - Creative Writing Program		\$500

<b>Pricing Schedule</b>	<b>Cross Listed Courses</b>	<b>2022-2023</b>
Acceptance Deposit - Creative Writing Program		\$300
General University Fee - Creative Writing Program		\$84
Residency Fee -- CW501, CW510, CW516, CW616		\$200
<b>Other Mandatory Fees:</b>		
Applied Performance Fee (1 credit MUS 100-400)		\$350
Applied Performance Fee (2 credits MUS 100-400)		\$700
Musical Theater Major Fee		\$75
Graduation Fee		\$170
Certificate Graduation Fee		\$170
Graduation Fee Late Students		\$340
Matriculation Fee		\$135
Application Undergraduate		\$40
Online Application Undergraduate		\$20
Online Transfer Admission		\$20
Online Graduate Admission		\$35
Online Non-Degree, Graduate Ed		\$35
Online International Undergraduate		\$40
Online International Graduate		\$65
Online Freshman Admission		\$20
Application Graduate		\$45
<b>Miscellaneous University Fees:</b>		
Acceptance Tuition Deposit		\$300
Challenge Exams		\$90 per credit hour
Disciplinary Fine		\$200
ERI Test Packaging		\$60
Health Care Charge		\$10
Insurance Late Fee		\$24
Lost Parking Tag on campus (prorated through semester)		\$120 maximum*
Miller Analogies Testing Fee		\$60
Parking Fee		\$120
Parking Fee (Summer)		\$10
Parking Tickets		\$25 per occurrence
Handicapped Parking Ticket		\$50 per occurrence
Ralston Field Parking		\$40
Storage Fee (if vehicle is towed)		\$50 per day
Towing Fee		\$175 per occurrence
Replace Lost ID Card		\$30
Returned Check Charge		\$50
Study Abroad		\$75
Transcript / Verification - Same Day		\$20
Transcript Fee		\$15
Transcript Surcharge - FAX		\$20

## Introduction

Pricing Schedule	Cross Listed Courses	2022-2023
<i>Music Majors waived overload if enrolled in ensemble course that are .5 and 1 credit courses.</i>		
<i>ROTC non-bill except for Wilkes full time student without AS course drops student down to part-time</i>		
<i>Pharmacy Summer Non-Bill</i>		
<i>*Lost parking tag fee decreases by 25% each month after the first two weeks of the semester.</i>		
<b>Laboratory Fees: (by Department)</b>		
<b>Art Department (LART)</b>		
ART 101 Experiencing Art		\$55
ART 111 Fundamentals of Color and Design		\$55
ART 113 Drawing and Composition		\$55
ART 120 Painting I		\$55
ART 121 Printmaking		\$55
ART 122 Sculpture		\$55
ART 123 Ceramics		\$55
ART 133 Photography		\$55
ART 134 Computer Graphics I		\$55
ART 138 Digital Photography		\$55
ART 220 Painting II		\$55
ART 234 Computer Graphics II		\$55
ART 241 Women in Art		\$35
ART 198/298/398 Topics		\$55
<b>Integrative Media, Art &amp; Design (IMAD)</b>		
IM 101 IM Foundations I		\$35
IM 120 Foundations in Game Design		\$55
IM 201 IM Foundations II		\$55
IM 210 Introduction of Game Development		\$55
IM 301 IM Principles of Motion and Layering		\$55
IM 302 IM Principles of Interactivity		\$55
IM 303 Advanced Principles of Interactivity		\$55
IM 304 2D App Development		\$55
IM 310 Advanced Game Development		\$55
IM 320 IM Concept Dev. And Practices		\$55
IM 330 Virtual Environments and Emergent Technology		\$55
IM 341 Cross Media Typography II		\$55
IM 350 3D Environments & Animation		\$55
IM 351 3D Environments & Animation II		\$55
IM 355 Digital Audio		\$55
IM 368 3D Game Development		\$55
IM 391 IM Project I		\$55
IM 392 IM Project II		\$55
IM 198/298/398 Topics		\$55

Pricing Schedule	Cross Listed Courses	2022-2023
IM 400 IM Portfolio Capstone		\$55
<b>Biology Department (LBIO)</b>		
BIO 105 The Biological World (Fall Only)		\$140
BIO 113 Microbiology		\$140
BIO 115 Human Anatomy & Physiology		\$140
BIO 116 Human Anatomy & Physiology		\$140
BIO 121 Principles of Modern Biology I		\$140
BIO 122 Principles of Modern Biology II		\$140
BIO 225 Population & Evolutionary Biology		\$140
BIO 226 Cellular & Molecular Biology		\$140
BIO 254 Super Lab		\$140
BIO 306 Invertebrate Biology		\$140
BIO 311 Comparative Physiology		\$140
BIO 312 Parasitology		\$140
BIO 314 Comparative Vertebrate Anatomy		\$140
BIO 321 Mammalian Physiology		\$140
BIO 323 Functional Histology		\$140
BIO 324 Molecular Biology		\$140
BIO 325 Endocrinology		\$140
BIO 326 Immunology & Immunochemistry		\$140
BIO 327 Medical Microbiology	PHA 327 - Medical Microbiology	\$140
BIO 328 Developmental Biology		\$140
BIO 341 Freshwater Ecosystems	EES 341 Freshwater Ecosystems	\$140
BIO 342 The Archosaurs: Birds, Dinosaurs, and Crocodilians		\$140
BIO 343 Marine Ecology	EES 343 Marine Ecology	\$140
BIO 344 Ecology	EES 344 Ecology	\$140
BIO 345 Genetics		\$140
BIO 346 Animal Behavior		\$140
BIO 347 Biostatistics & Experimental Design		\$140
BIO 348 Field Zoology		\$140
BIO 352 Pathophysiology		\$140
BIO 361 Plant Form and Function		\$140
BIO 362 Plant Diversity		\$140
BIO 363 Hemp Biology and Analysis	PHA 462 Hemp Biology and Analysis	\$140
BIO 366 Field Botany	EES 366 Field Botany	\$140
BIO 369 Plant Pathology		\$140
BIO 391 Senior Projects I		\$70
BIO 392 Senior Projects II		\$125
BIO 394 Biological Field Study		\$140
<b>BioEngineering (LBEG)</b>		
BEGR 415 3-D Modeling in Human Anatomy and Physiology		\$140
BEGR 421 Biofluidics and Microfluidics		\$140
BEGR 422 Biomedical Measurement Laboratory		\$140
BEGR 424 Molecular Biology		\$140

## Introduction

Pricing Schedule	Cross Listed Courses	2022-2023
BEGR 426 Immunology and Immunochemistry		\$140
BEGR 451 Mechatronics/ Bioinstrumentation		\$140
BEGR 474 Imaging in Biomedicine		\$140
BEGR 488 Biomedical Devices and Design		\$140
BEGR 501 Practicum in Synthetic Biol I		\$140
BEGR 501 Practicum in Synthetic Biol II		\$140
<b>Civil Engineering (LENV)</b>		
CE 233 Soil Mechanics Lab		\$115
CE 327 Advanced Civil Engineering Graphics		\$115
CE 391 Senior Projects I		\$115
CE 392 Senior Projects II		\$115
<b>Chemistry Department (LCHM)</b>		
CHM 111 Fundamentals of Chemistry Lab		\$150
CHM 113 Elements and Compounds Lab		\$150
CHM 114 Chemical Reaction		\$150
CHM 117 Intro. Chemistry Lab for Engin		\$150
CHM 233 Organic Chemistry I Lab		\$150
CHM 234 Organic Chemistry II Lab		\$150
CHM 237 Essentials of Organic Chemistry Lab		\$150
CHM 246 Analytical Chemistry Lab		\$150
CHM 258 Polymer Chemistry Lab		\$150
CHM 261 Plant Sample Preparation for Chemical Analysis		\$150
CHM 323 Adv Inorganic Chemistry		\$150
CHM 343 Instrumental Methods...		\$150
CHM 346 Advanced Separations Chemistry		\$150
CHM 353 Physical Chemistry I Lab		\$150
CHM 354 Physical Chemistry II Lab		\$150
CHM 357 Physical Chem. For Life Sciences Lab		\$150
CHM 363 Biochemistry Lab		\$150
CHM 370 Integrated Lab I		\$150
CHM 371 Integrated Lab II		\$150
CHM 372 Integrated Lab III		\$150
CHM 391 Senior Research I		\$150
CHM 392 Senior Research II		\$150
CHM 395 Independent Research		\$150
CHM 396 Independent Research		\$150
<b>Communication Studies (LCOM)</b>		
COM 222 Basic Video Production		\$65
COM 262 Digital Storytelling		\$65
COM 321 Advanced Multimedia Reporting		\$65
COM 322 Advanced Video Production		\$65
COM 323 Advanced Audio Production		\$65

<b>Pricing Schedule</b>	<b>Cross Listed Courses</b>	<b>2022-2023</b>
<b>Computer Science (LCS)</b>		
CS 125 Computer Science I		\$50
CS 126 Computer Science II		\$50
CS 225 Computer Science III		\$50
CS 226 Computer Science IV		\$50
CS 246 C and Unix		\$50
CS 265 Medical Informatics		\$50
CS 283 Web Development I		\$50
CS 285 Mobile Applications		\$50
CS 317 Software Integration		\$50
CS 319 Principles of Programming Languages		\$50
CS 321 Simulation and Data Analysis		\$50
CS 323 Theory of Computation		\$50
CS 324 Systems Analysis		\$50
CS 325 Database Management		\$50
CS 326 Operating System Principles		\$50
CS 327 Compiler Design		\$50
CS 328 Algorithms		\$50
CS 330 Computer Architecture		\$50
CS 334 Software Engineering		\$50
CS 335 Data Science and Information Retrieval		\$50
CS 340 Artificial Intelligence		\$50
CS 350 Object-Oriented Programming		\$50
CS 355 Computer Networks		\$50
CS 363 Operations Research		\$50
CS 366 3D Environments & Animation (LIMD)	IM 350 3D Environments & Animation	\$55
CS 367 Computer Graphics		\$50
CS 368 3D Game Development (LIMD)	IM 368 3D Game Development	\$55
CS 383 Web Development II		\$50
CS 391 Senior Projects I		\$50
CS 392 Senior Projects II		\$50
CS 428 Algorithms		\$50
MTH 212 Multivariable Calculus		\$50
MTH 361 Partial Differential Equations		\$50
MTH 362 Advanced Calculus		\$50
MTH 363 Operations Research		\$50
MTH 365 Numerical Linear Algebra		\$50
MTH 462 Advanced Calculus		\$50
<b>Education - Undergraduate</b>		
ED 180 Educational Psychology (GAR) (Fall & Spring)		\$40
ED 190 Effective Teaching Practices (Fall & Spring)		\$40
EDSP 210 Teaching Students with Special Needs		\$30
EDSP 225 Special Education Methodology I (Fall & Spring)		\$40

## Introduction

Pricing Schedule	Cross Listed Courses	2022-2023
EDSP 226 Special Education Methodology II (Fall & Spring)		\$30
EDSP 227 Behavior Management (Spring)		\$30
EDSP 263 Infants, Toddler, and Young Children with Special Needs		\$30
ED 264 Child Development & Cognition - Classroom Application		\$30
ED 300 Special Methods - Foreign Language (7-12)		\$40
EDSP 302 Methods in Special Education (Graham Academy) (Fall)		\$40
ED 321 Literacy Foundations I (Heights-Murray) (Fall)		\$40
ED 322 Literacy Foundations II (Heights-Murray) (Spring)		\$40
ED 330 Math for Elementary & Early Childhood (Heights-Murray) (Fall)		\$40
ED 371 Special Methods Sciences (7-12) (Fall)		\$40
ED 375 Middle & Secondary Education Methods (4-12) (Spring)		\$40
ED 381 Middle & Secondary Social Studies Methods (4-12) (Fall)		\$40
ED 385 Classroom Management (Fall & Spring)		\$40
ED 390 Student Teaching With Seminar		\$100
<b>Education - EdD</b>		
ED 615 INT Proseminar in Educational Leadership		\$500
ED 615 HA1 Proseminar in Educational Leadership		\$200
ED 615 HA2 Proseminar in Educational Leadership		\$200
ED 615 HA3 Proseminar in Educational Leadership		\$200
ED 629 INT Proseminar in Educational Leadership		\$500
ED 629 HA1 Strategic Planning for Public and Non-profit Organizations		\$200
ED 629 HA2 Strategic Planning for Public and Non-profit Organizations		\$200
ED 629 HA3 Strategic Planning for Public and Non-profit Organizations		\$200
ED 697 W1 (Summer) Dissertation Proposal Seminar		\$200
ED 697 W2 Dissertation Proposal Seminar		\$200
ED 697 W3 Dissertation Proposal Seminar		\$200
ED 697 INT Dissertation Proposal Seminar		\$500
ED 697 HA1 Dissertation Proposal Seminar		\$200

Pricing Schedule	Cross Listed Courses	2022-2023
<b>Electrical Engineering (LEE)</b>		
EE 140 Scientific Programming for EE		\$115
EE 222 Mechatronics		\$115
EE 241 Digital Design		\$115
EE 247 Programming for Embedded Applications		\$115
EE 252 Electronics II		\$115
EE 271 Semiconductor Devices		\$50
EE 283 Electrical Measurement Lab		\$115
EE 285 Electrical Measurement Lab		\$115
EE 314 Control Systems		\$115
EE 339 Engineering Electromagnetics II		\$115
EE 342 Microcomputer Oper & Des		\$150
EE 345 Computer Organization		\$115
EE 381 Microfabrication Lab		\$115
EE 382 Modern Communication Lab		\$115
EE 391 Senior Projects I		\$115
EE 392 Senior Projects II		\$125
EE 298, 398 Special Topics		\$125
EE 442 (Graduate Course)		\$50
EE 445 (Graduate Course)		\$125
EE 481 Microfabrication Lab (Graduate Course)		\$115
EE 482 Modern Communication Lab (Graduate Course)		\$115
<b>Engineering (LEGR)</b>		
EGR 222 Mechatronics		\$115
EGR 391 Senior Projects I		\$125
EGR 392 Senior Projects II		\$125
<b>Engineering Management (LEGM)</b>		
EGM 391 Senior Projects I		\$125
EGM 392 Senior Projects II		\$125
<b>Environmental Engineering (LENV)</b>		
ENV 315 Soils		\$115
ENV 323 Hydrology		\$115
ENV 330 Water Quality		\$115
ENV 332 Air Quality		\$115
ENV 350 Water and Waste Water Treatment		\$115
ENV 391 Senior Projects I		\$125
ENV 392 Senior Projects II		\$125
<b>Earth &amp; Environmental Sciences (LEES)</b>		
EES 105 Planet Earth		\$115
EES 213 Climate Modeling		\$115
EES 230 Ocean Science		\$115
EES 240 Principles of Environmental Science		\$115
EES 251 Synoptic Meteorology		\$115

## Introduction

<b>Pricing Schedule</b>	<b>Cross Listed Courses</b>	<b>2022-2023</b>
EES 280 Principles of Astronomy		\$115
EES 198, 298, 398 Topics		\$115
EES 341 Freshwater Ecosystems	BIO 341 Freshwater Ecosystems	\$140
EES 343 Marine Ecology	BIO 343 Marine Ecology	\$140
EES 344 Ecology	BIO 344 Ecology	\$140
EES 366 Field Botany	BIO 366 Field Botany	\$140
EES 391 Senior Projects I	GEO 391 Senior Projects I	\$125
EES 392 Senior Projects II	GEO 392 Senior Projects II	\$125
EES 394 Field Study		\$115
<b>Geology (LEES)</b>		
GEO 103 Introduction to Geology Lab		\$115
GEO 212 Historical Geology		\$115
GEO 281 Mineralogy		\$115
GEO 282 Petrology		\$115
GEO 198/298/398		\$115
GEO 345 Stratigraphy & Sedimentation		\$115
GEO 349 Structure & Tectonics		\$115
GEO 351 Paleoclimatology		\$115
GEO 352 Hydrogeology		\$115
GEO 370 Geomorphology		\$115
GEO 380 Geology Field Camp Course (Summer Only)		\$2,720
GEO 388 Regional Studies		\$115
GEO 390 Applied Geophysics		\$115
GEO 391 Senior Projects I		\$125
GEO 392 Senior Projects II		\$125
<b>Geographic Information Science (LEES)</b>		
GIS 271 Environmental Mapping I		\$120
GIS 272 Environmental Mapping II		\$120
GIS 301 GIS Applications & Colloquia		\$120
GIS 310 Programming and Customization		\$120
GIS 315 Web GIS		\$120
GIS 320 Introduction to Geospatial Modeling		\$120
<b>Mechanical Engineering (LME)</b>		
ME 140 Scientific Programming		\$115
ME 175 Machining		\$115
ME 180 CADD Lab		\$115
ME 314 Inverse Problems		\$115
ME 315 Programmable Logic Controllers		\$115
ME 317 Robotics		\$115
ME 323 Fluid Mechanics Lab		\$115
ME 326 Heat Transfer Lab		\$115
ME 330 Vibrations Lab		\$115
ME 335 Finite Element Methods		\$115
ME 337 Micro Electro Mechanical Systems Engineering		\$115
ME 343 Additive Manufacturing		\$115

<b>Pricing Schedule</b>	<b>Cross Listed Courses</b>	<b>2022-2023</b>
ME 347 Thin Film Manufacturing		\$115
ME 380 Advanced CADD		\$115
ME 384 Mechanical Design Lab		\$115
ME 391 Senior Projects I		\$125
ME 392 Senior Projects II		\$125
ME 398 Special Topics		\$125
ME 498 Advanced Topics in Mechanical Engineering		\$115
<b>Nursing (LNSG)</b>		
NSG 210 Principles of Nursing, Individual, Family & Community		\$370
NSG 211 Physical Assessment		\$100
NSG 214 Pathophysiology for Professional Nurses		\$230
NSG 235 Med Surg I		\$200
NSG 237 Med Surg II		\$200
NSG 330 Nursing Practice I		\$658
NSG 331 Nursing Practice II		\$50
NSG 332 Nursing Practice III		\$967
NSG 340 Advanced Care Concepts		\$300
NSG 345 Senior Practicum		\$1,144
<b>Graduate Nursing (LNPL)</b>		
NSG 506 Advanced Practice in Adult-Gerontology Clinical I		\$26
NSG 515 Advanced Practice in Adult-Gerontology Clinical II		\$26
NSG 535 Advanced Practice in Psychiatric/Mental Health Nursing I		\$26
NSG 536 Advanced Practice in Psychiatric/Mental Health Nursing II		\$26
NSG 563 Nurse Executive Practicum I		\$26
NSG 564 Nurse Executive Practicum II		\$26
NSG 544 Classroom Practicum in Nursing Education		\$26
NSG 545 Clinical Practicum in Nursing Education		\$26
NSG 546 Family Nurse Practitioner Clinical I		\$26
NSG 547 Family Nurse Practitioner Clinical II		\$26
NSG 549 Family Nurse Practitioner Clinical with Children and Families		\$26
NSG 568 Nursing Informatics Practicum I		\$26
NSG 569 Nursing Informatics Practicum II		\$26
NSG 608a Professional Liability Fee		\$26
NSG 608a Scholarly Project		\$0
NSG 608b - Scholarly Project(dissertation binding/Pro. Liability fee)		\$48
NSG 630 Professional Liability fee		\$26
NSG 631 Professional Liability fee		\$26
NSG 631 Dissertation (Binding)		\$48

## Introduction

Pricing Schedule	Cross Listed Courses	2022-2023
<b>AHA Course Fee (ELN5) 1258-314-5187-100</b>		
NSG 117 Basic Life Support Renewal		\$100
NSG 217 Basic Life Support Renewal		\$100
NSG 317 Advanced Life Support		\$50
<b>Pharmacy (Professional Fees)</b>		
Insurance Malpractice (Pharmacy)		\$26
PHA 462 Hemp Biology and Analysis	BIO 363 Hemp Biology and Analysis	\$140
Professional Fee - P1		\$700
Professional Fee - P2		\$700
Professional Fee - P3		\$700
Professional Fee - P4		\$700
<b>Physics (LPHY)</b>		
PHY 105 Concepts in Physics		\$50
PHY 171 Princ Of Classical and Modern Physics		\$115
PHY 174 App of Classical and Modern Physics		\$115
PHY 204 General Physics I Lab		\$115
PHY 205 General Physics II Lab		\$115
PHY 206 Modern Physics Lab		\$115
EGR 214 Linear Systems		\$115
PHY 374 Imaging in Biomedicine		\$115
PHY 391 Senior Projects I		\$115
PHY 392 Senior Projects II		\$115
<b>Psychology (LPSY)</b>		
PSY 200 Statistics (If offered online; no fee for face to face)		\$40
PSY 300 Research Design and Stat II		\$45
PSY 311 Behavioral Neuroscience		\$35
PSY 399 Internship Experience		\$82
PSY 400 Senior Capstone		\$65
PSY 401 Applied Capstone		\$25
<b>Theatre Laboratory (LTHE)</b>		
THE 190 Theater Laboratory		\$75
<b>Sidhu School of Buisness &amp; Leadership</b>		
Personal and Professional Devlopment (PPD) Fee		\$35
Technology (Simulation & Testing Fee)		\$50

## Refund Schedule

### Circumstances

### Cancellation of Enrollment

#### Time of Withdrawal

On or before the first day of classes

## Tuition and Fees

The University will cancel 100% of the tuition charges and fees, less a deposit of \$300, if written notice of cancellation is received by Student Services and the Office of the Registrar on or before the first day of classes. Failure to submit proper written notification will result in the assessment of full charges.

NOTE: This policy applies to all students, including military students who receive TA funding.

## Time of Withdrawal

Policy guidelines for refunds processed after the first day of classes are as follows.

## Tuition and Fees

Students who withdraw from Wilkes University will be entitled to an adjustment of tuition according to the following schedule:

Fall and Spring Semester	First week	100%
	Second week	
	Third week	
	Fourth week	
	After the Fifth week	No Refund
Summer Sessions	Pre-Session, Session I & Session II: first week	50%
Evening Session: first two weeks	50%	
After stated period, all sessions	No refund	
Change from Full-time to Part-time Status and Reduction of Part-time Load	See schedule for Total Withdrawal	Adjusted charges are based on the number of credits remaining after the change of status or reduction of course load. Changing from full-time to part-time may also affect the financial aid package.

## Refund Schedule\*(ABBA Program)

<i>Withdrawal or Drop Date Based on Percentage of Course Completion</i>	<i>Tuition Adjustment (Less Fees*)</i>
0-13% course completion (includes first class session for all courses)	100%
14-20% course completion	75%
21-27% course completion	50%
28% course completion- end of term	0%

*\*All fees charged by the university are non-refundable*

## Room and Board

### Room

**Fees and Deposits** The student shall pay the full cost of housing, dining, and deposits upon the receipt of an invoice from the University. For current and resuming students, we are not currently charging a housing deposit. For entering first year and transfer students, your housing deposit is included in your overall admissions deposit; no additional deposit is required with this agreement.

**Refund Policy** Cancellations are governed by the terms as outlined in the Student Handbook. Failure of the student to occupy the reserved residence hall by the first day of classes of either semester without prior written notification to the University will result in forfeiture of the room without refund of the housing deposit. All refunds of housing and dining charges are governed by the Refund Policy as defined in the current Student Handbook.

Reflecting the Wilkes University Refund policy, students will be entitled to a full refund if they withdraw or are approved to cancel their housing contracts before or during the first week of classes. Students will receive a 75% refund in their second week of classes, 50% in their third week, and 25% refund of room and board charges at their fourth week. Students are responsible for the full room and board charges at the fifth week of classes and beyond. The Director of Residence Life or her designee can make exceptions

## Introduction

refunding any unused portion of paid rental fees for students called into active military service or who withdrawal for reasons beyond their control.

## Board

All resident students are required to participate in one of the Colonel Dining Plans below. The dining plan is for the sole and exclusive use of the student who contracts for the service. The student's official photo identification card is the only acceptable method used to gain access to the dining facilities. Meal Plan options are based on the food service provider. Please refer to Dining Services for additional information.

- First year resident students (students who have not previously been enrolled full-time in college or have earned fewer than 24 credits) must choose the Colonel Gold, Colonel Gold Plus, or Colonel Gold Premier plans only.
- Sophomore & Junior resident students may choose between Colonel Gold, Gold Plus, Gold Premier, Blue, Blue Plus, or Blue Premier plans.
- Senior resident students (90+ credits) may choose among any Colonel plan or the Senior Value Plan.

Dining plan changes to Fall semester contracts are not permitted after August 1. Dining plan changes for Spring semester are permitted only during the official dining plan change period of October 1 through November 15.

Dining plan selections are contracted for the full academic year, with the exceptions for change requests noted above. Unused Dining/Flex Dollars will be carried over from the Fall semester to the Spring semester, but will not be carried over to the next academic year. At the end of the Spring Semester all unused swipes/Dining/Flex dollars will be eliminated and are not refunded. Dining plan cancellations will follow the same refund schedule as housing assignments.

## Refunds

### Military Leave Refund Policy

A student in the military reserves who is called into active status on an emergency basis and cannot complete course work for a given semester

1. will receive an automatic late withdrawal in each course with full tuition and fee refund if call-up is within the first 12 weeks of the semester; and
2. may elect to receive an incomplete in each course or receive a W in each course with a full tuition and fee refund, if call-up is during the thirteenth or fourteenth week of the semester.  
Ordinarily, the incompletes are to be finished during the semester the student returns to classes.

Room and board charges will be adjusted according to the refund schedule. The student should present his or her orders to the Office of Student Affairs. If the student does not yet have written orders, he or she will have 60 days in which to present the orders. A family member or friend may bring a copy of the orders in the student's absence. If this deadline is not met, a grade of "0.000" will be recorded for each course in which the student remains enrolled, and he or she will not be eligible to receive a refund.

Wilkes University allows service members and reservists to be readmitted to their program of study if they are temporarily unable to attend class, or need to suspend their studies, due to Service requirements.

## Veterans Benefits

### Veterans Benefits and Transition Act of 2018

The University complies with the Veterans Benefits and Transition Act of 2018 (38 USC 3679(e)), and will not impose any penalty, including the assessment of late fees, the denial of access to classes, libraries, or other institutional facilities, or the requirement that a covered individual borrow additional funds, on any covered individual because of the individual's inability to meet his or her financial obligations to the institution due to the delayed disbursement of a payment by the VA under chapter 31 or 33 veteran educational assistance entitlement.

All Covered Individuals (anyone who is entitled to educational assistance under chapter 31, Vocational Rehabilitation and Employment, or chapter 33, Post-9/11 GI Bill® benefits) are requested to provide a written request of use of these entitlements and will be permitted to attend or participate in the course of education beginning on the date on which the individual provides to the educational institution a certificate of eligibility for entitlement to educational assistance under chapter 31 or 33 (a "certificate of eligibility" can also include a "Statement of Benefits" obtained from the Department of Veterans Affairs' (VA) website e-Benefits, or a VAF 28-1905 form for chapter 31 authorization purposes). The Certificate of Eligibility or Statement of Benefits is required to be submitted no later than the first day of courses for which an individual wishes to use the individual's entitlement to education assistance in order to provide proper and timely certification and disbursement of VA funding. Additionally, all covered individuals

will be required to provide any and all additional information necessary to complete the proper certification of enrollment by the institution within 10 days of notice.

This policy does not prevent the University from requiring that the difference between the amount of the student's financial obligation and the amount of the VA education benefit disbursement be satisfied.

'GI Bill®' is a registered trademark of the U.S. Department of Veterans Affairs (VA). More information about education benefits offered by VA is available at the official U.S. government website at [www.benefits.va.gov/gibill](http://www.benefits.va.gov/gibill).

## Academic Matters

### General Information

Wilkes' University's commitment to developing and nurturing a passion for lifelong learning in students of all ages is reflected throughout the academic undergraduate degree programs of the University and in the flexible scheduling and enrollment, including on-line course options and robust roster of special cultural and educational programs that serve both full-time undergraduate students and non-traditional degree- and non-degree-seeking students.

### University Calendar

The academic year consists of two fifteen-week semesters, each of which includes a final examination period. The fall semester normally begins in late August and concludes with final examinations in December. The spring semester begins in mid-January and closes with a final examination period in May. An optional three-week Intersession is offered in late December and early January.

The University also provides a broad range of courses, workshops, mini-courses, and programs with outdoor activities during the summer months. The summer schedule includes a three-week Pre-Session, two five-week Day Sessions, and a nine-week Evening Session, plus special mini-sessions. The first regular summer Day Session begins in early June and concludes in mid-July; the second regular summer Day Session begins in mid-July and ends in late August. The nine-week Evening Session, which begins in early June and ends in early August, complements these two day-school summer sessions. Students interested in the summer programs should contact the Office of Summer Programs for specific course and scheduling information. Please request special summer discount information through the Office of Summer Programs (570) 408-4150.

Commencement exercises are held three times annually, at the close of the fall semester, spring semester and at the close of the Summer Sessions.

For a copy of the 2022-2023 Approved Academic Calendar, go to the end of this bulletin or click [2022-2023 Academic Calendar](#).

### Accreditation

Wilkes University offers degrees and programs approved by the Department of Education of the Commonwealth of Pennsylvania and accredited by the Commission on Higher Education of the Middle States Association of Colleges and Secondary Schools (3624 Market Street/Philadelphia, PA 19104-2680).

Certain academic programs are also individually accredited by the respective professional organizations. The Chemistry curriculum is approved by the American Chemical Society. The baccalaureate degree in nursing/master's degree in nursing/Doctor of Nursing Practice/, and post graduate APRN certificate programs at Wilkes University are accredited by the Commission on Collegiate Nursing Education ([www.ccnaccreditation.org](http://www.ccnaccreditation.org)). Programs in Electrical Engineering, Environmental Engineering, and Mechanical Engineering are accredited by the Engineering Accreditation Commission (EAC) of the Accreditation Board of Engineering and Technology (ABET). The Bachelor of Science in Accounting and the Bachelor of Business Administration degree programs are accredited by the Accreditation Council for Business Schools and Programs (ACBSP). The Accreditation Council for Pharmacy Education (ACPE) has granted full accreditation to the Doctor of Pharmacy (Pharm. D.) program.

NOTE: When programs must meet curricular requirements set by external agencies, such as accrediting associations, curricular changes may be made without prior notice, and students will be required to conform to such changes when they become effective.

### Course Numbering

Courses are designated by a course number code comprising two or three letters and three digits. The letter codes identify specific fields of study (e.g., ACC = Accounting; BIO = Biology; IM = Integrative Media; and THE = Theatre). The three-digit numeric codes identify the course level (first digit: 1, 2, 3, 4, or 5), subfields within a specific discipline, as defined by each department or program

## Introduction

(second digit), and, when appropriate, the course sequencing or time of year when the course is offered (third digit). Course levels are denoted as follows:

1xx Introductory courses

2xx Intermediate courses

3xx Advanced undergraduate courses

4xx Advanced undergraduate courses and courses for graduate students

5xx Courses for graduate students only (except with special permission)

## Course Scheduling and Enrollment

Wilkes University offers a full schedule of day classes during the fall and spring semesters. Evening, summer, intersession, and accelerated classes accommodate schedules of traditional and non-traditional full- and part-time students who cannot attend day classes or classes offered during the regular semester periods. A number of online courses and hybrid courses, which combine online learning with periodic classroom meetings and discussions, provide additional scheduling flexibility for traditional and non-traditional students.

Wilkes University welcomes part-time undergraduate students into all of its regular sessions and has established the Evening schedule to maximize scheduling possibilities for students who are not able to attend day classes. Evening courses generally meet one or two nights per week during the academic year and two nights per week during the nine-week summer Evening Session.

If seating is available, non-degree students may be admitted to classes for which they are qualified by virtue of their maturity, educational background, or work experience. Secondary school training is desirable, but not required, provided the student is qualified to meet the requirements for enrollment and the rigors of the academic course work involved. Direct all inquiries pertaining to continued learning opportunities to the Admissions Office at (570) 408-4400.

These flexible campus classroom and online offerings in a variety of disciplines provide the greatest possible flexibility of scheduling for full-time undergraduate students and enable graduates of accredited two-year institutions and returning non-traditional students to complete baccalaureate degrees in certain majors by taking courses beyond the regular daytime class meeting hours.

Full- and part-time undergraduate students should consult with their academic advisors concerning the various course formats and scheduling options and review the Schedule of Courses published each semester by the Office of the Registrar. Returning, non-degree seeking, and non-traditional students should direct inquiries to the Admissions Office at (570) 408-4400. Complete information about graduate, professional, post-baccalaureate, and continued learning opportunities is available on the Wilkes University Web site at <https://www.wilkes.edu/graduatestudies>

## Academic Policies and Procedures

### Academic Policies and Procedures

- [Registration](#)
- [Attendance](#)
- [Wilkes-Misericordia-King's Cross-Registration](#)
- [Auditing Courses](#)
- [Change of Major](#)
- [Transfer of Credits](#)
- [Appeal of Grade Policy](#)
- [Withdrawal from Courses](#)
- [The Family Educational Rights and Privacy Act of 1974](#)

### Appeal of Grade Policy

Students who have a clear and justifiable grievance with reference to a grade should first seek resolution with the instructor and, subsequently, with the department chairperson. It is expected that the chairperson will consult with the faculty member in an effort to resolve the dispute. The chairperson may also exercise the option to involve the appropriate school dean in the discussion with the faculty member.

If satisfaction cannot be obtained, the student has the right to appeal to the Provost. Such appeal must be made by the end of the fourth week of the subsequent fall or spring semester.

The Provost will consult with the appropriate dean and department chairperson and will establish an Appeal Committee of three faculty members at least two of whom shall be from the department of the faculty member involved, if this is possible. A committee chairperson will be appointed by the Provost. The committee chairperson will notify the faculty member of the appeal and the composition of the committee.

The Appeal Committee will hear the student's complaint, interview the faculty member, and study the evidence presented by both parties. If necessary, the Committee may interview other students or faculty in its efforts to determine the facts.

The Committee will make a report to the Provost in which will include a review of the issues and a recommended solution. In most cases, this will be a recommendation to uphold the grade awarded by the instructor or to alter the grade that the student received. In some cases, the recommendation may be to present the student with other alternatives such as the completion of additional work before a final grade is determined.

The Provost will review the committee's recommendation and inform the faculty member and student of his/her decision.

## Attendance

### Attendance Policy

We strongly recommend all members of the University community to be attentive to their health and safeguard others by following the CDC's guideline to "stay home when you are sick" and to seek appropriate medical evaluation.

Instructors are expected to 1) inform students in writing of their attendance policy at the beginning of the semester; 2) take attendance and report excessive absences to the Deans of Student Affairs; and 3) discourage absence from classes prior to the beginning of a holiday period.

Attendance at all scheduled classes is expected and required. Repeated absences are a sufficient cause for failure.

After five consecutive instructional hours of unexcused absences from a class, students may be readmitted to the class only by action of the Office of Student Affairs and the department chairperson concerned. Any absence beyond that permitted in the course is a matter between the student and the instructor. Absences due to illness, religious holidays, or participation in athletic or other University sponsored activities are usually considered to be acceptable reasons for absences, but notification of such absences and arrangements to make up missed work should be made with the instructor by the student.

In the unfortunate event of a death in the family, students are asked to contact the Office of Student Affairs so that notification might be sent to faculty members and arrangements made with them to assist students in making up missed work.

If students are ill and will be missing a test, examination, or presentation, it is their responsibility to contact the instructor by email prior to the start of the missed activity.

When students are going to be absent for a period of two days or more, if they notify the Office of Student Affairs, written notification of their extended absence will be sent to the students' instructors.

### Pandemic-Related Protocol

Students who are engaging in isolation or quarantine at the direction of the Wilkes Barre Health Department, Wilkes University Health and Wellness Services Office, or their health care professional, should not attend class. Students will be required to provide documentation of isolation/quarantine directions from their healthcare professional to the office of Health and Wellness Services. Students will not be penalized for absences, missed exams, labs, or other critical academic activities, unless they fail to notify their instructors of their absences. Students must take responsibility for their absences and keep up with their coursework if they cannot attend class. They must:

- Inform their instructors/professors and the Office of Student Affairs of their inability to attend class prior to class meetings.
- Refrain from coming to the classroom or visiting the instructor/professor.
- Maintain open communication by notifying instructors and student health services ([anita.burns@wilkes.edu](mailto:anita.burns@wilkes.edu), 570-408-4730) as soon as they become aware of the situation.
- Keep up with classwork, unless they are unable to do so.
- When available, attend class remotely and submit assignments digitally, unless they are unable to do so.
- Work with their instructors to reschedule exams, labs, and other critical academic activities as soon as possible.

## Auditing Courses

Auditing courses is a practice designed primarily to allow students to expand their educational opportunities. Courses may be taken on an audit basis only if formal registration is completed before the end of the first week of the semester. Permission of the course instructor will be required.

Students who withdraw from a course but who wish to attend additional class sessions in that course may do so with the permission of the instructor; in all cases, however, these students will receive a grade of "W" (withdrawal).

Students auditing courses will comply with all stated course policies and meet all stated course standards and requirements, including attendance. Students who fail to comply with course standards, requirements, and policies will not be awarded "Audit" recognition. All relevant fees will be charged.

## Change of Major

Students who wish to change their majors must obtain the approval of the academic advisor and of the chairperson of the department of current enrollment and of the chairperson of the department in which the proposed major resides. The student shall satisfy the curricular requirements of the bulletin in force at the time of the change. Change-of-major forms are available in the Registrar's Office.

## Enrollment Status Policy

In determining enrollment status, Wilkes-University includes all credit courses offered through resident instruction and distance education. Credits earned by credit-by-exam or credit-by-portfolio, and courses enrolled as "audit" are excluded from the calculation. The reported enrollment status for the three enrollment periods (fall, spring and summer) is determined as follows:

## Undergraduate

Most undergraduate programs at Wilkes-University require full time enrollment (12 or more credits per semester). Note that most academic programs require between 14-18 credits each semester based on the progression of the curriculum. Financial assistance from University sources requires full time enrollment. All institutional grants and scholarships are subject to this policy.

With the exception of the federal Pell Grant, all other sources of state and federal grants and loans require a minimum of half time enrollment (6 credits per semester).

### Enrollment Chart:

Enrolled Credits	Enrollment Status
12+	Full-Time
9-11	Three Quarter Time
6-8	Half-Time
Less than 6	Less than Half-Time

## Registration

Incoming freshman and transfer students register during the orientation sessions that precede each semester. All continuing students are expected to preregister with their advisors and to register on the dates specified in the University Calendar; All continuing students are expected to preregister with their advisors and to register on the dates specified in the University Calendar. All Veteran/Service Member students, or dependents using Veterans Education benefits, are eligible for priority enrollment, and are allowed to register for classes at the beginning of each registration period along with all Seniors. Additional information on registration procedures and the exact dates of the orientation sessions for new students can be found online or obtained from the Office of Admissions or from the Registrar's Office.

## The Family Educational Rights and Privacy Act of 1974

(excerpted and adapted from the Wilkes University Student Handbook)

The Family Educational Rights and Privacy Act (FERPA) affords students certain rights with respect to their education records. Students acquire these rights upon attendance at Wilkes University. Attendance at Wilkes University begins with either the first day

of class or the date the student moves into student housing, whichever is earlier. Wilkes University has chosen to assume that all students have reached the age of legal majority (18) as stated in the document.

In accordance with the provisions of The Family Educational Rights and Privacy Act, students, upon request, will be given access to all their evaluative or opinion records that have been established by Wilkes. Such records might typically include those maintained by the Career Services Office, Health Services, Registrar, and the Office of Student Affairs. These records will be open to inspection in the presence of the appropriate University official. Procedurally, appointments must be made by students in advance to review their file, and the University has a maximum of 45 days following the request to produce the records.

For complete information about The Family Educational Rights Act of 1974 and the implementation of this act at Wilkes University, see the Wilkes University Student Handbook.

## Transfer of Credits

Wilkes students who wish to enroll in courses at another accredited institution (except Misericordia University and King's College; see "Wilkes-Misericordia-King's Cross-Registration") must complete the "Request for Transfer of Credit" form before enrolling for course work at the other institution. "Request for Transfer of Credit" forms are available at the Registrar's Office. .

Students should consult the "Admission of Transfer Students" section of this Bulletin for policies and rules governing transfer credits and transfer students.

The student must earn a grade of 2.00 or higher for the work to be credited toward graduation. All students must complete at least 30 credits and a minimum of 50% of their major field credits (and minor field credits, if applicable) in residence at Wilkes University.

NOTE: Grades earned for transfer credits are not included in the calculation of grade point averages.

## Wilkes-Misericordia-King's Cross-Registration

Wilkes University, Misericordia University, and King's College offer their students an opportunity to cross-register at the other institutions. Students register through the Office of the Registrar of the institution at which they are enrolled as degree candidates.

Cross-registration requires the signed permission of the Chair of the Department in which the course would be offered at Wilkes University, and the student's Advisor. **Only courses not offered at Wilkes University are permitted for cross-registration.** Exceptions to this must be approved by the course Department Chairperson.

Courses carry full credit and grade value, and are considered part of the student's regular course load. Grades for cross-registered courses appear on the Wilkes University transcript and are included in the Grade Point Average. No additional tuition charges will be assessed unless the student is carrying an overload (greater than 18 credits in one semester).

Students must register for cross-registration courses through the Registrar's Office at Wilkes University **at least two weeks prior to the start of class.** Turning in this completed form to the Wilkes Registrar's Office does not guarantee your entry into the other school's course. That is determined by seat availability. You will be notified if the course is filled and this crossregistration is denied by the other school's Registrar.

## Withdrawal from Courses

It is presumed that a student will complete the courses for which he or she has registered. Students must pay careful attention to the official withdrawal policy approved by the faculty. Any student who wishes to withdraw from a course should first discuss the matter with the instructor. A grade of "W" is given for approved withdrawal from a course; failing to withdraw by stated policy will result in a grade of "0.00."

## Fall and Spring Semesters

Withdrawal Period 1: During the first week of the semester, the student may withdraw from a course by informing his or her advisor, securing all required signatures on the withdrawal form, and then returning the completed withdrawal form to the Registrar's Office. Any withdrawal made during Period 1 is deleted from the student's record and will not appear on the transcript.

Withdrawal Period 2: After the first week of the semester, withdrawal is allowed through the tenth week of the semester (66% of semester completed) and requires the approval of both the course instructor and the student's academic advisor. Any withdrawal made after Period 1 will result in a "W" on the student's transcript.

## Introduction

Withdrawal Period 3: After the 10th week of the semester, the student may withdraw only for medical reasons or other extremely serious circumstances. Withdrawal requests based upon medical circumstances must be supported by a written excuse from a health care provider.

Poor academic progress, in and of itself, will not be considered sufficient reason for granting permission to withdraw from a course following the allowed withdrawal period. Withdrawals after the tenth week must be approved by both the course instructor and the Dean of the school or college in which the course is being taught. The Dean of Students will provide consultation regarding this decision, as deemed appropriate by the course instructor, the Dean of school or college in which the course is being taught, or both.

It is the student's responsibility to initiate withdrawal from a course by obtaining the withdrawal form from the Registrar's Office, gathering all required signatures, and returning the completed form to the Registrar. A grade of "0.00" is assigned by the instructor and recorded for all courses in which no official withdrawal, as specified above, has been completed by the student. Any withdrawal made after Period 1 will result in a "W" on the student's transcript.

Students who are considering withdrawal from a course should be reminded that state and federal regulations for financial aid mandate that a student must earn the appropriate credits within the period of August to August or January to January and maintain the appropriate grade point average for his or her class standing. For more details, please refer to the Academic Progress Requirements area in the Financial Aid Award Guide under the Student Services tab on the portal. Students should also be mindful of the University Refund Schedule, which allows for adjustments to tuition through the fourth week of the semester. Fees are not refundable.

## Summer, Pre-Session, and Intersession Semesters

Summer, Pre, and Intersessions represent full curriculum content in a compressed format. The table below reflects the policy for required signatures needed for withdrawal during Period 1, 2, and 3 for these sessions, as described for the Fall and Spring semesters.

	Deadline for Withdrawal Period 1	Deadline for Withdrawal Period 2	Deadline for Withdrawal Period 3
	Signatures: Advisor	Signatures: Course Instructor and Advisor	Signatures: Course Instructor and Dean of College in which courses is taken
Fall or Spring semester (15 week duration)	End of Week 1 (6.6% of course completed)	End of 10th week of semester (66% of course completed)	After 10th week (greater than 66% of course completed)
First and Second Summer session (20 class-day duration)	End of third day of class	End of 14th day of class	After 14th day of class
9-week evening Summer session (18 class-day duration)	End of the fourth day of class	End of the 12th day of class	After the 12th day of class
Pre-session (15 class-day duration)	End of the third day of class	End of the 10th day of class	After the 10th day of class
Intersession (variable class-day duration)	End of the first day of class	Determined by Registrar	Determined by Registrar

## Guidelines for Implementation

1. If a student is permitted to withdraw from a course after the ten-week period (Period 3), the signatures and approval of the Unit Dean in which the course is being taught and the course instructor are required. It is the student's responsibility to initiate withdrawal by obtaining the official form designed for this purpose from the Registrar's Office, having it signed by the instructor, and submitting it to the Unit Dean in which the course is being taught. A student may seek assistance from the Dean of Students in facilitating this process, including such cases in which the instructor cannot be reached. Written notification of the signed form designed for this purpose will be sent by the Unit Dean to the Registrar for processing, who will, in turn, notify the student, the course instructor, the student's advisor, and the Unit Dean immediately. If both the course instructor and the Unit Dean agree with the withdrawal, a grade of "W" will be assigned by the instructor and posted by the Registrar. If the course instructor and the Unit Dean disagree with the withdrawal, then the student will be assigned a grade as determined by the course instructor.
2. Disagreements between course instructor and the Unit Dean on course withdrawal cases will be automatically forwarded by the Registrar to the Academic Standards Committee of the University. A subcommittee consisting of at least two faculty and one member from the Office of Student Affairs will review the withdrawal and reasons for disagreement within one academic

week. The decision of this subcommittee will be recorded by the Registrar and forwarded to the student, the course instructor, and the Unit Dean.

3. If an official withdrawal, including proper paperwork, has not been initiated and completed by the student, the instructor will assign and record the grade of "0.00" for the course.
4. It should be noted that from the second through the tenth week of the semester a student must request and receive permission from the course instructor and the advisor in order to withdraw from a course.
5. Appeals will follow the Academic Grievance Procedure (for information about this procedure, see the Wilkes University Student Handbook).

## Academic Requirements and Regulations

- [Academic Honesty](#)
- [Grades](#)
- [Course Credit and Grade Point Averages](#)
- [Academic Honors and Awards](#)
- [Academic Standing, Probation, and Ineligibility](#)
- [GPA Adjustment Policy](#)
- [Academic Credit for Demonstrated Competency](#)
- [Graduation Requirements](#)
- [Degree Honors](#)
- [Honors Program](#)

## Academic Credit for Demonstrated Competency

Wilkes University encourages students to work to their full capacity and to advance in their academic work as rapidly as is appropriate. A number of opportunities to demonstrate competencies beyond those normally associated with graduation from high school are open to qualified high school juniors and seniors, as well as to adults returning to school after an interval of work or military experience. Academic credit may be granted for such demonstrated competencies through a variety of channels including Advanced Placement (AP) tests, military educational and training programs, challenge examinations, the College-Level Examination Program (CLEP), Excelsior Exams, DANTES Subject Standardized Tests (DSST), and experiential learning portfolios. Each of these opportunities to earn academic credit for demonstrated competencies is described in detail in the sections that follow. (Nursing students are referred to the Nursing section of this bulletin for detailed information on accelerated programs for LPN and RN students.)

The Office of Prior Learning Assessment (PLA) has been established to advise students and faculty about the policies pertaining to the award of academic credit for demonstrated competency and works with a team of departmental faculty transfer liaisons to guide students through the various associated processes. The Office of Prior Learning Assessment is housed in University College.

### Advanced Placement Program

Students who have passed one or more of the Advanced Placement (AP) Tests administered by the College Entrance Examination Board may request advanced placement in the University, the awarding of academic credit for AP course work, or both. Advanced Placement means that the student may enroll in a course at a level more advanced than the introductory level; a decision regarding advanced placement is made after review of the examination and applicant's scores by the academic department concerned. The award of credit by virtue of qualifying AP test scores means that the student receives academic credit toward the hours required for graduation. Generally, academic credit will be granted for scores of 3, 4, or 5 on the Advanced Placement examination. Occasionally, a personal interview may be required before advanced placement or academic credit is awarded. No grades are assigned to the courses for which the student receives advanced placement credit. Information about specific course examinations and credit may be found by going to [www.wilkes.edu](http://www.wilkes.edu) and searching under "Advanced Placement." Additional information is available from the advisors in the Office of Prior Learning Assessment.

### Challenge Examinations

After admission to Wilkes University, a student may request permission to take an examination demonstrating competence in a particular course. The interested student should apply to the appropriate department chairperson for permission to take a challenge examination. The chairperson will approve the student's application in writing only if there is clear evidence that the student has adequate background in the field to attempt the examination. If denied a challenge examination, the student may appeal to the appropriate academic dean. The student may not challenge a course that he or she has previously failed.

## Introduction

A fee of \$90 per credit will be assessed by the Financial Management Office for each approved challenge examination (see "Student Expenses"). The student must present to the chairperson of the department in which the examination is to be administered a receipt from the Financial Management Office; the receipt must be presented at least thirty days prior to the examination date. If the student successfully completes the challenge examination, credit for the course is awarded and posted to the student's transcript. No grade or credit is recorded if the student does not pass the examination.

## Credit for Military Experience

Students who have completed the special education and training programs offered by branches of the American armed services may be awarded academic credit for these programs. Students requesting academic credit for completion of such special programs should submit an official transcript of their work as part of the admissions process. Transcripts will be evaluated according to the guidelines provided by the American Council on Education (ACE), and credits awarded will be applied to the degree program as appropriate. For more information about the awarding of credit for military experience, contact the Office of Admissions at (570) 408-4400.

## Experiential Learning

Experiential learning is defined as knowledge and skills acquired and developed outside the traditional collegiate setting by means of experiences including, but not limited to, study abroad programs, internships, undergraduate research, service learning, scholarly and creative activities for which the student has not received academic credit, as well as professional work experiences and professional development self-study programs.

A maximum of 12 credits may be granted for demonstrated and documented college-level learning acquired and developed experientially, not for the experiences themselves. Credit will be awarded for existing courses in the, General Education, Major, and Elective (including "general electives") components of the Wilkes curriculum and only on the basis of critical evaluation by appropriate faculty of the demonstrated learning presented in the petition and upon approval of the appropriate dean.

As soon after admission to the University as is practical, students who wish to petition for experiential learning credit must notify the Prior Learning Assessment Coordinator, the appropriate academic advisor, and the dean of the college and chair of the department or division in which the course is delivered for which credit is to be requested. Notification must be presented to all aforementioned parties in writing. Experiential Learning "Intent to Petition" forms are available on line and in the Office of Prior Learning Assessment; a copy of the completed form must be filed with the Prior Learning Assessment Coordinator, the student's academic advisor, and with the dean of the college and the chair of the department or division in which the course is delivered for which credit is to be requested.

Specific guidelines and procedures for the petitioning and awarding of experiential learning credits are listed below. The Academic Standards Committee of the Faculty maintains the guidelines and procedures of the Policy on Experiential Learning, and makes the final decision on the awarding of credit.

## Guidelines

The student must be admitted to Wilkes University and enrolled in a degree program of the University.

All other means of securing credit for demonstrated competencies must have been exhausted before applying for experiential learning credit. The student must have applied for academic credit and demonstrated competence by such means as

1. departmental challenge exams;
2. CLEP subject area (not general) exams;
3. Credit for military experience;
4. RN validation of prior learning; and
5. Advanced Placement (AP) exams.

Experiential learning credit will not be awarded for

1. courses taken or credit awarded at another institution and accepted for transfer to Wilkes;
2. courses taken at another institution but not accepted for transfer to Wilkes; and
3. credit for life experience awarded by another college or university.

Academic policies pertaining to residency requirements, transfer, and level of course work are maintained for all students. Students who are awarded experiential learning credit must still

1. complete 60 credits at a baccalaureate degree-granting institution (including experiential learning credits awarded by Wilkes);
2. complete a minimum of 30 credits at Wilkes;
3. complete at least one-half of the major field credits at Wilkes; and

4. meet all graduation requirements approved by the Faculty of the University.

Credits awarded for experiential learning may not exceed 12 credit hours.

Students should expect a time frame of one semester from the time the petition is received by the appropriate dean until a final decision is rendered by the Academic Standards Committee.

## Procedure

Students who wish to petition for experiential learning credit must

meet with their assigned academic advisor and an advisor in the Office of Prior Learning Assessment (in University College) to discuss their intent to petition for experiential learning credit;

complete the "Experiential Learning Intent to Petition" form and submit one copy to each of the following:

1. the Prior Learning Assessment Coordinator;
2. the academic advisor;
3. the dean of the college in which the course is delivered for which credit is requested; and
4. the chair of the department or division in which the course is delivered for which credit is requested

obtain from the appropriate department or division chair a copy of the syllabus of the course for which credit is requested;

The "Petition for Experiential Learning Credit" (hereinafter referred to as the "Petition") must be completed within one calendar year from the date of filing the "Intent to Petition" form. Students who do not complete the "Petition" within the stated time period may reapply by submitting another "Intent to Petition" form.

A separate "Petition" must be submitted for each course for which credit is requested.

prepare, in consultation with the academic advisor, the "Petition," which includes the following:

1. General Information (Cover Page)
  - Name and date of birth
  - Wilkes Identification Number
  - Course for which credit is requested (including Course Number and Course Title)
  - Number of credits sought
  - High school and year of graduation
  - Degree sought at Wilkes and major area of study
  - A copy of the student's Wilkes University transcript, along with copies of transcripts from any other external institutions attended, showing degrees awarded (if any)
  - Relevant formal training courses attended which were conducted by business, industry or military organizations (include dates, titles and topics)
  - Occupational experience (include name of organization, dates of employment, duties and responsibilities)
2. Evaluation and Signature Page
3. Specific Requests and Justification (Narrative)
  - A coherent and comprehensive narrative of not more than five typewritten pages forms the basis for the request and must include a detailed and substantive discussion of the experiences to be considered and the specific learning acquired and developed by means of these experiences. The student must demonstrate that the knowledge, skills, and values acquired experientially addresses the student learning outcomes of the course for which credit is sought;
  - documentation of learning acquired and developed experientially must accompany the narrative (examples may include letters or performance reports from supervisors, copies of papers written, reviews of scholarly work, performances, or artistic exhibitions, programs, samples of work, and the like);

NOTE: At the discretion of the appropriate college dean and department or division chair, students petitioning for experiential learning credit may be required to provide additional information, attend an interview, and give a demonstration of knowledge or skills associated with the specific course for which credit is requested.

Students must submit the "Petition" to the Registrar not later than the first week of the fall or spring semester. The Registrar will acknowledge receipt of the "Petition" and forward the completed "Petition" to the dean of the college in which the course is delivered for which credit is being requested.

The college dean, in consultation with the appropriate department or division chair, will evaluate the "Petition" for merit. The unit dean will complete the applicable section of the Evaluation and Signature Page and forward, with recommendation, to the Academic Standards Committee for consideration and final approval.

The Academic Standards Committee may accept, modify, or reject the evaluation and recommendations of the dean. The chairperson of the Academic Standards Committee will complete the Evaluation and Signature Page, which shall constitute written

## Introduction

notification of the Committee's decision. The "Petition," including the written notification of the Committee's decision, will be returned to the unit dean, who will present the decision to the student. The "Petition" will be kept on file in the Office of the Dean for a period of seven years.

The chairperson of the Academic Standards Committee will forward a signed photocopy of the Evaluation and Signature Page to the University Registrar for posting of credit, if awarded.

## Standardized Examinations of College-Level Learning: CLEP, DANTES, and Excelsior

Wilkes University awards academic credit on the basis of satisfactory performance on the Subject Examinations, not the General Examinations, of the College-Level Examination Program (CLEP) administered by the College Entrance Examination Board. CLEP scores are evaluated according to the guidelines provided by the American Council on Education (ACE), and credits awarded will be applied to the degree program as appropriate. Although the program is designed primarily for adults, exceptionally well-qualified high school seniors may find it advantageous to seek academic credit through the College-Level Examination Program. Inquiries about CLEP should be directed to the Office of Admissions by calling (570) 408-4400. Official scores on CLEP Subject Examination scores should be forwarded directly to the Office of Admissions.

Scores earned on other standardized examinations, specifically DANTES and Excelsior, are evaluated on a case-by-case basis.

Additional information about CLEP, DANTES, and Excelsior examinations is available in the Office of Prior Learning Assessment.

## Academic Honesty

Academic honesty requires that students refrain from all forms of cheating and provide clear and accurate citations for assertions of fact, as well as for the language, ideas, and interpretations of others that have contributed to the student's written work. Failure to acknowledge indebtedness to the work of others constitutes plagiarism, a serious academic offense that cannot be tolerated in a community of scholars. All instances of academic fraud will be addressed in accordance with the policies of the faculty and student handbooks of the University.

Statement on Intellectual Responsibility and Plagiarism

(adapted from the Wilkes University Student Handbook)

At Wilkes, the faculty and the entire University community share a deep commitment to academic honesty and integrity. Plagiarism, collusion, and cheating are considered to be serious violations of academic and intellectual integrity and will not be tolerated at the University. Each of these violations of academic and intellectual integrity is defined as follows.

Plagiarism: the use of another's ideas, programs, or words without proper acknowledgment.

According to the Little, Brown Handbook (seventh ed.), plagiarism "is the presentation of someone else's ideas or words as your own" (578). Similarly, the MLA Handbook for Writers of Research Papers (seventh ed.) states, "using another person's ideas, information, or expressions without acknowledgement of that person's work constitutes intellectual theft. Passing off another person's ideas, information, or expressions as your own to gain an advantage constitutes fraud" (26).

Students assume the responsibility for providing original work in their courses and for refraining from all acts of plagiarism. The University considers the following to be three separate forms of plagiarism:

- Deliberate plagiarism, which centers on the issue of intent. If students deliberately claim another's language, ideas, or other intellectual or creative work as their own, they are engaged in a form of intellectual theft. Similarly, submitting the work of another person, in whole or in part, or submitting a paper purchased from another person or agency is a clear case of intentional plagiarism for which student will be subject to the severest penalties. Acts of intellectual theft are not tolerated in academic, business, or professional communities, and confirmed instances of plagiarism usually result in serious consequences.
- Unintentional plagiarism often results from a misunderstanding of conventional documentation, oversight, or inattentive scholarship. Instances of unintentional plagiarism may include forgetting to give authors credit for their ideas, transcription from inaccurate and poorly written notes, failure to use appropriate forms of citation, and omission of relevant punctuation.
- Self-plagiarism occurs when students submit papers prepared and presented for another course, whether for the English Department or another department or school. Students may submit the same paper for more than one course only if all instructors involved grant permission for such simultaneous or "recycled" submissions.

Penalties for plagiarism may range from failure for the particular assignment to failure for the course. In accordance with the academic grievance procedures of Wilkes University, cases of plagiarism will be addressed first by the instructor. Any appeal by the student should be directed to the department chairperson.

**Collusion:** improper collaboration with another in preparing assignments, computer programs, or in the completion of quizzes, tests, and examinations.

**Cheating:** giving improper or unauthorized aid to another in the completion of academic tasks or receiving such aid from another person or other source.

**Falsifying:** the fabrication, misrepresentation, or alteration of citations, experimental data, laboratory data, or data derived from other empirical methods.

Instructors are expected to report violations to both the Dean of Students and the Provost. Penalties for violations may range from failure in the particular assignment, program, or test, to failure for the course. The instructor may also refer the case for disposition to the Student Affairs Cabinet. The academic sanctions imposed are the purview of the Faculty; the Student Affairs Cabinet determines disciplinary sanctions. The appeal of a failing grade for academic dishonesty will follow the academic grievance policy. The appeal of a disciplinary sanction will follow the disciplinary action policy.

\*\*\*\*\*

The University "Statement on Intellectual Responsibility and Plagiarism" may be found in full in the Wilkes University Student Handbook. Students are responsible for being fully cognizant of the content of this statement. Questions pertaining to Intellectual Responsibility and Plagiarism or any facet of Academic Honesty should be directed to the student's professors, academic advisor, the Dean of Students, and the University Writing Center.

## Academic Honesty

### Statement on Academic Honesty, Intellectual Responsibility and Plagiarism

At Wilkes, the faculty and the entire University community share a deep commitment to academic honesty and integrity. Students assume the responsibility for providing original work in their courses without plagiarizing.

The following are considered to be serious violations and will not be tolerated. These are meant to be examples and are not an exhaustive list.

**Academic Misconduct:** any behavior that attempts to garner an unfair advantage or give another student an unfair advantage

- submitting work purchased from another (including another student or commercial paper writing services)
- completing an assignment for another student
- use of unauthorized electronics during an exam (i.e. cell phone, calculator, wireless two-way communicators)
- leaving a room during an exam, with the exam
- possession of unauthorized copies of an exam (either current or past exams)
- submitting false information or documentation that requests special accommodations from a professor

**Cheating:** giving improper aid to another, or receiving such aid from another, or from some other source

- to copy from another student
- to allow another student to copy from you
- to use unauthorized notes or formula sheets during an exam

**Collusion:** improper collaboration with another in preparing assignments, computer programs, or in taking examinations

- to discuss an exam with a student who is scheduled to take the same exam at another later section
- to take an extra copy of an exam to share with another outside of your own section
- unless an instructor indicates that collaboration is allowed, students should work individually on assignments
- a clear notation should be made if you have collaborated with someone on an assignment

**Falsifying:** the fabrication, misrepresentation, or alteration of citations, experimental data, laboratory data, or data derived from other empirical methods or giving false information

- to create false data for lab reports or other research
- to cite materials not used in your assignment
- to misrepresent work done outside the classroom (i.e. as it relates to field work or internship hours)
- to ask for special consideration under false pretenses

**Plagiarism:** the use of another's ideas, programs, or words without proper acknowledgment

- to use an idea, illustration, diagram or other detail from a source without making a reference in the bibliography

## Introduction

- to submit another person's paper, program or other assignment as one's own
- to paraphrase without citing a source
- to use a partial phrase from a source without putting it in quotations, or otherwise citing it
- to use information found on the internet without citing the source
- self-plagiarism—reusing your own work for another assignment in another class

## The University considers the following as three separate forms of plagiarism:

- **Deliberate plagiarism** centers on the issue of intent. If students deliberately claim another's language, ideas, or other intellectual or creative work as their own, they are engaged in a form of intellectual theft. This is not tolerated in academic, business, and professional communities, and confirmed instances of plagiarism usually result in serious consequences. Similarly, submitting the work of another person or submitting a paper purchased from another person or agency is a clear case of intentional plagiarism for which students will be subject to the severest penalties..
- **Unintentional plagiarism** often results from misunderstanding conventional documentation, oversight, or inattentive scholarship. Unintentional plagiarism can include forgetting to give authors credit for their ideas, transcribing from poor notes, and even omitting relevant punctuation marks.
- **Self-plagiarism** occurs when students submit papers presented for another course, whether for the English department or another department or school. Students may submit papers for more than one course only if all instructors involved grant permission for such simultaneous or recycled submissions. Students should follow these general principles when incorporating the ideas and words of others into their writing:
  - The exact language of another person (whether a single distinctive word, phrase, sentence, or paragraph) must be identified as a direct quotation and must be provided with a specific acknowledgment of the source of the quoted matter.
  - Paraphrases and summaries of the language and ideas of another person must be clearly restated in the author's own words, not those of the original source, and must be provided with a specific acknowledgment of the source of the paraphrased or summarized matter.
  - All visual media, including graphs, tables, illustrations, raw data, audio and digital material, are covered by the notion of intellectual property and, like print sources, must be provided with a specific acknowledgment of the source.
  - Sources must be acknowledged using the systematic documentation method required by the instructor for specific assignments and courses.
  - As a general rule, when in doubt, provide acknowledgment for all borrowed material. Different disciplines use different documentation methods; therefore, students should consult instructors about the correct use of the appropriate documentation style. Style manuals detailing correct forms for acknowledging sources are available in the Farley Library, at the Writing Center, and at the college bookstore. Additional resources and guidance in the correct use of sources can be obtained at the Writing Center and from individual instructors..

## Procedures for Reporting Cases of Academic Dishonesty

Instructors are expected to report violations to both the Dean of Students Affairs and the Provost. Penalties for violations may range from failure in the particular assignment, program, or test, to failure for the course. The instructor may also refer the case for disposition to the Student Affairs Committee. The academic sanctions imposed are the purview of the Faculty; the Student Affairs Committee determines disciplinary sanctions. The appeal of a failing grade for academic dishonesty will follow the academic grievance policy. The appeal of a disciplinary sanction will follow the disciplinary action policy.

The faculty who suspects a case of academic dishonesty should:

- Notify the student, in writing, of the concern and arrange to meet with the student to discuss the concern
- Notify the Dean of Student Affairs via the reporting form: [wilkes.guardianconduct.com/incident-reporting](http://wilkes.guardianconduct.com/incident-reporting)

## Academic Honors and Awards

### The Deans' List

The faculty of Wilkes University grants recognition for work of the highest quality. Students who earn a semester GPA of 3.50 or higher for all courses taken are accorded special recognition by being named to the Dean's List in the School or College of their major degree program. The Dean's List is published at the end of each fall and spring term. Students who attempt fewer than 12 credit hours in any semester are not eligible for nomination to the Dean's List.

### Honor Societies

Many national and international honor societies have established chapters at Wilkes University. Students are invited to join these societies on the basis of their academic achievement, service to the University, service to the community, or a combination of such activities and accomplishments. Honor societies at Wilkes University include

ALPHA CHI (Upper division students) PI KAPPA DELTA (Forensics)  
 ALPHA KAPPA DELTA (Sociology) PI SIGMA ALPHA (Political Science)  
 ALPHA SIGMA LAMBDA (Part-time Students) PHI ALPHA THETA (History)  
 BETA BETA BETA (Biology) PSI CHI (Psychology)  
 CHI ALPHA EPSILON (Act 101 Students) RHO CHI (Pharmacy)  
 DELTA MU DELTA (Business and Accounting) SIGMA PI SIGMA (Physics)  
 ETA KAPPA NU (Electrical Engineering) SIGMA TAU DELTA (English)  
 KAPPA DELTA PI (Education) SIGMA THETA TAU (Nursing)  
 LAMBDA PI ETA (Communications) SIGMA XI (Scientific Research)  
 OMICRON DELTA EPSILON (Economics)

## Academic Standing, Probation, and Ineligibility

It is expected that students at Wilkes University will work to their full capacity and potential in all courses. Academic standing reflects progress toward degree completion and is determined according to minimum semester grade point averages achieved.

For the purposes of determining academic standing, freshmen are defined as students who have attempted up to 36 credits; freshmen must maintain a minimum cumulative grade point average of 1.70 in order to be considered "in good standing" at the University. Sophomores, juniors, and seniors must maintain a minimum cumulative grade point average of 2.00 overall and a minimum grade point average in their major course work to be considered "in good standing" at the University. (Sophomores are defined as students who have completed 30 – 59 credits, juniors as students who have completed 60 – 89 credits, and seniors as students who have completed 90 credits or more.)

A student who fails to achieve the required minimum grade point average(s) will automatically be placed on academic probation or declared "academically ineligible." Academic probation serves as a warning to the student that he or she is not making satisfactory progress toward degree completion. Students placed on academic probation may, based upon the recommendation of the student's academic advisor and action by the Academic Standards Committee, be restricted in the number of credits that he or she may attempt in the following semester. The Academic Standards Committee may impose additional restrictions and requirements in individual cases, if it is determined that such restrictions and requirements are in the best interest of the student. These restrictions may affect the student's participation in extra-curricular and co-curricular activities.

Students who remain on academic probation for two consecutive semesters are subject to declaration as "academically ineligible" to continue at the University. Students who are declared academically ineligible are not permitted to enroll in any course work at Wilkes for a period of one semester and must, following the semester of mandated leave, apply in writing to the Academic Standards Committee for readmission to the University. The application for readmission must include evidence of the student's prospects for academic success in subsequent semesters. If readmission to the University is approved by the Academic Standards Committee, the student will be readmitted on a probationary basis.

A decision of the Academic Standards Committee may be appealed by the student at the designated meeting for appeals at the conclusion of the fall and spring semesters. Appeals must be presented to the Committee, either in person or by letter, at the appropriate appeals meeting, and should include good and sufficient reasons for the appeal.

## Course Credit and Grade Point Averages

### Course Credit

Each course at the University is assigned a specific number of credits. For example, History (HST) 101 is a three-credit course, and Mathematics (MTH) 111 is a four-credit course. In most cases, credits assigned to a particular course are determined according to the number of hours per week that the class meets; credits may also be defined by the number of hours that the class meets per semester. During the course of the semester, a credit hour is equivalent to

Each course at the University is assigned a specific number of credits. For example, History (HST) 101 is a three-credit course, and Mathematics (MTH) 111 is a four-credit course. In most cases, credits assigned to a particular course are determined according to the number of hours per week that the class meets; credits may also be defined by the number of hours that the class meets per semester. During the course of the semester, a credit hour is equivalent to

## Introduction

15 hours of classroom contact, plus appropriate outside preparation (30 hours); OR

30 hours of supervised laboratory work, plus appropriate outside preparation; OR

45 hours of internship or clinical experience; OR

a combination of the foregoing.

### Length of Semester:

- 14 weeks of classes, excluding final examination periods and vacations.

## Credit hour:

- 1 credit hour = 50 minutes of lecture or recitation per week (along with two hours of out of class activities) or 2 or more hours of laboratory per week throughout the semester.

**Laboratory:** Courses with a focus on experimental/experiential learning where in the student performs substantive work in a laboratory or studio setting. The minimum contact time per credit is 1680 minutes or 2 hours per week for the length of a regular semester.

**Independent study/research:** Courses offered as directed studies with approval and supervision of faculty member. Student(s) meet periodically as agreed upon during the duration of the course. Semester hour credit awarded must be comparable in scope, content, academic rigor and student study time as courses offered in lecture format.

**Internships, practicum, clinical, field/cooperative experience, externships:** Courses developed for experiential and hands-on learning involving off-site placement. Employers work collaboratively with the appropriate university staff or faculty to develop outcomes, learning experiences, and expectations in order for students to meet credit level requirements. Such credit is awarded at the rate of 45 hours per credit.

**Accelerated Courses:** Courses offered in sessions less than a traditional 15 week semester. These courses offer the same semester credit hours as traditional semester-length classes. Within the shortened time frame, accelerated courses must meet the minimum contact hour requirements of the lecture format. In the event that courses do not meet the expected contact hour requirements, credit can be awarded for equivalent instructional activities, which can include but are not limited to online videos, online discussions or chats, quizzes and/or exams, article summaries, case analyses, online group activities, etc.

**Online:** Courses offered entirely online without regard to face-to-face meetings. Students are expected to be academically engaged with comparable learning outcomes of a standard lecture course with alternate delivery methods. Contact time is satisfied through several means, which can include but is not limited to the following: a) web-based synchronous meetings using tele- and/or video-conferencing software at times scheduled in advance by the faculty member; b) academic engagement through interactive tutorials, video lectures, online chats, group discussions moderated by faculty, virtual study/group projects, engaging with class peers and computer tutorials graded and reviewed by faculty.

**Hybrid:** Courses offered in a blended format with one or more required face-to-face class sessions and with one or more required online sessions. These courses offer the same semester credit hours as traditional semester-length classes. Hybrid courses may also be in an accelerated format with the course length spanning less than the traditional semester. Contact time may be satisfied through several means, which can include but is not limited to the following, web-based synchronous meetings using tele- and/or video-conferencing software at times scheduled in advance by the faculty member, academic engagement through interactive tutorials, video lectures, online chats, group discussions moderated by faculty, virtual study/group projects, engaging with class peers, and computer tutorials graded and reviewed by faculty. Low residency courses and programs also fall into this category.

## Graduation Requirements by Level

### Requirements for Bachelor's Degree:

- All General Academic Requirements must be fulfilled.
- Minimum of 120 earned graduation credit hours.
- A cumulative average of not less than 2.00, based on the total number of credits attempted at Wilkes University.
- All other items as stated in the undergraduate bulletin: <https://wilkes.edu/bulletin/current/undergraduate/introduction/academic-req-reg/grad-req.aspx>

### Requirements for graduate level degree (master's or doctoral):

- All General Academic Requirements must be fulfilled.
- Minimum of 30 earned graduation credit hours, depending upon the program. Some programs require more.
- A cumulative average of not less than 3.00, based on the total number of credits attempted at Wilkes University. Some programs may require a higher GPA.

- All other items as stated in the graduate bulletin: <https://wilkes.edu/bulletin/current/graduate/introduction/academic-information/degree-requirements.aspx> and within the appropriate program section.

## Grade Point Averages

The grade point average (GPA) is calculated according to a formula by which the total number of quality points earned is divided by the total number of credit hours attempted. Quality points are calculated by multiplying the course credit by the grade earned in the course. Below is an example illustrating the method used to compute grade point averages:

COM 101 3.0 x 4.0 = 12.0

FR 101 3.0 x 3.0 = 9.0

HST 101 3.0 x 1.5 = 4.5

MUS 101 3.0 x 2.5 = 7.5

PSY 101 3.0 x 0.0 = 0.0

Total credit hours attempted 15.0

Total credit hours passed 12.0

Total quality points earned 33.0

**GPA(33qp/15 hrs. attempted) = 2.20**

Note that the student has accumulated 12 credits toward graduation. The "0.00" grade in Psychology (PSY) means that the student must repeat that course in order to earn credit for the course. Students may repeat any course. If the course is completed a second time with a higher grade, the higher grade, if earned at Wilkes, will be "included" in the calculation of the cumulative grade point average; and the lower grade will be "excluded." The student may repeat the course at Wilkes University or at another accredited institution.

**IMPORTANT:** Grades from courses transferred to Wilkes University are not included in the calculation of grade point averages at Wilkes. If a course is repeated and successfully completed at an accredited institution other than Wilkes University, the credit for that course may transfer to Wilkes in fulfillment of graduation requirements; the course grade earned at another institution, however, will not transfer, and the "0.0" earned at Wilkes will remain in effect for the calculation of the student's GPA. Grades earned at another institution will not be included as factors in the calculation of a student's grade point average, even in the event that the course credit is transferred to Wilkes. In order to exclude a low grade (1.5. or 1.0) or a failing grade (0.0) and substitute a higher earned grade to be used in the calculation of the grade point average, the student must repeat and successfully complete the course at Wilkes University.

Degree seeking students enrolled at Wilkes University who wish to take or repeat courses at another accredited institution must complete a "Request for Transfer of Credit" form and submit this form to the University Registrar for approval before enrolling in the course. "Request for Transfer of Credit" forms are available at the Registrar's Office.

Grade point averages are cumulative; the work of each semester is added to the total. In order to graduate from Wilkes University, a student must have achieved, at the end of the senior year, a minimum overall grade point average of 2.00 and a minimum major field grade point average (mfa) of 2.00.

**NOTE:** Some degree programs including, but not limited to, Nursing and Education, require grade point averages and major field averages of greater than 2.00. See the grade point average requirements for specific degree programs described in this bulletin, and consult with your academic advisor concerning grade point average requirements for your specific degree program.

## Degree Honors

The granting of honors at Commencement is based upon the entire academic record achieved by the student at Wilkes University. Transfer students must have completed a minimum of 60 credits at Wilkes in order to be eligible to be considered for honors.

The minimum requirements for Degree Honors are

Summa cum laude (with highest honors) 3.900

Magna cum laude (with high honors) 3.700

Cum laude (with honors) 3.500

## Introduction

Grade point averages are not rounded for Degree Honors.

## GPA Adjustment Policy

The GPA Adjustment Policy is a policy and procedure for a student to request removal of substandard grades in majors for which they are clearly not suited. Removing grades of less than 2.0 may help the student gain confidence in his/her academic ability, choose another academic career path, increase their GPA to be removed from Academic Probation or Ineligibility, and, possibly, reinstate financial aid. This action will only be permitted if the student agrees to the specific conditions detailed below. The complete Policy and Procedure and the Form are available from the Registrar in the Registrar's Office.

The student **MUST** change majors. This can include changing between declared majors, changing from declared majors to "undeclared", or changing from "undeclared" to declared majors.

The student **MUST** receive permission from the Department Chair of the new major to invoke this policy or the Director of University College if switching to undeclared. The Chairperson of the Department into which the student desires to transfer has the decision-making authority to accept the new change of major. If the Chairperson of the Department refuses to accept the student, or if the student decides upon "undeclared," the student may contact University College personnel and request a change to "undeclared" status.

The student may initiate the GPA Adjustment Policy anytime during his/her current academic career. A returning student may apply the Policy to previously completed courses with no time limit.

The student may only apply a maximum of 18 credit hours of courses to the GPA Adjustment Policy during his/her academic career at Wilkes. The student must follow the Director of Financial Aid's Federal Guidelines regarding the maximum number of acceptable credits earned each academic year and minimum GPA. This implies that the Policy may be applied more than once during his/her academic career at Wilkes as long as the student follows the Federal Guidelines and change majors a second time.

If the student decides to return to a major for which the courses were excluded, the original course grades will be reinstated. The courses must be repeated (if needed) to satisfy the requirements of the major.

### Courses to which the policy may be applied:

- Courses specific for majors in which grades of less than 2.0 were recorded on the transcript.
- "Variable" General Education (GE) courses in which grades of less than 2.0 were recorded on the transcript.

### Courses to which the policy CANNOT be applied:

- "Specific" General Education Courses that include FYF 101, ENG 101, HST 101 or ENG 120, even if grades of less than 2.0 were recorded on the transcript. These courses must be repeated at Wilkes to replace the grade.
- Courses in which a student received grades of less than 2.0 due to academic dishonesty (cheating, plagiarism, etc.). Faculty must indicate on the GPA Adjustment Form whether the student was accused of academic dishonesty.
- Courses in which a student received grades of less than 2.0 due to lack of attendance, as defined in the Wilkes University Bulletin or the specific syllabus. Faculty must indicate on the GPA Adjustment Form whether the student received the substandard grade for lack of attendance.

The GPA adjusted course(s) will remain on the transcript and will receive an "E" notation, meaning the grades and the credit hours will be "E"xcluded from GPA calculations. Also, the courses invoked in the policy will be noted in the "comments" section of the transcript. The Registrar will recalculate both the semester and overall GPA.

A student who changed majors prior to the policy being adopted at Wilkes University would not be permitted to eliminate courses, unless s/he changes majors again after the policy was implemented.

The student will follow the following procedure when invoking the GPA Adjustment Policy:

- The current advisor and the student must work together regarding substandard performance in current major, discuss changing majors/programs and initiate the GPA Adjustment Policy.
- The student must contact the Student Affairs Office regarding the implication of substandard grades on probation/eligibility status. The student must also consult with the Financial Aid Office regarding the effect of substandard grades on continued financial aid.
- If the advisor, the director of Student Affairs, and the Financial Aid Director feel the student may gain relief by invoking the GPA Adjustment Policy, the student will initiate the process by obtaining the GPA Adjustment Form from the Registrar's Office.
  - See Form for specific details.
  - The required signatures on the form include: 1) the Chairperson of the new major or Director of University College (Undeclared) and 2) the Faculty of the course(s) involved. The faculty **MUST** verify on the GPA Adjustment Policy whether the grades were issued for academic dishonesty or lack of attendance. If a faculty member is no longer at Wilkes, the

Chairperson may sign-off on this line. If the Chairperson, Dean and University Student Affairs are not familiar with the faculty or student, the student may appear before the Academic Standards Committee and petition for the Policy.

- The form must be completed and returned to the Registrar's Office. The Registrar and Director of Financial Aid will make all necessary adjustments to the student's transcript and financial aid document.
- The Registrar will notify the Academic Standards Committee during regularly scheduled meetings of students invoking this policy.
- The student must also provide the completed Change of Major Form with the GPA Adjustment Policy Form.

## Grades

The primary purpose of any grading system is to inform the student of his or her academic progress in a specific course and within a specific academic program. Final grade reports are posted online on the Wilkes Student Portal at the end of each term. Mid-term grades reflecting attendance and academic performance are recorded by course instructors at the end of the seventh week of the semester and prior to pre-registration advising for the following term. Mid-term grades of "unsatisfactory" in attendance or performance or both are sent electronically to students and to their academic advisors.

Wilkes recognizes eight numerical grades for academic achievement as follows:

### Grade Interpretation

4.00 Academic achievement of outstanding quality

3.50 Academic achievement above high quality

3.00 Academic achievement of high quality

2.50 Academic achievement above acceptable quality in meeting requirements

for graduation

2.00 Academic achievement of acceptable quality in meeting requirements for

graduation

1.50 Academic achievement above the minimum quality required for course credit

1.00 Academic achievement of minimum quality for course credit

The following letter grades may be assigned, as appropriate:

P Passing, no credit

W Withdrawal

N Audit, no credit

X Incomplete

A grade of "X" indicates that the student has not completed the course requirements as specified by the course instructor. Grades of incomplete ("X") will be granted to students who, because of illness or reasons beyond their control, have been unable to satisfy all course requirements, including the final examination, by the end of the term. When such a grade is recorded, all work must be completed and all course requirements satisfied by or before the end of the fourth week following the last day of the examination period; failure to complete course work and meet course requirements within this four-week period will result in a grade of "0.00" for the course, unless a special extension has been filed by the course instructor and approved by the Registrar.

## Graduation Requirements

It is the student's responsibility to meet all graduation requirements. Students are expected to be fully familiar with all academic requirements published in the Wilkes University Undergraduate Bulletin and to ensure that they are meeting the degree requirements of the University (as specified in the General Education Requirements) and of their major program. Students may elect to follow the degree requirements as stated in the Undergraduate Bulletin published when they entered the University or were admitted to their specific degree program, or they may elect to follow the degree requirements published in any subsequent Bulletin.

The Faculty of Wilkes University has approved the following requirements that all students must satisfy in order to earn a baccalaureate degree and be eligible for graduation. All students must

## Introduction

- complete a minimum of 120 credit hours;
- satisfy all requirements in the major(s); (Requirements for graduation vary among degree programs; see the appropriate section(s) of this bulletin for the number of credit hours and other requirements for specific majors);
- complete all subjects required for the degree as stated in the bulletin in force at the time of admission to the program or in any subsequent bulletin;
- achieve a minimum cumulative grade point average of 2.00 for all courses;\*
- achieve a minimum cumulative grade point average of 2.00 for all subjects in the major(s);\*
- achieve a minimum cumulative grade point average of 2.00 for all subjects within the chosen minor(s);\*
- demonstrate competence in written and spoken English; and
- satisfy mathematics and computer literacy and other curricular skills and knowledge requirements by participation in assessment procedures.

\*NOTE: Some degree programs require minimum cumulative grade point averages above 2.00 in general course work and in course work in the major. See the appropriate sections of this Bulletin for specific grade point average requirements for each degree.

All students must apply for Graduation by registering for GRD 000 (Graduation Audit) in their final semester at the University. Completed electronic diploma order and degree audit must be initiated and sent to the Registrar in order for a student to graduate. These forms are available on the Registrar Forms page: <https://www.wilkes.edu/academics/office-of-the-registrar-recorder/forms/index.aspx>.

No student shall receive a diploma until financial obligations to the University have been fulfilled.

No student shall be allowed to participate in a Commencement ceremony unless all of the above-mentioned graduation requirements have been met.

All candidates for degrees are expected to be present at Commencement. If circumstances prevent their attendance, students must apply to the Vice President for Student Affairs for permission to take the degree or certificate in absentia.

## Honors Program

The Wilkes University Honors Program provides an opportunity for talented and highly motivated undergraduate students to participate in challenging learning experiences focused on the development of leadership, integrity, and self-awareness while pursuing academic excellence. First-year students already accepted to Wilkes with a minimum SAT score of 1190 or a minimum ACT score of 26 and who rank in the top 20 percent of their high school class are invited to apply. Transfer students already accepted to Wilkes with a minimum SAT score of 1190 or a minimum ACT score of 26, a minimum cumulative collegiate GPA of 3.5, and a minimum of six remaining undergraduate terms are also invited to apply. New Wilkes students accepted into the program are notified during the spring prior to their first semester in the fall. Current Wilkes students with a minimum cumulative collegiate GPA of 3.5 and a minimum of six remaining undergraduate terms can also apply.

## Honors Program Requirements

Students admitted to the program are required in their first fall semester to take a cohort-based, three-credit Honors class that counts towards University core requirements. They are required to take 18 additional Honors credits – six at or above the 300 level – in addition to their major and other University graduation credit requirements. All must also participate in a one-credit Honors capstone seminar.

## Minimum Cumulative GPA Requirements

- 3.0 after two terms at Wilkes
- 3.2 after four terms at Wilkes
- 3.3 after six terms at Wilkes
- 3.4 after eight terms at Wilkes/to meet Honors Program completion requirements

A student is allowed only one grade of 2.5 in an Honors course to receive Honors credit. All other Honors course grades must be a minimum of 3.0. Students falling below the required cumulative GPA threshold will be given one full term to return their cumulative GPA to the minimum required. Students are always encouraged to draw on the expertise of all Wilkes University community resources, such as academic support and health and wellness services, when encountering academic, personal, or other challenges.

## First-Year Honors Living-Learning Community

All first-year Honors students living on campus reside together in Honors housing. This enables students to begin connecting with each other in an environment conducive to their shared values and aspirations. While they may live in the hall of their choice during their remaining years at Wilkes, many choose to continue living in community with other Honors students.

## Good Standing: Honors Program Community

Participating in Honors Program-sponsored activities, including meetings on campus with prominent guest speakers and engaging with prospective Honors students, helps to cultivate knowledge and skills that advance intellectual, personal, and professional development, contributions to the Wilkes campus community, and post-graduate success, whether through employment or continued education. Our weekly newsletter, The Honors Buzz, announces these opportunities throughout the academic year.

All Honors students must participate in at least one Honors-sponsored activity per term. This commitment is waived during a study abroad term.

## Good Standing: Student Conduct

Honors students must remain in good standing with regard to student conduct. Any student found guilty of violating University policies is subject to review by the Honors Program Advisory Council.

## Honors Program Course Offerings

Generally, Honors course components enable students to pursue breadth, depth, complexity and/or interdisciplinarity within their undergraduate education, helping to cultivate knowledge and skills that advance students' intellectual, personal and professional development; their contributions to the Wilkes campus community; and their preparation for post-graduate success, whether through employment or continued education.

Honors components should constitute approximately 15-20% of a student's work in a class. This could be quantified by proportion of final grade and/or by proportion of total assignments.

## &H ("And H")

An &H section is added to an existing course in which both Honors and non-Honors students are enrolled to signal that the Honors students have the opportunity to earn Honors course credit. To earn this credit, Honors students must be enrolled specifically in the &H section and they must satisfactorily complete work complementary to the existing syllabus. An Honors student is allowed only one grade of 2.5 in an Honors course to receive Honors credit. All other Honors course grades must be a minimum of 3.0.

## H ("standalone Honors course")

An H section signals that all students enrolled in the course complete work that would yield Honors credit for that course. Non-Honors students could enroll in such a course, but while they would need to complete all of the same work as the Honors students, they would receive only non-Honors credit. An Honors student is allowed only one grade of 2.5 in an Honors course to receive Honors credit. All other Honors course grades must be a minimum of 3.0.

## Options: Potential Modes of Learning:

- independent work, such as a research, case study or creative project within the student's discipline (in-depth learning)
- exploration of broad themes and/or enduring questions across disciplines (breadth of learning)
- experiential learning, such as internships, field work and study abroad
- service-learning (conscious and purposeful integration of service and learning elements)
- residential learning community (conscious and purposeful integration of living and learning elements)
- intercollegiate undergraduate academic competitions, presentations/conferences, and/or publications
- experimental or innovative pedagogy

## Options: Potential Topics

- trends, issues and/or best practices within the student's discipline
- communities, ideas, practices, methodologies and/or values unfamiliar to the student

## Options: Potential Skill Outcomes

- problem solving
- project management
- critical reading (ability to evaluate evidence-based arguments and judgments)
- critical thinking (ability to make evidence-based arguments and judgments)
- clear and persuasive writing
- clear and persuasive oral presentation
- artistic literacy
- metacognition (analysis of not just what is known, but also of how it comes to be known)
- comfort with ambiguity, uncertainty and the unfamiliar

The Wilkes University Honors Program endorses the core values of academic rigor (beyond academic expectations of regular section offerings), leadership, integrity (demonstrated learning of ethics and values), self-awareness (emphasis on self-

## Introduction

reflection), importance of building community and appreciating diversity. Honors course components should reflect one or more of these core values.

## Study Abroad

- A full semester abroad yields a waiver of six Honors credits at the 300 level
- A summer term abroad yields a waiver of three Honors credits at the 300 level
- Related independent study project (advised by instructor in relevant discipline) upon return earns three Honors credits at the 300 level (through either fall [[HNR-395]] or spring [[HNR-396]])

## Internships

- one internship, either during a full semester or over a summer term, yields a waiver of three Honors credits at the 300 level
- independent study project (advised by instructor in relevant discipline) connected to internship earns three Honors credits at the 300 level (through either fall [[HNR-395]] or spring [[HNR-396]])

Study abroad, internships, or a combination of both can yield a maximum of six Honors credits at or above the 300 level.

## First-Year Foundations (FYF) Requirement – 3.0 Credits

FYF-101

Honors students take an Honors FYF class that develops collaborative community while cultivating skills in writing, speaking, problem-solving, and critical thinking as well as a comfort with encountering the ambiguous, uncertain and/or unfamiliar.

## Honors Capstone Seminar – 1.0 Credit

[[HNR-390]]

This one-credit interdisciplinary capstone research seminar serves as a culminating experience for all prospective Honors Program graduates. The course is intended to explicitly engage students in reflection on what they have learned at Wilkes and how they can advance those skills and insights along their future personal and professional trajectories. Consequently, the course depends on students' consistent investment in critically assessing what they have learned during their undergraduate education, how that can be communicated to others, and what that makes possible for future endeavors.

Students' learning outcomes include:

- Communicating characteristic topics, methodologies, and professional concerns associated with their respective disciplines to non-expert audiences
- Collaborating with others, both within and outside of their respective disciplines, to accomplish shared goals
- Planning and managing long-term projects, balancing personal responsibility with coordination with team colleagues
- Organizing and delivering coherent presentation of work – from proposing prospective tasks to articulating evidence-based outcomes
- Specifying and critically assessing continuities as well as discontinuities across personal Wilkes educational trajectory and future endeavors

## Academic Resources and Support Services

- [English Language Center](#)
- [Global Engagement](#)
- [International Student and Scholar Services](#)
- [Office of International Engagement](#)
- [University College](#)
- [University Library Services](#)
- [University Writing Center](#)
- [Upward Bound](#)

## Center for Global Education and Diversity

The Center for Global Education and Diversity fosters Wilkes' mission of educating students "in a constantly evolving and multicultural world." The Center provides institutional and regional leadership and programming in global education and diversity issues. The Center advises, supports, and advocates for students from underrepresented groups and international students who have come to the US to study at Wilkes. The Center brings diversity and a global perspective to the Wilkes community by sponsoring campus- wide programs to develop a broader understanding of the world and providing support in matters of diversity, internationalization, and inclusion. The Center is an important resource and support for all areas of the University. The Center

is composed of three offices: International Student Services, the Office of Diversity Initiatives, and the Office of International Engagement. Services of the Center include:

- Support for students from underrepresented groups such as women, ethnic and religious minorities, gay/lesbian/transsexual/transgender, and individuals with disabilities;
- Support for international students, faculty, and staff;
- Multicultural programming;
- Global Hub and Colonel Closet Extension (8:30-4:30)—lounge with workspace, t.v., computers, coffee
- International & Diversity Graduation Celebration
- Reservations for the Savitz Lounge in the Henry Student Center
- Oversight of the Panamanian IFARHU sponsored students from admission to graduation

Staffing for the Center:

Cathy Lee Arcuino, Ed.D., Executive Director ([cathylee.arcuino@wilkes.edu](mailto:cathylee.arcuino@wilkes.edu))

Crystal Cool, Assistant Director of International Student Services ([crystal.cool@wilkes.edu](mailto:crystal.cool@wilkes.edu))

Madison Becker, Assistant Director, Office of International Engagement ([madison.becker@wilkes.edu](mailto:madison.becker@wilkes.edu))

Yeison Santamaria, Program Coordinator, Office of International Engagement ([yeison.santamaria@wilkes.edu](mailto:yeison.santamaria@wilkes.edu))

MaryEllen McLean, Assistant, International Student Services, ([maryellen.mclean@wilkes.edu](mailto:maryellen.mclean@wilkes.edu))

The Center is located in the Max Roth Center at the corner of South Franklin and West South Streets. The Center's staff may be reached by calling (570) 408-7854 (or ext. 7854 from a campus phone).

## English Language Center

The Wilkes University English Language Center offers an assortment of programs to meet the varying needs of adult English-language learners.

### Our Mission

The Wilkes University English Language Center provides English for academic and professional programming which supports the core Wilkes values of mentorship, scholarship, diversity, innovation and community.

### Our Goals

- **Supply** state-of-the-art, individualized English language instruction to meet learners' language, cultural and professional goals.
- **Empower** students to successfully function in English in a multicultural and diverse world.
- **Serve** Wilkes University faculty and departments, by providing programs which meet the needs of their English learning students.
- **Provide** highly qualified faculty who encourage academic success and provide leadership in the areas of intercultural understanding and cooperation.

## Our Programs

### Intensive English Program

#### Mission

The mission of Intensive English Program (IEP) at Wilkes is to provide quality instruction in English as a second language (ESL) to English language learning students planning to pursue university studies in America. To this end, the program provides students with curricula, classroom materials, and teaching methods well-grounded in the latest theory, research, and practice of second language learning and teaching.

#### We aim to:

- Provide high quality English language instruction;
- Prepare students for further academic study in the U.S. through a well-articulated curricula;
- Provide English language instruction for personal growth;
- Provide students with the guidance they need to successfully reach their academic or professional goals;
- Provide highly qualified faculty who encourage academic success and provide leadership in the areas of intercultural understanding and cooperation;
- Provide learner-centered instruction to meet student academic needs;
- Provide services relating to admission, counseling, academic

The IEP's classes are divided into six levels: beginning, low intermediate, intermediate, high intermediate, advanced, and high advanced. Across the six levels, all students are required to take reading, writing, listening/speaking, grammar, and computer lab.

## Introduction

Other courses offered at certain levels include conversation skills, vocabulary, and IELTS or TOEFL test prep. Students enjoy small classes and individual attention from certified ESL instructors.

**Reading** - The intensive reading curriculum is divided into six levels: beginner, high beginner, intermediate, high intermediate, advanced, and high advanced. At the beginning levels, students develop their ability to read and write words, phrases, and sentences. They also learn basic skills and strategies designed to improve decoding, vocabulary acquisition, and reading comprehension. The intermediate levels build upon these skills and focus more on developing literal comprehension, fluency, vocabulary development, and critical thinking skills. At the advanced levels, students become proficient in the skills required for academic studies with a continued emphasis on vocabulary development and analytical comprehension. Literature and critical analysis of readings also serve as sources for refining and expanding students' critical and academic reading skills.

**Writing**- Students undergo intensive courses in writing. Throughout the six levels, the focus remains on the academic language skills needed for entrance into English 101 and for university studies. The courses focus on academic writing, beginning at the sentence level in level one and expanding to the writing of expository and argumentative essays, summaries of academic readings and current events, critical analysis of readings in literature, research and documentation in the advanced levels.

**Listening and Speaking**- These courses provide instruction in listening and speaking for all levels. Thematic topics relevant to university students formulate the basis for intellectually stimulating listening, speaking and critical thinking tasks. The courses aim to prepare students for successful receptive and productive communication in social and academic environments. Students begin by learning basic survival vocabulary and simple conversational strategies and progress to extrapolating key points from lectures and readings to prepare presentations, debates, conversations and other activities that demonstrate understanding of material covered and preparedness for university studies.

**Grammar** - These courses provide students with a thorough and systematic review of grammatical structures and their use in authentic language situations. The emphasis in the beginning and intermediate levels is on the basic mechanics of the language and the correct formation of complete sentences. This is taught primarily via a communicative approach. The beginner level uses a multimedia program and a variety of interactive tools to engage students in learning. Intermediate levels use a variety of pair and group work, media clips, and exercises to learn and reinforce grammar rules through oral and written language production. Advanced levels focus more on the structures necessary for academic English writing and speaking, including more complex sentence and verb structures. The objectives for these classes are needs-based and are driven by the grammar errors common among our student population.

## Vocabulary 1-2

Students will take academic vocabulary courses. All classes focus on the University Word List (UWL) and utilize tasks to assist students in acquisition of these words. A skills based approach is utilized to learn vocabulary while reading, writing, listening, and speaking.

**IELTS/TOEFL** - We also offer IELTS and TOEFL iBT preparation depending on student needs. These classes are offered on Mondays and Wednesdays and Tuesdays and Thursdays and are available only to level 3, 4, 5 and 6 students.

## University Preparatory Program

The mission of the University Preparatory Program (UPP) is to provide international students with the necessary skills and strategies required to effectively transition to and succeed in an academic, collegiate environment. The program offers participating students the ability to expand upon and refine their core set of academic skills, while fostering an appreciation of educational growth and diversity, necessary to contribute to the global, learning community. Students earn 12 credits towards their undergraduate degree while obtaining the English language skills needed to succeed at University.

Academic Component Program Outcomes:

1. Students will demonstrate critical thinking and analysis in written and oral communication.
2. Students will demonstrate understanding of academic vocabulary and content.
3. Students will produce advanced grammatical structures in spoken and written academic discourse.
4. Students will demonstrate ability to properly format academic writing.
5. Students will effectively analyze, paraphrase and synthesize information.
6. Students will formulate ideas, proposals, solutions, or arguments, independently and collaboratively.

### Courses

[[ESL-100]] Reading and Writing

3 Credits

This course focuses on the connection between critical thinking and academic reading and writing skills necessary to analyze academic texts and produce collegiate level compositions. It emphasizes the utilization of reading comprehension strategies and writing process skills to respond to various readings and to develop vocabulary expansion. This course also requires a research paper which utilizes the basic formatting and referencing of sources using MLA style documentation.

[[ESL-102]] Listening and Speaking

3 Credits

This course is a cohesive, integrated, and structured approach, to developing and expanding upon key listening and speaking skills of transitioning, English language learners (ELLs), as to ensure successful matriculation to a collegiate, academic environment. Therein, students will address defined, critical abilities, as a way in which to increase their capacities to engage in academic processes that include and demand superior listening and speaking skills within higher educational institutions and curricula.

[[ESL-103]] Test Prep  
3 Credits

This course has been designed to serve as an integrated and structured approach to providing and expanding upon critical test preparation strategies and study skills for transitioning, English language learners (ELLs), as to ensure successful matriculation to a collegiate, academic environment. Utilizing a multifaceted configuration of classroom instruction and independent, online study, students will be provided with extensive practice of the most key academic skills and methodologies, as a way in which to increase their capacities to engage in academic processes that include and demand a superior skill set within higher educational institutions and curricula.

[[FYF-101]] First-Year Foundations  
Credits: 3

The mission of the First-Year Foundations Program is to provide rigorous learning experiences that challenge first-year students to develop the strategies essential for a successful transition into the Wilkes campus community. Each section of FYF is unique in content and constitutes a special topics course in which faculty members are encouraged to explore topics that are of special interest to them. All sections of FYF, regardless of specific topic, share a common core of objectives that facilitate significant learning experiences (inside and beyond the classroom) by which first-year students develop self-knowledge as learners and members of an academic community, intellectual curiosity, openness to diversity, and a capacity for lifelong learning and civic responsibility. Activities designed to foster and develop effective writing, critical thinking, and information literacy skills are integral components of all FYF courses. In addition, the FYF Program connects students to a wide variety of University resources, including the advising and tutoring services of University College, the extensive holdings and services of the Farley Library, and the rich array of cultural events sponsored by the University.

## Au-Pair English

### Au Pair Program Options

The Wilkes University English Language Center offers you different opportunities to obtain the 60 hours or 72 hours/6 credits au pairs need. You may take courses in either our Intensive English Program, University Preparatory Program or audit undergraduate classes. The path you enroll in depends upon your English proficiency.

### Beginner to High Intermediate Path

Take two classes in our Intensive English Program.

### Advanced Path

Take two classes in our University Preparatory Program.

### High Advanced Path

Take one University Preparatory Program class and audit an undergraduate class of your choosing. Au-pairs will also join in the IEP cultural activities, and have access to American conversation partners.

## Special Programs

Special programs are designed and tailored towards groups of students with specific English language learning goals. These programs combine cultural activities with specialized language learning. Programs can coordinate with academic departments on campus and enabling participants to work with professors who specialize in their discipline while simultaneously taking courses to improve language skills.

Students enrolled in special programs have the opportunity to interact with American professionals in their fields, and to experience the culture and study how it impacts their profession or learning interest.

## International Student and Scholar Services

The Office of International Student and Scholar Services (ISS) is part of the Center for Global Education & Diversity. It works with units across campus to provide these services to international students who come to the U.S. to study:

- Immigration and visa information assistance both before and after coming to Wilkes
- Advice on academic, cultural, and personal issues.
- Liaison between students and other offices and departments on campus
- Collaboration with a variety of offices and constituencies, including U.S. and foreign government agencies, other campus offices and departments, and the community,

## Introduction

- Assistance with processes and offices outside of Wilkes University such as the DMV and Social Security Office.

A mandatory international student orientation is held every semester for new International students. Students are guided through topics such as:

- Adjusting to life in the United States
- Adjusting to the American educational system.
- Resources available to them at Wilkes University

For more information contact:

Crystal Cool, Assistant Director of International Student and Scholar Services/Immigration Specialist, ([crystal.cool@wilkes.edu](mailto:crystal.cool@wilkes.edu))

Cathy Lee Arcuino, Executive Director, Global Engagement ([cathylee.arcuino@wilkes.edu](mailto:cathylee.arcuino@wilkes.edu))

MaryEllen McLean, Assistant, International Student Services, ([maryellen.mclean@wilkes.edu](mailto:maryellen.mclean@wilkes.edu))

## Office of International Engagement (OIE)

The Office of International Engagement (OIE) is part of the Office of Global Engagement. It works with units across campus to provide services for Panamanian students sponsored by IFARHU who come to the U.S. to study:

- Academic support as students learn English and throughout their undergraduate studies
- Workshops about living in the U.S. and adjusting to the American educational system.
- Extra-curricular and co-curricular activities to enhance their educational, social, and personal development.

For more information contact:

Madison Becker, Assistant Director, Office of International Engagement ([madison.becker@wilkes.edu](mailto:madison.becker@wilkes.edu))

Yeison Santamaria, Program Coordinator, Office of International Engagement ([yeison.santamaria@wilkes.edu](mailto:yeison.santamaria@wilkes.edu))

## University College

University College, housed in Conyngham Hall at 130 South River Street, is the point of entry and home for all undeclared students until they select their major field of study. The College provides academic support services and supplemental instruction for all enrolled and prospective students, administers the University's precollege enrichment programs, coordinates with the academic departments to provide an effective program of academic advisement for undeclared students, and houses the Disability Support Services of the University. The programs and services offered by University College are described in the following subsections.

### Act 101 Program

A special program for students from Pennsylvania who need academic and financial support, the Act 101 Program allows educationally underprepared students to improve their skills in verbal and written communication, reading comprehension, mathematics, and problem solving, all in an effort to acquaint these students with and help them adjust to the many new experiences associated with a college education. The program provides for tutoring and counseling to enhance the student's potential for success in the college environment. Inquiries about Act 101 should be directed to the Act 101 Office in Conyngham Hall or to the Office of Admissions.

### Disability Support Services

If a student has a disability that qualifies under the Americans with Disabilities Act and Section 504 of the Rehabilitation Act and requires accommodations, he or she should contact the Disability Support Office in University College for information about applicable policies and procedures. The Disability Support office is located on the third floor of Conyngham Hall, Room 311.

### Student Advisement

University College coordinates the Freshman Advising Program and regularly collaborates with and provides training for academic advisors throughout the academic year to ensure student success.

Specially selected faculty members and administrators have been designated as Freshman Advisors on the basis of their knowledge of curricular matters and, more generally, on the basis of their knowledge of the University and its resources and services. Each

freshman is assigned to a Freshman Advisor during the Summer Orientation period and will meet with that advisor regularly during the Orientation period and throughout the academic year to arrange schedules, discuss academic and career plans, and address problems or concerns as they arise. These faculty advisors bring the special expertise of their disciplines to the advising process.

If, upon admission to the University, the student has indicated a preferred major, that student will be assigned a Freshman Advisor from the relevant department or program at the beginning of his or her studies. Students who have not identified a major field of study at the time of admission to the University work with advisors from University College who have a special expertise in advising undeclared students. University College Advisors work with undeclared students until a major field of study has been selected; once a major field of study has been declared, the student is assigned to a departmental advisor in his or her chosen field of study.

## University Library Services

### Eugene S. Farley Library

The Eugene S. Farley Library, named in honor of the first president of Wilkes University, is located on the corner of South Franklin and West South Streets. It is one of the largest resource libraries in the region, with more than 175,000 volumes of books and bound journals, 340,000 electronic books, over 60 journals and newspaper subscriptions, 84,000 full text online journals, microforms, instructional audio-video materials, and a growing collection of classic films on DVD. The library holds fine collections in English and American literature, history, the sciences, mathematics, and sizable collections in other academic disciplines reflected in the University curriculum.

Also housed in the library are the University Archives, four special collections rooms, and a SMART classroom. Students have access to 82 desktop computers, thirty wireless laptops, and forty iPads that can be used anywhere within the library's wireless environment. Farley Library is home to the Alden Learning Commons, a technology rich learning environment that has four enclosed group study rooms, twenty open group study areas that can accommodate groups of one to six students, the University Writing Center, and the Information Technology Computer Clinic and Help Desk.

Library hours during the academic year are from 8:00 am to 12:00 midnight, Monday through Thursday, 8:00 am to 5:00 pm on Friday, 11:00 am – 6:00 pm on Saturday, and 3:00 pm to 11:00 pm on Sunday. The Alden Learning Commons is opened on a 24/7 basis and is accessible to faculty and students via an University ID swipe card system. Patrons can get research help via SMS text message from any mobile phone via the library's Text A Librarian reference service. Summer sessions and holiday hours, as well as any changes to the regular library schedule, are posted at the library entrance and on the library Web site. Library services are available online 24/7 at [www.wilkes.edu/library](http://www.wilkes.edu/library).

Telephone: (570) 408-4250.

#### Farley Library Regulations:

1. Use your valid Wilkes University I.D. card to obtain library privileges.
2. You are responsible for all materials charged out on your identification card. A valid Wilkes I.D. enables Wilkes University students to borrow books year-round at Misericordia University, Keystone College, King's College, Luzerne County Community College, Marywood University, and the University of Scranton.
3. Books circulate for one month. Renewals may be made in person, by telephone, or online from the patron access area of the Farley Library catalog – Sierra. A book may be renewed once. DVDs circulate for three days (no renewal). Charges are levied for all overdue and damaged materials. Failure to pay fines or to return borrowed materials will result in denial of transcripts until fines are paid and materials returned.
4. Periodicals, journals, reference materials, and microform materials do not circulate. Reference materials, periodicals, and journal articles in print and microfilm format may be photocopied in accordance with the provisions of the U.S. copyright law.
5. To provide an optimum environment for study, all cellular phones and pagers must be kept on silent alert (vibration or visible flash) while in the library.
6. The University reserves the right to refer for disciplinary action patrons who have violated Library policy.

#### Farley Library Services

1. Reference Assistance: Professional staff is available for assisting students in their research endeavors.
2. Library Orientation: Group library orientation can be arranged for students upon request.
3. Bibliographic Instruction: Specific instruction in the use of library collections and reference tools is available for students upon request of the instructor.
4. Interlibrary Loan: This service is provided for students, faculty, and staff to supplement research needs. Inquire at the Reference Department for details.
5. Media Services: Media staff will have audiovisual equipment needed for classroom usage delivered to sites on campus. At least a 24-hour notice is required. Videos and DVDs may be reserved one week in advance of the expected need. The Library Media Room (Room 002) is also available, on a first-come, first-served basis, for classes or events.
6. Reserve Materials: Collateral course reading materials placed on reserve by faculty are maintained at the Circulation Desk.

## Introduction

7. Photocopying facilities for printed materials and micro materials are available in the library. A color copier is located on the first floor. Users are reminded to observe the restrictions placed on photocopying by the U.S. copyright law. The law and interpretive documents are available at the Circulation Desk.
8. Online searching of auxiliary databases is available by appointment through the Reference Department to support faculty research.

## Music Collection

Darte Hall, on the corner of South River and West South Streets, houses a separate collection of music scores and recordings. For information about accessing materials housed in the music collection, call (570) 408-4420.

## University Preparatory Program

The mission of the University Preparatory Program (UPP) is to provide international students with the necessary skills and strategies required to effectively transition to and succeed in an academic, collegiate environment. The program offers participating students the ability to expand upon and refine their core set of academic skills, while fostering an appreciation of educational growth and diversity, necessary to contribute to the global, learning community. Students earn 12 credits towards their undergraduate degree while obtaining the English language skills needed to succeed at University.

### Academic Component Program Outcomes:

1. Students will demonstrate critical thinking and analysis in written and oral communication.
2. Students will demonstrate understanding of academic vocabulary and content.
3. Students will produce advanced grammatical structures in spoken and written academic discourse.
4. Students will demonstrate ability to properly format academic writing.
5. Students will effectively analyze, paraphrase and synthesize information.
6. Students will formulate ideas, proposals, solutions, or arguments, independently and collaboratively.

## Courses

### [[ESL-100]] Reading and Writing

3 Credits

This course focuses on the connection between critical thinking and academic reading and writing skills necessary to analyze academic texts and produce collegiate level compositions. It emphasizes the utilization of reading comprehension strategies and writing process skills to respond to various readings and to develop vocabulary expansion. This course also requires a research paper which utilizes the basic formatting and referencing of sources using MLA style documentation.

### [[ESL-102]] Listening and Speaking

3 Credits

This course is a cohesive, integrated, and structured approach, to developing and expanding upon key listening and speaking skills of transitioning, English language learners (ELLs), as to ensure successful matriculation to a collegiate, academic environment. Therein, students will address defined, critical abilities, as a way in which to increase their capacities to engage in academic processes that include and demand superior listening and speaking skills within higher educational institutions and curricula.

### [[ESL-103]] Test Prep

3 Credits

This course has been designed to serve as an integrated and structured approach to providing and expanding upon critical test preparation strategies and study skills for transitioning, English language learners (ELLs), as to ensure successful matriculation to a collegiate, academic environment. Utilizing a multifaceted configuration of classroom instruction and independent, online study, students will be provided with extensive practice of the most key academic skills and methodologies, as a way in which to increase their capacities to engage in academic processes that include and demand a superior skill set within higher educational institutions and curricula.

### [[FYF-101]] First-Year Foundations

Credits: 3

The mission of the First-Year Foundations Program is to provide rigorous learning experiences that challenge first-year students to develop the strategies essential for a successful transition into the Wilkes campus community. Each section of FYF is unique in content and constitutes a special topics course in which faculty members are encouraged to explore topics that are of special interest to them. All sections of FYF, regardless of specific topic, share a common core of objectives that facilitate significant learning experiences (inside and beyond the classroom) by which first-year students develop self-knowledge as learners and members of an academic community, intellectual curiosity, openness to diversity, and a capacity for lifelong learning and civic responsibility. Activities designed to foster and develop effective writing, critical thinking, and information literacy skills are integral components of all FYF courses. In addition, the FYF Program connects students to a wide variety of University resources, including the advising and tutoring services of University College, the extensive holdings and services of the Farley Library, and the rich array of cultural events sponsored by the University.

## University Writing Center

The University Writing Center, located in the Alden Learning Commons (lower level of the Farley Library), is available to all Wilkes students who seek personal assistance with writing. Instructors may refer students to the Center for help in honing their writing skills

## Degree Programs & Curricula

Wilkes University offers undergraduate programs leading to the Bachelor of Arts, the Bachelor of Business of Administration, and the Bachelor of Science degrees. The University also offers a first professional degree program leading to the Doctor of Pharmacy degree. All programs have been carefully designed to prepare graduates to meet the rigorous entrance requirements of graduate and professional schools and to ensure that all Wilkes undergraduates acquire a broad general education essential for responsible contribution to human affairs. Each degree program assures multiple and varied opportunities for students to achieve educational objectives specific to that field of study. All baccalaureate programs also share a set of distinctive goals and Institutional Student Learning Outcomes that derive from the Wilkes University Mission and define the Wilkes baccalaureate educational experiences.

## Institutional Student Learning Outcomes

(adopted by the University faculty, November 1, 2007)

The students will develop and demonstrate through course work, learning experiences, co-curricular and extracurricular activities

- the knowledge, skills, and scholarship that are appropriate to their general and major field areas of study;
- effective written and oral communication skills and information literacy using an array of media and modalities;
- practical, critical, analytical, and quantitative reasoning skills;
- actions reflecting ethical reasoning, civic responsibility, environmental stewardship, and respect for diversity; and
- interpersonal skills and knowledge of self as a learner that contribute to effective team work, mentoring, and lifelong learning.

## Elective Courses: The Third Curricular Component

The third component of the Wilkes University Curriculum, after the General Education Requirements and the Major, is composed of Elective Courses. Students choose elective courses for a variety of reasons: to complete a minor area of study, a concentration area, a second major, or a second degree; to pursue a special area of interest; to meet requirements for admission to graduate or professional schools; or to enhance, refine, and further develop specific skills.

## Double Major

Students may choose to use their elective credits to complete a second major. The student must declare intent to graduate with a double major by completing the appropriate form, which is available at the Registrar's Office. It is the student's responsibility to secure the approval of the chairpersons of both departments to ensure that all requirements of the two majors are fulfilled.

## Minors

Students frequently select elective courses in order to complete a minor in a field other than the major field of study. Although not required for graduation, minor degree study is formally recognized on the student's transcript and may significantly enhance a graduate's credentials. Students are ineligible for formal recognition of a minor in the same discipline as the major field of study. Students should consult the departmental listing in this bulletin to review the requirements for formal recognition of a minor field in specific disciplines. A minimum of one-half of all minor field credits must be completed at Wilkes. Formal application for an academic minor must be made to the University Registrar. Application forms are available in the Registrar's Office.

## Second Baccalaureate Degree

Students who hold a bachelor's degree with a major in one discipline from Wilkes University or another regionally accredited institution may earn a second baccalaureate degree at Wilkes by completing a major in another discipline, provided the following conditions are met.

- Candidates for the second degree must earn at least thirty (30) credits at Wilkes beyond those required for the first degree.
- Candidates for the second degree must meet all of the Wilkes University requirements for a baccalaureate degree. Individuals already holding a bachelor's degree from a regionally accredited institution in the United States will be considered exempt from the Wilkes General Education Curriculum for the purpose of seeking a second bachelor's degree.

## Introduction

- Wilkes students may graduate with two baccalaureate degrees simultaneously, but they must complete thirty (30) credits beyond the requirements for the first degree in order to be eligible for the second degree at the time of graduation.

If students choose to return to the University to earn a second degree, they must complete the requirements for the additional major beyond any majors earned during the pursuit of the first degree.

## General Education: The First Curricular Component

The General Education Curriculum is an affirmation of the strong belief of the Wilkes faculty in the value of study in the arts and sciences for all students and includes a broad spectrum of courses designed to stimulate the intellectual, personal, and social development of our students. The requirements of this curriculum are intended to serve as the foundation upon which all degree programs are based.

The General Education Curriculum requirements for all programs follow. Students are urged to use this outline of the requirements as an explanation of the "Recommended Course Sequence" provided for each major degree program described in this bulletin. With the exception of English (ENG) 101, English (ENG) 120, History (HST) 101, and First-Year Foundations (FYF) 101, which are required of all undergraduate students at Wilkes, the designation "Distribution Requirement(s)" in the "Recommended Course Sequence" for each major is a reference to the following statement of the General Education Curriculum requirements.

### General Education Curriculum Requirements

The University faculty has approved the following set of requirements for the General Education Curriculum, which comprises four components: 1) Skill Requirements (0 – 13 credits); 2) First-Year Foundations (3 credits); 3) Distribution Areas (24 credits); and 4) the Senior Capstone (variable credit). All undergraduate students must satisfy these requirements in order to be eligible for graduation.

### SKILL REQUIREMENTS 0 - 13 Credit Hours

All students pursuing the baccalaureate degree at Wilkes University must develop and demonstrate proficiency in six identified Skill Areas--Written Communication; Oral Communication; Quantitative Reasoning; Critical Thinking; Computer Literacy; and Diversity Awareness.

## The Wilkes University General Education Curriculum

### First-Year Foundations 0/3 Credit Hours

Completion of a First-Year Foundations (FYF) course 3 credit hours

Students who have completed 23 or fewer credit hours earned in a college classroom when they matriculate at the University are required to complete an FYF course during their first semester of study. All students who have completed more than 23 credit hours earned in a college classroom when they matriculate at the University are eligible, but not required, to take an FYF course. A student may earn academic credit toward graduation for only one FYF course.

### Student Learning Outcomes for the Skill Areas

**Written Communication:** Students will:

- produce written texts that sustain a unifying focus with coherently-structured and logically-ordered sentences and paragraphs;
- control surface features such as syntax, grammar, punctuation, and spelling;
- present an argument in writing, with use of evidentiary examples;
- adopt appropriate voice, tone, and level of formality appropriate to different rhetorical situations, genres, and audiences; and
- engage in scholarly research-based practices and document another writer's written work and ideas, in a manner appropriate to relevant academic or professional disciplines.

**Oral Communication:** Students will:

- construct a relevant message supported by scholarly and sufficient research;
- organize message content based on an accepted and coherent organizational pattern;
- deliver an audience-centered presentation;
- use language clearly, appropriately, and inclusively and that follows to the grammatical rules of Standard American English; and
- effectively deliver, in an extemporaneous manner, informative, persuasive and special occasion speeches.

**Quantitative Reasoning:** Students will:

- represent mathematical information symbolically, visually, numerically, and verbally, and interpret and draw inferences from mathematical models such as formulas, graphs, tables, and schematics.
- apply arithmetical, algebraic, geometric and statistical methods with appropriate technological tools to solve problems;
- think critically and apply common sense in estimating and checking answers to mathematical problems in order to determine reasonableness, identify alternatives, and select optimal results, judging the soundness and accuracy of conclusions derived from quantitative information; and
- communicate mathematical information effectively using symbols, visual, numerical, or verbal representations.

**Critical Thinking:** Students will:

- use critical thinking to recall relevant information accurately, and structure verbal and written message content based on an accepted and coherent organizational pattern;
- paraphrase, synthesize, and analyze information from multiple sources to explain concepts;
- analyze information and apply it to new contexts; and
- utilize information to formulate and support a position.

**Computer Literacy:** Students will:

- demonstrate a conceptual understanding of technological/computer components and user experience design, and how they are related in practice;
- recognize types of data and procure, process, manage, and communicate/visualize using appropriate tools including search engines, word- and image-processing, computational analytics, and digital communication;
- understand intellectual property laws, privacy, and security issues related to ethical digital content and responsible consumption, usage, and dissemination (including mass communication) with respect to academic, professional, and personal purposes.

**Diversity Awareness:** Students will:

- demonstrate knowledge and understanding of the diversity of the local and global communities, including cultural, social, political, and economic differences;
- analyze, evaluate, and assess the impact of differences in race, ethnicity, gender, socioeconomic status, native language, sexual orientation, ableism, age, and religion; and
- utilize perspectives of diverse groups when conducting analyses, drawing conclusions, and making decisions.

Four of these Skill Areas—Computer Literacy, Written Communication, Oral Communication, and Quantitative Reasoning—are addressed and assessed within the context of specific academic experiences as described below. The development and assessment of Critical Thinking is embedded throughout all components and academic learning experiences of the Wilkes University curriculum.

Students may opt or test out of each skill requirement by demonstrating competency through means designated by the department responsible for each skill area. Please see your academic advisor for more information on program-designated courses that will satisfy these requirements.

Students will develop and demonstrate mastery of the outcomes for Computer Literacy, Written Communication, Oral Communication, and Quantitative Reasoning by means of the following academic experiences:

## I. Computer Literacy

Completion of [[CS-115]] (Computers and Applications) or higher

OR

Completion of 2 "Computer Intensive" (CI) courses minimum 3 credit hours

Students who do not complete CS 115 or test out of this Skill Area can satisfy the Computer Literacy requirement by completing courses that appear on the "Computer Intensive" (CI) List. The list of Computer Literacy skills, as well as a list of available CI courses, is available from the Office of the Registrar.

## II. Written Communication

Completion of [[ENG-101]] English Composition 4 credit hours

AND

Writing Across the Curriculum: Each undergraduate degree program, as well as the First-Year Foundations Program, incorporates writing and the progressive development of written communication skills into its curriculum. Courses throughout each degree

## Introduction

program emphasize writing techniques and styles that are specific to that program of study. Most Senior Capstone courses have a significant writing component that requires proficiency in writing in order to complete the course.

### III. Oral Communication

Completion of [[COM-101]] Fundamentals of Public Speaking

OR

Completion of 2 Oral Presentation Option (OPO) courses minimum 3 credit hours

The Office of the Registrar maintains a list of OPO courses. OPO courses enable a specified number of students (or all students) in an approved course to complete the requirements for an OPO course. Satisfaction of the OPO requirement will not, in most cases, add credits to a students' program of study.

### IV. Quantitative Reasoning

Completion of [[MTH-101]] Solving Problems Using Mathematics

or higher minimum 3 credit hours

## Distribution Areas 24 Credit Hours

### Area I. The Humanities minimum 9 credit hours

Student Learning Outcomes in the Humanities:

Students will

- apply analytical and critical reasoning skills when solving problems (critical judgment);
- analyze problems by considering diverse and varying forms of evidence and multiple perspectives within global historical and cultural contexts (historical perspective);
- demonstrate the ability to critically evaluate various ethical codes and belief systems including their own (ethical awareness);
- use evidence and sound ethical reasoning to frame analyses and defend them. (ethical awareness);
- demonstrate an awareness and understanding of the diversity and complexity of aesthetic expression (aesthetic expression); and
- demonstrate the ability to speak and write effectively in languages including, but not restricted to, standard American English (linguistic awareness).

\* Students should be able to demonstrate the above outcomes in their writing.

Students must complete three (3) of the courses listed below in order to satisfy the requirements for Distribution Area I: The Humanities.

[[ENG-120]] Introduction to Literature and Culture; and

[[HST-101]] Historical Foundations of the Modern World; and

Foreign Language at level of competence OR

Any 100-level philosophy course

Students may request, through their academic advisors, a course substitution within this Area. For more details on course substitution policies for Area I, contact the Office of the Dean of the College of Arts, Humanities, and Social Sciences. Forms for course substitution may be obtained from, and completed forms must be returned to, the Student Services Center.

### Area II. The Scientific World minimum 6 credit hours

Student Learning Outcomes in the Scientific World:

Students will

- describe how science affects contemporary issues;
- access sources of scientific information that are both relevant and reliable;
- explain ethical issues in the practice of science;
- communicate scientific concepts effectively;
- draw logical conclusions based on scientific data;
- distinguish between scientific evidence and pseudoscience; and
- explain the development of scientific theories using the scientific method.

Student must complete two (2) of the courses listed below in order to satisfy the requirements for Distribution Area II: The Scientific World. The two courses must be drawn from two different sub-areas of study and at least one of the two selected courses must include a laboratory component. Credit hours vary according to incorporation of the laboratory component.

#### Sub-Areas Course Options

Biology [[BIO-105]], [[BIO-121]] or [[BIO-122]]

Chemistry [[CHM-105]], [[CHM-111]], [[CHM-115]] (plus [[CHM-113]]), [[CHM-118]] (plus [[CHM-117]])

Earth and Environmental Sciences [[EES-105]], [[EES-230]], [[EES-240]], [[EES-251]], [[EES-271]] or [[GEO-211]]

Physics [[PHY-105]], [[PHY-174]], or [[PHY-201]] (plus [[PHY-204]])

A number of degree programs satisfy the General Education Curriculum requirements in Area II on the basis of successful completion of the science requirements of the individual degree program. The following programs meet the aforementioned criteria by virtue of the degree curriculum: Biochemistry; Biology; Chemistry; Computer Science (B.S. degree program only); Earth and Environmental Sciences; Electrical, Environmental, and Mechanical Engineering; Engineering Management; Health Sciences; Mathematics (B.S. degree program only); Nursing; Pre-Pharmacy; and Physics.

Students not enrolled in any of the programs listed above may request, through their academic advisors, a course substitution within this Area. For more details on course substitution policies for Area II, contact the Office of the Dean of the College of Arts and Sciences. Forms for course substitution can be obtained from, and completed forms must be returned to, the Student Services Center.

### Area III. The Behavioral and Social Sciences minimum 6 credit hours

Student Learning Outcomes in the Behavioral and Social Sciences:

Students will

- critically read and understand tabular data, graphs, or other displays of data; (methodological reasoning);
- identify independent variables and dependent variables; (methodological reasoning);
- write or identify a well-formulated hypothesis; (methodological reasoning);
- recognize and interpret types of relationships between variables (positive and negative); (methodological reasoning);
- apply one or more conceptual frameworks to an issue or problem (conceptual reasoning); and
- identify and explain the various factors that influence human behavior. (conceptual reasoning).

Students must complete two (2) of the five (5) courses listed below in order to satisfy the requirements for Distribution Area III: The Behavioral and Social Sciences.

[[ANT-101]]	Introduction to Anthropology
[[EC-102]]	Principles of Economics II
[[PS-111]]	Introduction to American Politics
[[PSY-101]]	General Psychology
[[SOC-101]]	Introduction to Sociology

Students may request, through their academic advisors, a course substitution within this Area. For more details on course substitution policies for Area III, contact the Office of the Dean of the College of Arts and Sciences. Forms for course substitution can be obtained from, and completed forms must be returned to, the Student Services Center.

### Area IV. The Visual and Performing Arts minimum 3 credit hours

Student Learning Outcomes in the Visual and Performing Arts:

Students will meet 3 out of 4 outcomes

- analyze works of art using vocabulary appropriate to the art form;
- demonstrate an understanding of the relationship between artistic technique and the expression of a work's underlying concept;
- analyze the relationship between works of art and the social, historical, global and personal contexts in which they are created or experienced; and
- engage in the artistic process, including conception, creation, interpretation, and ongoing critical analysis.

Students must complete one (1) of the courses listed below in order to satisfy the requirements of Distribution Area IV: The Visual and Performing Arts.

## Introduction

[[ART-101]] - Experiencing Art, [[ART-140]] - History of Art I, [[ART-141]] - History of Art II, [[ART-241]] - Women in Art
[[DAN-100]] - Dance Appreciation: Comprehensive Dance Forms
[[IM-101]] - Integrative Foundations I
[[MUS-101]] - Introduction to Music I
[[THE-100]] - Approach to Theatre

By means of a successful performance audition and written permission of the Chair of the Division of Performing Arts, students may substitute three (3) credit hours of performance or studio experience for the above course requirement.

By means of a satisfactory artwork portfolio evaluation and written permission of the Chairperson of the Department of Integrative Media and Art, students may substitute three (3) credit hours of studio experience for ART 101.

Permission for course substitutions in Area IV will be granted only in special cases that have received review and approval prior to registration. Students petitioning for Area IV course substitutions in Art must present a portfolio of creative work for review by the chair and faculty of the Department of Integrative Media and Art. Students petitioning for Area IV course substitutions in Dance, Music, or Theatre must schedule an interview with the chair and faculty in the Division of Performing Arts; in some instances, an audition may be required.

For more details on course substitution policies for Area IV, contact the Department of Integrative Media and Art or the Division of Performing Arts and the Office of the Dean of the College of Arts and Sciences. Forms for course substitution may be obtained from and completed forms must be returned to, and completed forms must be returned to the Student Services Center. Written permission for course substitutions must be obtained before registering for the course.

### Senior Capstone Credits Vary

Each student is required to complete a Senior Capstone course or experience in his or her major field of study as specified in the requirements for each degree program. For details about the capstone course or experience, see the degree requirements for the selected academic program. Satisfaction of this General Education Curriculum requirement will not add credit hours to most students' programs of study.

## Programs to Serve Adult and Non-Traditional Learners

Wilkes University offers and coordinates a number of programs that serve the adult and non-traditional student population. Complete information about the College and its programs may be found on the Wilkes University Web site at <https://www.wilkes.edu/graduatestudies>.

For further details about any of the following programs, please call (570) 408-4235.

### Advanced Placement Summer Institute

Wilkes University, in cooperation with the College Board, annually hosts the Advanced Placement Summer Institute. This program is designed for people who teach, or wish to teach, Advanced Placement (A.P.) Biology, Calculus A and B, Chemistry, Computer Science, English, Environmental Science, Physics, Statistics, or U.S. History. Each course will review the most recent changes and shifts in emphasis in the A.P. syllabus. Advanced Placement Summer Institute is a one-week program, which may be taken for three (3) graduate credits or audited. Specific questions about the Institute may be directed to the [Center for Continued Learning](#).

### Graduate, Post-Baccalaureate and Certificate Programs

Wilkes University continues to expand its role in post-baccalaureate offerings. Please call the Graduate Admissions Office to inquire about certificate and post-baccalaureate programs. The University offers doctoral degrees in Educational Leadership (Ed.D.), Nursing (DNP), and Pharmacy Practice (Pharm.D.). Master's degrees are available in the fields of Business Administration (M.B.A.), Creative Writing (M.A. and M.F.A), Education (M.S.Ed., with various concentrations), Electrical Engineering (M.S.E.E.), Engineering Management (M.S.E.G.M.), Mechanical Engineering (M.S.M.E), and Mathematics (M.S.). A separate Graduate Bulletin, which describes graduate programs in detail, is available upon request from the Graduate Admissions Office.

## Non-Credit Continuing Education

Wilkes University is committed to providing innovative, lifelong learning opportunities by extending the University's resources to a diverse audience whose educational interests require flexibility and creative delivery. We offer programs for many professionals including Accountants, Engineers, Nurses, Pharmacists, Counselors, A.P. Teachers, Social Workers, and Psychologists. Learning experiences take the form of non-credit certificate programs, non-credit courses, conferences, and institutes. To meet the needs of the community, we offer courses on the Wilkes University campus, at various off-site locations, and at business locations. Inquiries about offerings should be directed to the Continued Learning Office.

## Part-time Studies

Wilkes University welcomes part-time undergraduate students into all of its regular sessions. The University has established the Evening schedule to maximize opportunities for students who cannot attend day classes. Evening classes are offered in a variety of disciplines, and students may use this option, in addition to the regular day class offerings, as their commitment and interests permit. Many students complete their degree requirements in one or more of the special formats and scheduling options available through the Admissions Office.

Non-degree seeking students may be admitted to classes that they are qualified to take by reason of their maturity, previous education, and work experience. Secondary school training is desirable, but not necessary, provided the student is qualified to follow such special courses of instruction. Inquiries about all of these programs should be directed to the Admissions Office.

## Summer Courses

Wilkes offers a variety of summer courses, workshops, mini-courses, and programs with outdoor activities during the summer months. The summer schedule includes a three-week Pre-Session, two five-week Day Sessions, and a nine-week Evening Session, plus special sessions. Students interested in the summer programs should contact the Office of Summer Programs at (570) 408-4239.

## Winter Courses

Wilkes offers courses on-line during a three-week Winter Intersession between the Fall and Spring semesters. Students interested in winter courses should contact the Winter Intersession Office at (570) 408-4239.

## The Curriculum

The Institutional Student Learning Outcomes are addressed and assessed in the academic courses of study by way of a University curriculum approved by the faculty and comprising three components: the General Education Curriculum; the Major area of study; and the Elective area or areas of study. These curricular components are interconnected and interdependent and provide meaningful opportunities for each student to meet the requirements of the Institutional Student Learning Outcomes and develop the knowledge, skills, sensibilities, and qualities that, in the words of Dr. Eugene S. Farley, founding President of Wilkes University, distinguish an educated person.

## General Education Curriculum

The General Education Curriculum is the central component of all degree programs at Wilkes University. It lies at the heart of every Wilkes baccalaureate degree and defines for all students, regardless of major, a common liberal education experience in the arts and sciences. The General Education Curriculum serves as the foundation for specialized study in a specific academic area or professional field.

## Major Degree

The Major Degree area requires in-depth and extended course work and learning experiences in a specialized field of study. Major degree programs prepare students to pursue a chosen career, or meet the entrance requirements for graduate and professional schools, or both. Requirements for each major area of study offered at Wilkes are listed in the appropriate departmental descriptions in this bulletin.

## Elective

The Elective area of study enables each student to pursue topics of personal interest, explore new areas of learning, or complete a minor degree, special concentration, or second major degree.

## Introduction

It is the responsibility of each student to ensure that all degree requirements, including the General Education requirements, are satisfied.

# The Major: The Second Curricular Component

In addition to satisfying the requirements of the General Education Curriculum each student must complete a major in an academic discipline or area of concentration in order to graduate from the University. Specific requirements for each major are described in detail in the departmental listings in this bulletin. The major area of study must be declared before the first semester of the student's junior year. Wilkes University offers three baccalaureate degrees—the Bachelor of Arts Degree, the Bachelor of Business Administration Degree, and the Bachelor of Science Degree—and Secondary Education Certification in Biology, Chemistry, Earth and Environmental Sciences, English, History, Mathematics, Political Science, and Spanish.

## Bachelor of Arts Degree

Wilkes University offers the Bachelor of Arts degree (B.A.) with majors in:

Biology	English	Physics
Chemistry	History	Political Science
Communication Studies	Individualized Studies	Psychology
Computer Science	International Relations	Secondary Education
Criminology	Mathematics	Sociology
Digital Design and Media Art	Middle Level Education	Spanish
Earth and Environmental Sciences	P K-12 Special Education	Theatre Arts
Elementary and Early Childhood Education	Philosophy	Theatre Design and Technology

## Bachelor of Business Administration Degree

Wilkes University offers the Bachelor of Business Administration degree (B.B.A.) with majors in:

- Management
- Marketing
- Sports Management

## Bachelor of Fine Arts Degree

Wilkes University offers the Bachelor of Fine Arts degree (B.F.A.) with majors in:

Digital Design and Media Art
Musical Theatre

## Bachelor of Science Degree

Wilkes University offers the Bachelor of Science degree (B.S.) with majors in:

Accounting	Computer Science	Geology
Biochemistry	Corporate Finance	Hospitality Leadership
Biology	Environmental Sciences	Individualized Studies
Cannabis Chemistry	Electrical Engineering	Mathematics
Chemistry	Engineering Management	Mechanical Engineering
Civil Engineering	Environmental Engineering	Medical Laboratory Sciences
Computer Information Systems	Financial Investments	Neuroscience

## **Bachelor of Science in Nursing Degree**

Wilkes University offers the Bachelor of Science in Nursing degree (B.S.N.) with a major in:

- Nursing

## **Teacher Education**

Students who wish to prepare for a teaching career in secondary schools select an appropriate disciplinary major (Biology, Chemistry, Earth and Environmental Sciences, English, History, Mathematics, Political Science, or Spanish) and use their elective credits to pursue the minor in Secondary Education and meet teacher certification requirements. Students who wish to prepare for a teaching career in elementary or middle level education pursue the major in Elementary and Early Childhood Education or Middle Level Education (with an appropriate area of concentration). A list of the courses needed for certification is provided in the departmental description of the Department of Education in this bulletin. Students planning a teaching career must seek counseling in the Department of Education early in their first semester at Wilkes University.

# COLLEGES AND SCHOOLS

## College of Arts and Sciences

**Dean:** Dr. Paul Riggs

The College of Arts and Sciences advances the Wilkes tradition of liberal arts and sciences education by offering innovative programs emphasizing academic excellence, scholarship, and civic responsibility, so as to prepare students for life and work in a diverse and changing world. The College's courses and majors explore the interconnections of human experience through the foundational study of science, society, communication, art, and culture. The learning environment of the College assures that students are challenged intellectually and benefit from close faculty mentoring. All students at Wilkes University engage in some area of study within the College while fulfilling the general education core experience required of all undergraduate students.

The College of Arts and Sciences seeks to promote the following values in our programs:

- discipline-specific and interdisciplinary knowledge and scholarship relevant to the various programs offered in the College in the arts, sciences, humanities, and social sciences;
- discipline-specific and interdisciplinary written communication, oral communication, and research skills that promote innovative academic inquiry, scholarship, and lifelong learning;
- discipline-specific and interdisciplinary critical thinking skills relevant to the various programs offered in the College;
- ethical reasoning, civic responsibility, and community engagement that demonstrate an appreciation of multiculturalism, diversity, and the liberal arts and sciences; and
- a culture of academic, personal, and professional mentoring that prepares students for lifelong learning, rewarding careers, and creative and meaningful lives.

The College fosters pre-professional experiences leading to postgraduate study, and many undergraduate majors offer valuable professional opportunities through field experience and internships. The College is enriched culturally, academically, and professionally through strong connections to the local and regional communities.

The College comprises the following academic departments and divisions:

- [Behavioral and Social Sciences](#)
- [Biology and Earth Systems Science](#)
- [Chemistry and Biochemistry](#)
- [Communication Studies](#)
- [English](#)
- [Global Cultures: History, Languages and Philosophy](#)
- [Integrative Media, Art, and Design](#)
- [Mathematics, Physics and Computer Science](#)
- [Performing Arts](#)

Bachelor of Arts degrees and minor programs of study offered in the College are as follows:

- [Actuarial Science](#) (minor only)
- [Art History](#) (minor only)
- [Biochemistry](#)
- [Biology](#)
- [Cannabis Chemistry](#)
- [Chemistry](#)
- [Communication Studies](#)
- [Computer Science](#)
- [Creative Writing](#) (minor only)
- [Criminology](#)
- [Dance](#) (minor only)
- [Digital Design and Media Art](#) (B.A.)
- [Digital Design and Media Art](#) (B.F.A.)
- [Economics](#) (minor only)
- [English](#)
- [Ethics](#) (minor only)
- [Earth and Environmental Sciences](#)
- [Energy Studies](#) (minor only)
- [Environmental Policy](#) (minor only)
- [Game and Emergent Technology](#) (minor only)
- [Geology](#)
- [Global Cultures](#) (minor only)

- [History](#)
- [International Relations](#)
- [Legal Studies](#) (minor only)
- [Mathematics](#)
- [Medical Laboratory Science](#)
- [Music](#) (minor only)
- [Musical Theatre](#) (B.F.A.)
- [Neuroscience](#)
- [Philosophy](#)
- [Physics](#)
- [Policy Studies](#) (minor only)
- [Political Science](#)
- [Psychology](#)
- [Sociology](#)
- [Spanish](#)
- [Sport Psychology](#) (minor only)
- [Studio Art](#) (minor only)
- [Theatre Arts](#)
- [Theatre Design and Technology](#)
- [Women's and Gender Studies](#) (minor only)
- [Workplace Writing](#) (minor only)

## College of Business and Engineering

**Dean:** Dr. Abel O. Adekola

Welcome to the College of Business and Engineering (COBE) at Wilkes University!

It is with great honor and privilege that I get to serve as the dean of Wilkes University's College of Business and Engineering. The college houses the Jay S. Sidhu School of Business and Leadership with exceptional undergraduate and graduate programs accredited by ACBSP and in the process of seeking additional accreditation by AACSB in accounting, finance, management, marketing, hospitality, sports management with minor programs in Business Analytics, Sustainability Management, and Supply chain Management and MBA. The college also houses exceptional undergraduate engineering programs in Civil, Electrical, Environmental, with a minor in Environmental Policy, Mechanical, and Engineering Management with a minor program in Environmental Policy, and graduate engineering programs in electrical, mechanical, engineering management, and bioengineering. The Engineering Accreditation Commission of ABET accredits the undergraduate engineering programs in electrical, environmental and mechanical engineering. Accreditation of the civil engineering program is in the works.

At the core of our curricula are courses taught by outstanding engineering and business faculty in a minds-on and hands-on experiential project-based learning in small classroom settings. In addition, synergistic programming between engineering and business provides opportunities for our students to engage in interdisciplinary initiatives resulting in effective communication, teamwork and collaboration in a market relevant and impactful societal environment.

The faculty and staff at the College of Business and Engineering is diverse and a uniquely qualified group of professionals who care much about our students' personal and professional developments. They bring the latest in the theoretical and applied business and engineering knowledge into their classrooms.

Our small class sizes are delivered using hands-on instructional methodology with the support of four on-campus excellent centers namely, Allan P. Kirby center for Free Enterprise and Entrepreneurship, Small Business Development Center, Public Policy and Economic Development Center and, Family Business Alliance. The Centers serve as business laboratory opportunities for our students to experiment with the latest industry practices. Required Internship experiences also provide students the opportunity to translate what learned in the classroom and the centers to real world applications. This applies to business.

Engineering programs are highly supported by the state-of-the-art facilities with an emphasis on undergraduate research experience that enhances student learning, and faculty and student interaction. These experiences enable graduates to enter the workforce with extensive hands-on experience, a trait widely sought after by employers.

Moving towards a branded Business and Engineering College of Excellence, we encourage our alumni and supporters to become stakeholders and play active roles through serving as advisory board members, classroom guest speakers, financial assistance, and other supporting activities as needed to move Sidhu School to the next level of academic prominence.

By joining the College of Business and Engineering at Wilkes University as a student, it means joining a network of caring and accomplished professionals. We invite you to browse our Website and to contact us as either prospective students, supporters, or if you need additional information about any of our outstanding programs.

### Accreditation

The Accreditation Council for Business Schools and Programs (ACBSP) has accredited the following Sidhu School's undergraduate programs: Business Administration, Entrepreneurship, Finance, Management and Marketing; the graduate Business Administration program, as well as the undergraduate program in Accounting. ACBSP accreditation affirms the excellence of these programs to graduate and professional schools as well as to potential employers and therefore serves as a major competitive advantage for students completing business programs at Wilkes. In addition, the Sidhu School is a member of The Association to Advance Collegiate Schools of Business (AACSB) and has received approval of its initial self-study to continue the body's accreditation process.

The Bachelor of Science in Mechanical Engineering program is accredited by the Engineering Accreditation Commission (EAC) of ABET.(www.abet.org)

The Bachelor of Science in Electrical Engineering program is accredited by the Engineering Accreditation Commission (EAC) of ABET. (www.abet.org)

The Bachelor of Science in Environmental Engineering program is accredited by the Engineering Accreditation Commission (EAC) of ABET. (www.abet.org)

When programs must meet curricular requirements set by external agencies, such as accrediting associations, curricular changes may be made without prior notice, and students will be required to conform to such changes when they become effective.

## The Jay S. Sidhu School of Business and Leadership

**Dean:** Dr. Abel O. Adekola

**Chair, FAM Department:** Dr. Ruth Hughes

**Chair, MSH Department:** Dr. Woojun Lee

### Faculty and Staff

- **Professors:** Rexer, Taylor
- **Associate Professors:** Chisarick, Frear, Hughes, Matus, Wang, Xiao
- **Assistant Professors:** Bui, Kim, Lee, Lee, Ma, Muszynski III, Tessema
- **Faculty of Practice:** Ghai, Pyke
- **Faculty Emeriti:** Alves, Batory, Engel, Liuzzo, Raspen
- **Interim Director of Allan P. Kirby Center:** Charles Pierce
- **Director of Graduate Programs:** Karen Alessi
- **Director of SBDC:** Dorothy Lane
- **Director of Professional Development and External Engagement:** Bridget Turel

The Jay S. Sidhu School of Business and Leadership combines a strong core business education with the development of skills for authentic leadership and ethical business practices. The School offers degree programs for undergraduate and graduate students.

The School was founded in 2004 and bears the name of Jay S. Sidhu, a 1973 graduate of the Wilkes M.B.A. program, a former member of the University Board of Trustees, former President and chief executive of Sovereign Bancorp and currently chairman and chief executive officer of Customers Bank. Mr. Sidhu and Sovereign Bank, a financial institution based in Reading, Pennsylvania, provided Wilkes with a major gift to endow the School in Mr. Sidhu's name.

The following is the Mission Statement of the School: The Sidhu School transforms students through an empowering education in a mentoring environment that develops personal, professional and leadership skills through scholarship, experiential learning and community engagement.

The Sidhu School offers ten undergraduate programs: the Bachelor of Business Administration degree with majors in management, marketing and sports management, and the Bachelor of Science degree with majors in Accounting, Corporate Finance, Financial Investments and Hospitality Leadership, t. The School also offers the Master of Business Administration degree, described in the Wilkes University Graduate and Professional Studies Bulletin.

The Sidhu undergraduate business program is centered on self-development through three interconnected components: leadership development, a balanced set of foundation courses, and preparation for entry into specific careers and jobs. At the heart of the experience is the Personal and Professional Development (PPD) Series. Consisting of four one-credit courses, it engages small student cohorts in a four-year process of discovery and development. Students explore their knowledge, values, learning styles, and competencies in a spirit of self-examination, self-awareness, and self-knowledge, forming the basis for an evolving Life and Learning Plan. The PPD series draws on the resources of the University, including alumni, and surrounding community to provide a linking thread throughout a student's academic experience. Courses challenge students to reflect on their learning and assess how well

they are progressing in the integration of content with skill and competency development. The goal is to develop graduates who understand the value of cognitive and emotional intelligence as they exercise authentic leadership in careers and lives that demand individual commitment to excellence and genuine appreciation for teamwork.

The Accreditation Council for Business Schools and Programs (ACBSP) has accredited the following Sidhu School's undergraduate programs: Business Administration, Entrepreneurship, Finance, Management and Marketing; the graduate Business Administration program, as well as the undergraduate program in Accounting. ACBSP accreditation affirms the excellence of these programs to graduate and professional schools as well as to potential employers and therefore serves as a major competitive advantage for students completing business programs at Wilkes. In addition, the Sidhu School is a member of The Association to Advance Collegiate Schools of Business (AACSB) and has received approval of its initial self-study to continue the body's accreditation process.

Closely linked to the Sidhu School of Business and Leadership are the Allan P. Kirby Center for Free Enterprise and Entrepreneurship, the Small Business Development Center, the Family Business Alliance and The Institute for Public Policy and Economic Development. These units provide academic and experiential opportunities for students to apply what they study in classroom settings to functioning organizations under the direction of senior staff at each unit.

Supporting the curriculum is a wealth of co-curricular and extracurricular opportunities for students to develop and hone their personal leadership skills. Sidhu student opportunities include Acts of Random Kindness, Enactus, Investment Club and Phi Beta Lambda. The Wilkes University ENACTUS (Entrepreneurship Action Us) team provides the opportunity to make a difference through service and to develop leadership, teamwork, and communication skills through learning, practicing, and teaching the principles of free enterprise. The team competes at national levels with shareholder-style presentations on their projects. These organizations are open to all students, regardless of major or career interests. ENACTUS students also have access to some of the best management training programs in the country through the organization's sponsors. The Wilkes Investment Club is comprised of students from all majors who are engaged in managing an investment portfolio of their own construction that is regularly updated based upon the research conducted by them. The Club is funded by contributions from our alumni and the Club's returns are used to finance various educational expenses. Phi Beta Lambda (PBL) is the largest collegiate business student organization in the world. The Sidhu chapter focuses on leadership, business competencies, and team skills. Participants develop a portfolio of documented accomplishments at the state and national levels. Upper-level accounting students serve as tax preparers in the Volunteer Income Tax Assistance (VITA) program of the U.S. Internal Revenue Service. VITA provides free tax filing assistance for low income and elderly residents of Wilkes-Barre and the surrounding vicinity, while giving students actual hands-on experience in completing and filing personal tax returns. Wilkes University and The Sidhu School also sponsor an active chapter of Delta Mu Delta, an honorary business society that recognizes the highest levels of academic achievement by undergraduate and graduate students. Sidhu students are also active in Athletics, Student Government, Programming Board, and many other campus clubs.

Undergraduate degree programs of study offered in The Sidhu School are as follows:

- Accounting (B.S.)
- Corporate Finance (B.S.)
- Financial Investments (B.S.)
- Hospitality Leadership (B.S.)
- Management (B.B.A.)
- Marketing (B.B.A.)
- Sport Management (B.B.A.)

All majors within the Sidhu School each contain six tiers.

The first tier begins with a comprehensive study of the arts, sciences, mathematics, communications, and humanities. To become competitive, effective, organizational leaders and self-fulfilled individuals, Sidhu School graduates are expected to possess the skills and knowledge acquired through this liberating exposure to the arts, sciences, mathematics, and the humanities.

The second tier of the curriculum are the Sidhu School Foundation courses, which transmit a common educational experience to all Majors within the Sidhu School by addressing topics that are recognized to be basic and necessary to all practicing professionals.

### **Sidhu Undergraduate Foundation Courses**

Each major in the Sidhu School must complete the following 21 credits:

- ACC 161. Financial Accounting & Decision Making
- ACC 162. Managerial Accounting & Decision Making
- BA 151. Integrated Management Experience I
- BA 152. Integrated Management Experience II
- EC 101. Principles of Economics I
- EC 102. Principles of Economics II

## Colleges and Schools

- MTH 101. Solving Problems Using Math (or higher) or MTH 111 for BS in Corporate Finance/ BS in Financial Investments  
\*Instead of the BA 151/152 sequence, transfer students take BA 153 (Management Foundations) plus an additional major elective

The third tier requires completion of 24 credits of core courses, common to all majors. These courses extend the knowledge base within the functional areas of business, and enable students to select a major.

### Sidhu Undergraduate Core

Each major in the Sidhu School must complete the following 24 credits:

- BA 335. Law & Business
- BA 319. Business Statistics
- MKT 221. Marketing
- FIN 240. Introduction to Finance
- MGT 251. Management of Organizations and People
- MGT 354. Organizational Behavior
- MGT 358. International Business
- BA 461. Business Strategy and Decision Making

The fourth tier requires completion of at least 27 credits which are specific to each of the majors (Accounting, Finance, Management, Marketing and Sports Management). Most majors require 15 credits; the remaining credits are satisfied with major elective courses. Students are encouraged to select one of the seven undergraduate majors before entering their junior year. The Business Administration (BA) declaration is assumed to be an undeclared business major.

The fifth tier requires a 3-credit experiential component to bond classroom knowledge with practical experience and is common to all majors. The remaining courses can be taken to fulfill the major elective requirement.

- BA 462 Internship (ACC 462 for accounting majors)
- BA 463. Business Field or Research Experience
- BA 464. International Business Experience
- SM 466 Professional Sports & Event Management Experience

The sixth tier requires completion of at least 4 credits geared toward the undergraduate student's Personal & Professional Development. These courses are intended to prepare students to recognize and use their unique strengths and skills while allowing them to reflect and prepare for a meaningful life and career. Each student must complete the entire PPD series.

- PPD 101. Personal & Professional Development I: Introduction to PPD
- PPD 201. Personal & Professional Development III: Topics in Career Development
- PPD 301. Personal & Professional Development V: Topics in Leadership Competencies
- PPD 401. Personal & Professional Development VII: Leadership Legacy

## College of Health and Education

**Dean:** Dr. Deborah A. Zbegner

**Assistant Dean of Operations:** Ms. Michele D. Garrison

### Nesbitt School of Pharmacy

The Nesbitt School of Pharmacy is the home for the two-year Pre-pharmacy Guaranteed Seat program and the four-year professional program. Students who successfully complete the Pre-pharmacy Guaranteed Seat program matriculate directly into the accredited program leading to the Doctor of Pharmacy degree. The School also accepts a limited number of Wilkes and other students into this professional program.

The School of Pharmacy offers a program of professional study leading to the Doctor of Pharmacy (Pharm.D.) degree. The purpose of the program is to prepare graduates for successful pharmacy practice in the health care environment of the twenty-first century.

### Passan School of Nursing

The practice of professional nursing is a deliberative process of assessing, analyzing, planning, implementing, and evaluating care with clients that promotes and restores health and prevents illness. The Passan School of Nursing baccalaureate program prepares a beginning, self-directed practitioner who is capable of initiating, implementing, and revising nursing care.

### School of Education

Wilkes University offers degrees and certifications in Elementary and Early Childhood Education, Middle Level Education, Special Education, Secondary Education and Reading. The UG Teacher Education Program provides opportunities for students to grow academically, professionally, and personally. The program promotes an appreciation for diversity, as well as a regard for research-based and innovative practices. All coursework is infused with current classroom technology skills and applications pertinent to the field of education. Teacher Education candidates learn and apply the most relevant and current educational research and gain valuable understanding through extensive and diverse field and student teaching experiences in regional schools.

## School of Education

**Dean:** Dr. Deborah A. Zbegner

**Chair, Undergraduate Department of Education:** Dr. Suzanne Murray Galella

### Faculty

**Professor:** Polachek

**Associate Professor:** Galella, Frantz-Fry

**Assistant Professor:** Hines

**Faculty of Practice:** Kaster

**Faculty Emeriti:** J. Bellucci, Fahmy

Teacher Education has been a part of Wilkes since long before we became a University in 1990. In June of 2008, the Wilkes University School of Education was formed to provide a more focused approach to addressing the unique curricular and programmatic needs of our baccalaureate and post-baccalaureate offerings. The school is comprised of undergraduate, masters, and doctoral departments with programs designed to provide a variety of educational experiences for aspiring and current educators.

The Mission of the Undergraduate Teacher Education Program is to provide the educational community and society at large with competent, caring, and ethical educators who are lifelong learners, reflective practitioners, and effective communicators.

Wilkes University offers degrees and certifications in Elementary and Early Childhood Education, Middle Level Education, Special Education, Secondary Education and Reading. Please note that opportunities are available for any post-baccalaureate student in any certification areas. All of our certification programs are fully accredited by PDE.

The UG Teacher Education Program provides opportunities for students to grow academically, professionally, and personally. The program promotes an appreciation for diversity, as well as a regard for research-based and innovative practices. All coursework is infused with current classroom technology skills and applications pertinent to the field of education. Teacher Education candidates learn and apply the most relevant and current educational research and gain valuable understanding through extensive and diverse field and student teaching experiences in regional schools.

All Teacher Education candidates have the opportunity to teach in the Reading Academy and the Arts Academy and participate in the Annual Children's and Adolescent Literature Conference, all located on the Wilkes campus. They can become members of the Education Club that is dedicated to serving the educational community and, based on academic achievement, they can be inducted into the Wilkes University Chapter of Kappa Delta Pi, which is the International Education Honor Society.

Full-time and adjunct faculty who teach and mentor in the undergraduate programs have strong backgrounds and remain current in their respective fields. At Wilkes, students will find faculty and staff who demonstrate a strong commitment to students' educational success through developing relationships, academic support, and maximizing individual student's strengths. I am edified by the accomplishments of our faculty, staff, and students, and I look forward to continued successes and milestones as we collectively work to shape the future of education.

For information about Wilkes' masters programs, visit:

<https://www.wilkes.edu/academics/graduate-programs/masters-programs/graduate-education/index.aspx>

For more information about Wilkes' Doctorate in Education Leadership, visit:

<https://www.wilkes.edu/academics/graduate-programs/terminal-degrees/doctorate-of-education-edd/index.aspx>

## The Nesbitt School of Pharmacy

### The Nesbitt School of Pharmacy

**Interim Dean of Pharmacy:** Ms. Shelli Holt-Macey

## Colleges and Schools

**Associate Deans:** Dr. Jennifer Malinowski, Dr. Julie Olenak

**Chairperson, Department of Pharmaceutical Sciences:** Dr Marie Roke-Thomas

**Chairperson, Department of Pharmacy Practice:** Dr. Judith DeLuca  
**Interim Director of Experiential Programs:** Dr Kristina Powers

## Faculty

**Professors:** Bolesta, DeLuca, Olenak

**Associate Professors:** J. Ference, K. Ference, Franko, Malinowski, Manning, McManus, Pezzino, Roke-Thomas, Trombetta, VanWert

**Assistant Professors:** Gruver, Kieck, Lewis, Mahato, Nguyen, Patel, Tucker, Warunek

**Instructors:** Holt-Macey, Powers

**Professor Emeriti:** Kibbe, Witczak

**Dean Emeriti:** Graham

The Nesbitt School of Pharmacy is the home for the two-year Pre-pharmacy Guaranteed Seat program and the four-year professional program. Students who successfully complete the Pre-pharmacy Guaranteed Seat program matriculate directly into the accredited program leading to the Doctor of Pharmacy degree. The School also accepts a limited number of Wilkes and other students into this professional program.

The School of Pharmacy offers a program of professional study leading to the Doctor of Pharmacy (Pharm.D.) degree. The purpose of the program is to prepare graduates for successful pharmacy practice in the health care environment of the twenty-first century.

The U.S. health care system has been undergoing rapid, even dramatic, change. This transformation is expected by most observers to continue for some time. Those individuals and organizations responsible for the delivery of pharmaceutical care have not been and will not be sheltered from the forces of change. It becomes necessary, therefore, to provide new practitioners with the necessary knowledge base and skills required in a transformed health care system.

With the rapid transformation of health care delivery, a strong foundation in the basic sciences (e.g., pharmaceuticals, pharmacology, medicinal chemistry, anatomy and physiology) remains essential, while clinical knowledge (e.g., therapeutics, pharmacokinetics, pathophysiology) and skills (e.g., physical assessment, patient counseling, clinical decision-making) become even more important. Successful practice will demand an improved understanding of the social sciences (e.g., psychology, sociology, economics, health, policy, management). Most importantly, the future pharmacy practitioner must have outstanding interpersonal skills. Among these are the abilities to communicate effectively and to function in a team environment.

Our vision is to develop meaningful interprofessional education (IPE) activities where all students participate in both experiential and didactic settings. Through IPE, students understand the roles and responsibilities of health care professionals that are essential to patient care, gain first-hand experience in interdisciplinary collaboration, and develop their own individual professional identity as part of a larger team. These competencies are designed so that graduating students are trained to work as a team in optimizing patient health and outcomes. The goal of the IPE curriculum is to provide students with a set of skills and attitudes necessary to practice in an interprofessional environment.

While knowledge and skills are essential, we also ensure that our students develop as responsible citizens with highly professional demeanors who advocate, serve, care, and lead.

# The Passan School of Nursing

## The Passan School of Nursing

**Dean of Nursing:** Dr. Deborah A. Zbegner

## Faculty

**Associate Professors:** Sweeney (Chairperson, Graduate Program), Havrilla (Chairperson, Undergraduate Program), Grandinetti, Hirthler, Lucas, Miskovsky, Victor

**Assistant Professors:** Burry, Daddario, Jones, Koronkiewicz, Murphy

**Faculty of Practice:** Cheslick, Hauze, Moses, Olangenski

**Visiting Instructor:** Gaydos

**Faculty Emeriti:** Druffner, Merrigan, Schreiber, Stewart, Zielinski

**Director of Clinical Nursing Simulation Center:** Famalette

**Clinical Placement Coordinator:** Rey

**Accelerated Baccalaureate Nursing Program Coordinator:** Sunday

**LPN/BSN Program Coordinator:**Pacuska

**Student Affairs Coordinator:** Drozdis

The Passan School of Nursing, established in recognition of the growing demand for the University's array of nursing programs both regionally and nationally, houses a multitude of accredited undergraduate and graduate nursing programs. Students of nursing may matriculate directly into the Bachelor of Science in Nursing or from careers as LPNs or RNs. Students who already hold a baccalaureate degree in another discipline and wish to pursue a career in the nursing profession may compete for a seat in the Accelerated Baccalaureate Program for Second Degree Students. Practicing professional nurses may choose to pursue the RN-MSN program, which leads to an advanced practice master's degree. In addition, a Doctorate of Nursing Practice is offered in the School of Nursing. A student may enter this program post-BSN or post-MSN.

# DEPARTMENT OF AEROSPACE STUDIES

## Department of Aerospace Studies

**Chairperson:** Lieutenant Colonel Sarah Hedrick

### Faculty

Professor: Lt. Col. Hedrick

Assistant Professor of Aerospace Studies: Captain Todd Glace

Assistant Professor of Aerospace Studies: Captain Nolan Bet

### Aerospace Studies (Air Force ROTC)

Total minimum number of credits required for a minor in Aerospace Studies – 22.

The Air Force Reserve Officer Training Corps (AFROTC) program at Wilkes University permits students to earn commissions as officers in the U.S. Air Force while pursuing a university degree. Students enroll in either the four-year or three-year program. Students with three years remaining until graduation may enroll concurrently in the freshman and sophomore Aerospace Studies courses and can complete the four-year program in three years; moreover, any interested student may call the detachment and query staff regarding additional programs available (570-408-4860).

A minor in Aerospace Studies is available to students who complete a minimum of 22 semester hours including the following: up to 16 hours of Aerospace Studies courses (AS 101, 102, 201, 202, 301, 302, 401, 402) and 3 hours for AFROTC Field Training (4-week AFROTC Field Training AS 240), and a minimum of 3 credit hours within one area listed below. This area should explore a discipline other than the student's major.

### Additional Courses Required in the Minor (By Concentration)

#### Business Administration Credits

- BA 151 – Integrated Management Experience 3
- BA 233 – The Legal Environment of Business 3
- BA 234 – Business Law 3
- BA 321 – Marketing 3
- BA 326 – The Selling Process 3
- BA 327 – Marketing Seminar 3
- BA 341 – Managerial Finance 3
- BA 351 – Management of Organizations and People 3
- BA 352 – Production and Operations Management 3
- BA 354 – Organizational Behavior 3
- BA 356 – The Social Responsibility of Business 3

#### Communication Studies Credits

- COM 101 – Fundamentals of Public Speaking 3
- COM 102 – Principles of Communication 3
- COM 201 – Advanced Public Speaking 3
- COM 202 – Interpersonal Communication 3
- COM 206 – Business and Professional Communication 3
- COM 220 – Introduction to Telecommunications 3
- COM 303 – Organizational Communication 3
- COM 352 – Advanced Public Relations Campaigns 3
- COM 361 – Feature Writing 3
- COM 399 – Cooperative Education 1-6

#### History Credits

- HST 101 – Historical Foundations of the World 3
- HST 102 – Europe Before 1600 3
- HST 125 – American History I 3
- HST 126 – American History II 3
- HST 328 – History of the Foreign Policy of the United States 3
- HST 334 – The United States, 1900-1945 3
- HST 335 – The United States Since 1945 3
- HST 376 – World War II 3

## Political Science Credits

PS 111 – Introduction to American Politics 3  
 PS 141 – Introduction to International Politics 3  
 PS 151 – Governments of the World 3  
 PS 212 – Urban Government and Politics 3  
 PS 213 – Political Parties and Political Participation 3  
 PS 221 – Introduction to Public Administration 3  
 PS 261 – Concepts and Methods in Political Science 3  
 PS 331 – The Constitution and the Federal System 3  
 PS 332 – Civil Rights and Liberties 3

## General Military Course

(Four-Year Program Only)

The first two years of the four-year program constitute the General Military Course (GMC). GMC courses are open to any University student. Students enrolling in these courses do not incur any military service obligation. (Exception: Air Force scholarship recipients incur a commitment at the beginning of their sophomore year.) The GMC curriculum consists of the following: four one-credit Aerospace Studies courses; a non-credit leadership laboratory each semester, which introduces students to U.S. Air Force history and environment, customs, courtesies, drill and ceremonies, and leadership skills; and Physical Training (PT) at least twice weekly.

## Field Training

Field training consists of a 13-day, 3-credit Aerospace Studies course conducted at Maxwell AFB AL. It provides students an opportunity to 1) observe Air Force units and people at work, 2) participate in marksmanship, survival, athletics, and leadership training activities, 3) work with contemporaries from other colleges and universities. Transportation from the legal residence of the cadet to the field training base and return, food, lodging, and medical and dental care are provided by the Air Force.

## Professional Officer Course (POC)

The last two years of the program constitute the Professional Officer Course (POC). POC courses are open only to AFROTC cadets who have successfully completed Field Training or by permission of the Detachment Commander. The POC curriculum consists of the following: four three-credit Aerospace Studies courses; a non-credit leadership laboratory each semester; leadership studies; introduction to national security affairs; preparation for active duty; and Physical Training (PT) twice weekly.

## Professional Development Training (PDT)

(Optional)

The program allows both GMC and POC members to visit a USAF base for up to three weeks during the summer (cadets attending Field Training are not eligible). PD allows the cadet to "shadow" an active duty officer working in the area of the student's career interest (i.e., pilot, navigator, communications, intelligence, etc.). Transportation from the legal residence of the cadet to the PD base and return, food, lodging, and medical and dental care are provided by the Air Force. The participating cadet is also provided a nominal stipend during the program.

## Benefits

### Commissioning

Students who satisfactorily complete the POC curriculum requirements are commissioned as Second Lieutenants in the U.S. Air Force and will serve on active duty in a career specialty they have chosen, consistent with USAF needs. Qualified students may compete for duty as pilots, combat system operators, engineers, missile or space operations officers, nurses, engineers, meteorologists, computer analysts, security forces, or any of a number of other career fields.

### Scholarships

AFROTC offers 2.5 to 5-year full and partial tuition scholarships for which qualified students may compete if they enroll in AFROTC. All scholarship awards are based on individual merit, regardless of financial need, with most scholarship recipients determined by central selection boards. Since scholarship applicants must meet certain academic, physical fitness, and medical requirements to be considered by the scholarship boards, contact the Aerospace Studies Department for more information. High school students wishing to compete for AFROTC college scholarships must complete and submit an application no later than the fall term of their senior year.

All AFROTC scholarship recipients entering or transferring to Wilkes University receive free room and board. To receive free room and board, the scholarship recipient must live in a Wilkes University owned and operated residence hall.

Contracted cadets also receive a monthly stipend, \$300-\$500, depending upon their academic year, and a \$900 annual book allowance.

## DEPARTMENT OF AEROSPACE STUDIES

### **Uniforms and Materials**

All uniforms, equipment, and textbooks for AFROTC are supplied by the U.S. Air Force.

# **DEPARTMENT OF BIOLOGY AND EARTH SYSTEMS SCIENCE**

## **Department of Biology and Earth Systems Science**

**Chairperson:** Dr. Kenneth M. Klemow

### **Faculty**

**Professors:** Gutierrez, Kadlec, Klemow, Steele, Stratford, Terzaghi

**Associate Professors:** Biggers, Finkenbinder, Harms

**Assistant Professor:** Jennings, Karimi

**Faculty Emeriti:** Pidcock, Turoczy

**Director, Center for Health Sciences and Student Success:** Dombroski

**Lecturers:** Kaster, McMonagle

**Lab Preparation Supervisors and Staff:** Elias, McMonagle, Wasiluk

**Faculty of Practice and Education Specialist:** Chapman

# DEPARTMENT OF CHEMISTRY & BIOCHEMISTRY

## Department of Chemistry & Biochemistry

Chair: Dr. Amy Bradley

### Faculty

*Professor: Castejon, Mencer*

*Associate Professors: Bradley, Bleche, Henkels, Henry, Wignot*

*Assistant Professors: Youmans*

*Faculty of Practice: Pitchford*

*Faculty Emeriti: Faut, Rozelle, Stine*

*Laboratory Director: Tambasco*

*Lab Assistant and Technician: Herceg*

Total minimum number of credits required for a major in Biochemistry leading to the B.S. degree – 120 to 124\*

Total minimum number of credits required for a major in Chemistry leading to the B.A. degree – 120

Total minimum number of credits required for a major in Chemistry leading to the B.S. degree - 121

Total minimum number of credits required for a minor in Chemistry – 22

\*The range for the Biochemistry degree reflects flexibility in the major elective course selection.

The Wilkes Chemistry and Cannabis Chemistry programs both meet the standards for approval by the American Chemical Society for the professional training of chemists. ACS approval will be maintained for these B.S. programs. Students who complete either of these B.S. programs are certified with the American Chemical Society at graduation. Students completing the B.S. program in Biochemistry or one of the B.A. program tracks (or minors) in Chemistry may be certified, dependent upon students' choice of chemistry courses. All students should work closely with their academic advisors as they progress toward graduation.

# DEPARTMENT OF CIVIL AND ENVIRONMENTAL ENGINEERING

## Department of Civil and Environmental Engineering

**Chairperson:** Dr. Brian Whitman

### Faculty

**Professors:** Murthy, Troy, Whitman

**Associate Professors:** Frederick

**Assistant Professor:** Karnae

**Laboratory Manager:** McMonagle

**Office Assistant:** Garrison

The Department of Civil and Environmental Engineering offers the following degree programs: B.S. in Civil Engineering and B.S. in Environmental Engineering which is accredited by the EAC-ABET. CEE envisions future accreditation of the Civil Engineering program by EAC-ABET. The engineering programs incorporate a strong background in the fundamentals of engineering with a blend of science and advanced engineering courses.

All CEE programs emphasize the value of integrative learning in the classroom, laboratory and field. Modern laboratories are well-equipped to support a wide range of courses and research experiences. Easy access to exceptional off-campus sites provides training in field methods that augment the curricula. A dedicated computer laboratory for geospatial technology (Geographic Information System, Global Positioning System, Remote Sensing) supports all CEE programs and research/project activities in the engineering fields.

### Civil Engineering

Total minimum number of credits required for a major in Civil Engineering leading to the B.S. degree – 128.

### Environmental Engineering

Total minimum number of credits required for a major in Environmental Engineering Leading to the B.S. Degree - 130

### Geographic Information Science (GIScience)

#### Certificate

Total minimum number of credits required for a certificate - Introductory Track -15

Total minimum number of credits required for a certificate - Advanced Track -15

#### Minors

Total minimum number of credits required for a minor in Sustainability Management - 18

# **DEPARTMENT OF COMMUNICATION STUDIES**

## **Department of Communication Studies**

Total minimum number of credits required for a major in Communication Studies leading to the B.A. degree - 120

Total minimum number of credits required for a minor in Communication Studies - 18

The major in Communication Studies is a student centered program that emphasizes excellence in professional skills, ethical standards, and provides the hands-on experience expected of tomorrow's communication leaders. Our mission is to develop civically engaged leaders who have the ability to integrate global and technical issues within the context of personal and professional excellence. The integration emerges from a focus on oral, written, and interpersonal skills, ethics, collaborative learning, research, and the value of diversity. The major offers concentrations in Strategic Communication, Rhetorical Studies, Media Production, and Multimedia Journalism.

# DEPARTMENT OF EDUCATION

## Department of Education - Undergraduate

**Chairperson:** Dr. Suzanne Murray-Galella

### Faculty

**Professor:** Polachek

**Associate Professor:** Galella, Frantz-Fry

**Assistant Professor:** Hines

**Faculty of Practice:** Kaster

**Faculty Emeriti:** J. Bellucci, Fahmy

### The Education Department Programs

#### Mission of the Teacher Education Program

The Mission of the Teacher Education Program is to provide the educational community and society at large with competent, caring, and ethical educators who are life-long learners, reflective practitioners, and effective communicators. The Teacher Education program provides opportunities for students to grow academically and professionally. The program promotes an appreciation for diversity, as well as a regard for research-based and innovative practices. The ethic of service and dedication are expected of Teacher Education candidates to meet the diverse needs of all students within the learning community.

The Teacher Education Program (TEP) information in this *2019-20 Undergraduate Bulletin* addresses the following certification programs as mandated by the Pennsylvania Department of Education (PDE) that will be followed by all students starting in Fall 2010 or after. The programs are:

1. Pre-kindergarten through fourth grade (PK-4) certification has replaced the Kindergarten through sixth grade (K-6) certification.
2. Middle Level certification in grades four through eight (4-8) with five areas of concentration: Mathematics, Science, English, Language Arts and Reading, Social Studies, and Mathematics/Science.
3. Secondary Education grades 7-12, with teacher certification in Biology, Chemistry, English, Earth & Space Science (with a major in Earth and Environmental Sciences), Physics, Spanish, and Social Studies (with a major in History or Political Science).
4. Special Education dual certifications – PK-12 grade band.
5. Special Education is now a stand alone major (PK-12)
6. Students are expected to review and comply with all policies of the Wilkes University Education Teacher Education Program and of the Pennsylvania Department of Education (PDE). Each semester, students should consult with their academic advisor for any changes or considerations. The Education Department maintains specific advising checklists and policy documents to guide students in their respective programs. NOTE: Policies may change or be revised according to new or updated Pennsylvania Department of Education (PDE) regulations.

#### Teacher Education Program Admission Requirements:

PDE requires that students preparing for teacher certification must be formally admitted to the Teacher Education Program at Wilkes University. Admission criteria for formal admission to the Teacher Education Program include:

- complete 48 semester hour credits, including six credits of Mathematics and six credits of English,
- submit the following current, valid clearances:

NOTE: If there is a criminal infraction on any of these clearances, a field experience placement in a school is unlikely. Therefore, this will result in the student not being able to take the class(es.) Decisions about permitting students to observe or student teach in a school are made by the school district. The University cannot guarantee that persons with entries in their criminal record will be permitted to be assigned to field placements. While State law bars certain offenders from schools, districts often impose more extreme requirements. The Coordinator of Field Experience Placements, the Coordinator of the Teacher Education Program, and the Education Department Chairperson will consult with the student who has entries on any clearances to determine whether a placement in a school district might be likely or not.

- complete and submit formal the Teacher Education Program Application, personal Philosophy of Education, Disposition Assessment, signed Code of Professionalism and Academic Honesty, and a signed Student Acknowledgement of Grade Point Average (GPA) and Test of Basic Skills (form shown below). This process is completed during [[ED-190]] or upon transfer from another institution. [Here](https://www.education.pa.gov/Educators/Certification/CertTestingRequirements/Pages/default.aspx) is the information from the Pennsylvania Department of Education indicating required scores for all tests of basic skills: <https://www.education.pa.gov/Educators/Certification/CertTestingRequirements/Pages/default.aspx>

#### Student Acknowledgement of Grade Point Average (GPA) and Test of Basic Skills (TBS) Policy of the Wilkes University Education Department

## DEPARTMENT OF EDUCATION

Students pursuing teacher certification at Wilkes University must comply with the following:

1. **Prior to enrolling in:**

- [[ED-190]]: Effective Teaching with Field Experience and
- [[ED-191]]: Integrating Technology into the Classroom

1. **By the end of the Fall or Spring semester break**, students in [[ED-190]] must complete the online practice Praxis Core for all or any required sections of the test. The practice modules of the Reading, Mathematics, and Writing tests are available at <https://www.longsdalepub.com/courses/praxis/start/index.html> School number: 84332 School Key: praxis core.
2. **By the last week of the semester, students must take an authentic test of basic skills: PAPA or Praxis Core.** To receive course credit, students must submit a copy of the registration form to the [[ED-190]] professor. These forms will be submitted to the Teacher Education Program Coordinator. Students must take the necessary modules of the PAPA test: Reading, Mathematics, and Writing. Registration information is available at <http://www.pa.nesinc.com> [Fee waivers are available; students need to apply at the beginning of the semester to receive waivers, if eligible, in a timely way.]

**OR**

complete necessary tests of the Praxis Core Academic Skills for Educators (CORE): Reading, Mathematics, and Writing. Registration information is available at [www.ets.org/praxis/pa](http://www.ets.org/praxis/pa) [Fee waivers may be available; students need to apply by the ETS deadlines to receive waivers in a timely way.]\*

3. **Prior to enrolling in:**

- [[ED-220]]: Teaching Culturally and Linguistically Diverse Learners
- [[EDSP-210]]: Teaching Students with Special Needs
- [[EDSP-263]]: Infants, Toddler, and Young Children with Special Needs (formerly ED 263) (15 hours of field experience)
- [[ED-264]]: Child Development and Cognition II (30 hours of field experience)-
- [[EDSP-225]]: Teaching Students with High Incidence Disabilities with field experience (*Cross List* with **EDSP 501**)

1. **Prior to enrolling in Special Education Dual Certification designated courses,**

- [[EDSP-226]]: Teaching Students with Low Incidence Disabilities w/ field experience
- [[EDSP-227]]: Behavior Intervention and Support w/field experience
- Students must meet all of the requirements for [[ED-220]], [[EDSP-263]], [[ED-264]], [[EDSP-210]], and [[EDSP-225]], and Have passing scores in the required modules of a test of basic skills [SAT/ACT or Praxis Core or PAPA].-

1. **Prior to admission to the Teacher Education Program** and to enrolling for any 300-level Education course and/or content methods course, students must:

- Pass all modules of any test of basic skills in Reading, Writing, and Mathematics; students may 'mix and match' qualifying scores from the SAT/ACT and the PAPA and the Praxis Core. (See more info below)
- Earn a 3.0 Grade Point Average (GPA)
- Submit a completed Teacher Education Program Application.

1. **To maintain enrollment in the Teacher Education Program**, students must earn at least a 2.5 in all 200-level and 300-level Education courses; if they do not, they must repeat the course.

NOTE: Transfer students who already have completed [[ED-190]] must comply with #2 and #3 in their first semester at Wilkes.

### Information on the Pennsylvania Department of Education Basic Skills Assessment

#### Basic Skills Assessments – Composite Score Option

- Students may combine reading, writing and mathematics module scores from different test providers to meet the basic skills requirements.
- Students may use the composite score method to meet the requirement when they do well in one or two areas to compensate for a lower score in the other area.
- The composite score is the sum of the passing scores. Use the Composite Score Calculator when mixing tests. Note When using the composite score, each test must meet or exceed the minimum score listed.

**IMPORTANT:** Detailed information about the Basic Skills Assessments, minimum composite score requirements, SAT/ACT, PAPA and Praxis I scores is available [here](#).

### Elementary and Early Childhood Education Major

Total minimum number of credits required for a major in Elementary and Early Childhood Education Leading to the B.A. degree — 124.

Total minimum number of credits required for a major in Elementary and Early Childhood Education leading to the B.A. degree with Dual Special Education Certification – 133

Total minimum number of credits required for a double major in Elementary and Early Childhood Education and Special Education leading to the B.A. degree - 136

### Mission of the Elementary and Early Childhood Program

The mission of the Elementary and Early Childhood Program is to prepare highly effective teachers who have the knowledge, skills, and competencies to prepare PreK-4 students to achieve academic success, and who are prepared to serve a diverse group of children and families in a variety of educational settings.

Wilkes offers an option of a part-time, fully online completion degree pathway within the elementary and early childhood program for transfer students entering with an Associate's degree or at least 55 transferrable credits. This pathway is designed for the working adult to continue their education part-time in an online environment and follows the same course sequence as the traditional program.

Elementary and Early Childhood Education is a major leading to pre-kindergarten through fourth grade (PK-4) certification. This program incorporates an 18-credit minor in Reading. Elementary and Early Childhood Education majors take methods of teaching courses in reading, language arts, mathematics, science, social studies, the arts, physical education and health, as well as courses in educational theory and practice, assessment, and classroom management. Students must fulfill all of the following requirements:

1. complete all course work, field experiences, clearances, appropriate tests of basic skills, and student teaching;
2. complete the following General Education Curriculum requirements, which include:
  - First Year Foundations ([[FYF-101]]) – 3 credits,
  - Oral Communications - fulfilled by OPO courses in Education major;
  - English Composition and Literature - 7 credits, completed within the first 48 credit hours as required by the PDE;
  - Mathematics - 6 credits, completed within first 48 credit hours as required by the PDE
  - Computer Literacy - [[CS-115]] (3 cr.)
  - Foreign Language or Philosophy ( [[PHL-101]], [[PHL-110]] ) - 3 credits (Foreign Language is highly recommended)
  - History - 3 credits:
  - Science - 6 credits in two different areas and at least one course that includes a laboratory component:
  - Psychology - 3 credits: [[PSY-101]]—General Psychology
  - Social Sciences - 3 credits in one of the following areas:
  - Visual and Performing Arts - 3 credits in one of the following areas:
1. complete the following Education courses (All courses are 3 credits unless otherwise noted). Students must follow the requirements for all coursework as set forth in the Student Acknowledgement of Grade Point Average (GPA) and Test of Basic Skills (TBS) Policy of the Wilkes University Education Department
  - [[ED-190]] - Effective Teaching with Field Experience (40-hours of field experience)
  - [[ED-191]] - Integrating Technology into the Classroom (C.I. course).
  - [[EDSP-210]] - Teaching Students with Special Needs (Honors designation available)
  - [[ED-220]] - Teaching Culturally and Linguistically Diverse Learners (Honors designation available)
  - [[EDSP-225]] - Teaching Students with High Incidence Disabilities with field experience (30-hours of field experience) (*Cross List with EDSP 501*)
  - ((EDSP-250)) – Health, PE, Adapted Phys. Ed., & Safety
  - ((EDSP-263)) – Infant, Toddler, and Young Children with Special Needs with Field Experience (30-hours of field experience)
  - [[ED-264]] - Child Development and Cognition (30- hours of field experience)

NOTE: Students must meet all the requirements for and be admitted to the Teacher Education Program to proceed to all 300-level Education courses.

- [[ED-321]] - Literacy Foundations I (30 hours of field experience)
- [[ED-322]] - Literacy Foundations II
- [[ED-323]] - Differentiated Reading
- [[ED-324]] - Children & Adolescent Literature (Honors designation available)
- [[ED-325]] - Applied Reading Strategies (15 hours of field experience; Prerequisite: [[ED-321]])
- [[ED-330]] - Mathematics in Early Childhood and Elementary Education
- [[ED-341]] - Language Arts in Early Childhood and Elementary Education (OPO course)
- [[ED-344]] - Assessment in Early Childhood and Elementary Education (This course is replaced by [[EDSP-300]], Assessment in Special Education, for students completing dual certification in PK-4 and Special Education.)
- [[ED-345]] - Assessment in Education (Honors designation available)
- [[ED-350]] - The Arts in Early Childhood and Elementary Education
- [[ED-360]] - Social Studies in Early Childhood and Elementary Education
- ((EDSP 363)) – Family, School, and Community (This course is omitted for students completing dual certification in PK-4 and Special Education)
- [[ED-370]] - Science in Early Childhood and Elementary Education

## DEPARTMENT OF EDUCATION

- [[ED-385]] - Classroom Management
- [[EDSP-388]] - Inclusionary Practices (taken in conjunction with [[ED-390]]) (Honors designation available)
- [[ED-390]] - Student Teaching with Seminar (12 credits; OPO course)

Students should regularly consult with their academic advisors and the Education Department for any changes or considerations. The Education Department maintains specific advising checklists and policy documents to help guide students in their respective programs.

### **Elementary and Early Childhood Education (PK-4) Major with embedded Reading minor and Special Education Concentration (PK-12)**

The mission of the Dual Special Education Program is to develop competent, caring, and ethical educators who are able to meet the diverse learning needs of all students across a variety of age, grade, and ability levels. The preparation program will facilitate competence in areas of academic, social, and emotional growth, and methods of maximizing a student's capabilities through diagnostic and instructionally adaptive practices.

Students majoring in Elementary and Early Childhood Education and also pursuing dual certification in Special Education PK-8 will complete the following courses in addition to the Elementary and Early Childhood Education program requirements:

[[ED-180]] - Educational Psychology

[[EDSP-226]] - Teaching Students with Low Incidence Disabilities w/ field experience

[[EDSP-227]] - Behavior Intervention and Support w/field experience (20-hour field experience) \*[[EDSP-300]] - Assessment in Special Education (This course replaces the PK-4 course [[ED-344]] - Assessment in Early Childhood and Elementary Education.) (PDS hours)

\*[[EDSP-302]] - Secondary Transition in Special Education (PDS hours)

All EDSP courses, in combination, will substitute for the PK-4 - EDSP 363 - Family, School, & Community (formerly ED 363). Special Education certification candidates will complete half their student teaching in a special education setting and half in a general education setting

### **Middle Level Education Major**

Total minimum number of credits required for a major in Middle Level Education leading to the B.A. Degree - varied by concentration.

Total minimum number of credits required for a major in Middle Level Education leading to the B.A. degree with Dual Special Education Certification - credits vary according to concentration.

### **Mission of the Middle Level Education Program**

The mission of the Middle Level Education Program is to develop competent, caring, and ethical educators with strong subject matter content preparation and authentic, clinical field experiences. This preparation will address the broad set of issues, knowledge, and competencies that are relevant to middle school teaching and learning in Science, Mathematics, English/Language Arts and Reading, and Social Studies. Equipped with this knowledge and these skills, the teaching candidates will enable their students in grades four through eight to achieve academic success.

Middle Level Education is a major leading to fourth through eighth grade (4-8) certification. Candidates will choose to complete one of the following middle level concentration areas:

- English/Language Arts/Reading
- Mathematics
- Science
- Social Studies
- Mathematics and Science

Middle level education majors take courses in methods of teaching, educational theory and practice, as well as content courses across all four concentrations. All middle level education students must fulfill all of the following requirements:

1. complete all course work, field experiences, clearances, appropriate tests of basic skills, and student teaching;
2. complete the following General Education Curriculum requirements, which include:
  - First Year Foundations ([[FYF-101]]) – 3 credits,
  - Oral Communications - fulfilled by OPO courses in Education major;
  - English Composition and Literature - 7 credits, completed within the first 48 credit hours as required by the PDE;
  - Mathematics - 6 credits, completed within first 48 credit hours as required by the PDE
  - Computer Literacy - [[CS-115]] (3 cr.)
  - Foreign Language or Philosophy ( [[PHL-101]], [[PHL-110]]- 3 credits (Foreign Language is highly recommended)
  - History - 3 credits:

- Science - 6 credits in two different areas and at least one course that includes a laboratory component, refer to science requirement for each concentration area
- Psychology - 3 credits: [[PSY-101]]—General Psychology
- Social Sciences - 3 credits, refer to Social Science requirement for each concentration area
- Visual and Performing Arts - 3 credits in one of the following areas:
  1. complete the following Education courses (All courses are 3 credits unless otherwise noted).

NOTE: Departmental permission is required to register for all courses with field experiences.

- [[ED-180]] - Educational Psychology
- [[ED-190]] - Effective Teaching with Field Experience (40-field hours)
- [[ED-191]] - Integrating Technology into the Classroom (C.I. course)
- [[EDSP-210]] - Teaching Students with Special Needs
- [[ED-220]] - Teaching Culturally and Linguistically Diverse Learners
- [[EDSP-225]] - Teaching Students with High Incidence Disabilities with field experience (30-hours of field experience) (*Cross List with EDSP 501*)

NOTE: Students must meet all the requirements for and be admitted to the Teacher Education Program to proceed to all 300-level Education courses.

- [[ED 345]] - Assessment in Education
- [[ED-375]] - Middle Level and Secondary Education Methods with Field Experience (40-field hours; 4 credits)
- [[ED-380]] - Content Area Literacy
- [[EDSP-388]] - Inclusionary Practices (taken in conjunction with [[ED-390]])
- Methods courses as relevant to specialization (40 hours of field experience; 4 credit courses);
- [[ED-390]] - Student Teaching with Seminar (12 credits; OPO course)

**ENGLISH/LANGUAGE ARTS/READING CONCENTRATION:** Candidates will complete all afore-cited General Education, Education and Methods requirements in addition to the following content courses:

- [[ENG-201]] (4 cr.), [[ENG-225]], and three of the following English survey courses: [[ENG-233]], [[ENG-234]], [[ENG-281]] (recommended), [[ENG-282]] (recommended), and [[ENG-324]]
- [[MTH-101]], [[MTH-103]], [[MTH-104]], and [[MTH-150]]
- [[HST-125]]
- [[BIO-105]], [[EES-105]], [[CHM-105]], [[PHY-105]]
- [[PS-111]]

**MATHEMATICS CONCENTRATION:** Candidates will complete all afore-cited General Education, Education and Methods requirements in addition to the following content courses:

- [[MTH-101]], [[MTH-103]], [[MTH-104]], [[MTH-111]], [[MTH-114]], [[MTH-150]], [[MTH-231]], and [[MTH-343]]
- [[ENG-201]] or [[ENG-202]] and [[ENG-225]]
- [[BIO-105]], [[EES-105]], [[CHM-105]], [[PHY-105]]
- [[HST-125]]
- [[PS-111]]

**SCIENCE CONCENTRATION:** Candidates will complete all afore-cited General Education, Education and Methods requirements in addition to the following content courses:

- [[BIO-121]], [[BIO-122]], [[BIO-225]]
- [[GEO-211]], [[EES-251]], [[EES-280]]
- [[CHM-105]]
- [[PHY-105]]
- [[ENG-201]] or [[ENG-202]] and [[ENG-225]]
- [[MTH-101]], [[MTH-103]], [[MTH-104]] and [[MTH-150]]
- [[HST-125]]
- [[PS-111]]

**SOCIAL STUDIES CONCENTRATION:** Candidates will complete all afore-cited General Education, Education and Methods requirements in addition to the following content courses:

- [[HST-102]], [[HST-125]], [[HST-126]], and one 300-level history course
- [[EC-102]] or [[ANT-101]] or [[ANT-102]]
- [[PS-111]]
- [[PS-141]] or [[PS-151]]

## DEPARTMENT OF EDUCATION

- [[SOC-101]]
- [[ENG-201]] or [[ENG-202]] and [[ENG-225]]
- [[MTH-101]], [[MTH-103]], [[MTH-104]] and [[MTH-150]]
- [[BIO-105]], [[EES-105]], [[CHM-105]], and [[PHY-105]]

**MATHEMATICS AND SCIENCE CONCENTRATION:** Candidates will complete all afore-cited General Education, Education and Methods requirements in addition to the following content courses:

- [[BIO-105]], [[BIO-121]], [[BIO-122]]; [[CHM-105]]; [[PHY-105]]; and [[EES-105]], [[GEO-211]]
- [[MTH-103]], [[MTH-104]], [[MTH-111]], [[MTH-114]], and [[MTH-150]]
- [[ENG-201]] or [[ENG-202]] and [[ENG-225]]
- [[HST-125]]
- [[PS-111]]

### Middle Level Education Major with Dual Special Education Certification in PK-12

The mission of the Dual Special Education Program is to develop competent, caring, and ethical educators who are able to meet the diverse learning needs of all students across a variety of age, grade, and ability levels. The preparation program will facilitate competence in areas of academic, social, and emotional growth, and methods of maximizing a student's capabilities through diagnostic and instructionally adaptive practices.

Students majoring in Middle Level Education and also pursuing dual certification in Special Education PK-12 will complete the following courses in addition to the afore-cited Middle Level Education program requirements (not the course substitutions permitted):

- [[EDSP-226]] – Teaching Students with Low Incidence Disabilities with Field Experience (20-field hours)
- [[EDSP-227]] – Behavior Intervention and Support with Field Experience (20-field hours)
- \*[[EDSP-300]] – Assessment in Special Education (PDS hours)
- \*[[EDSP-302]] – Secondary Transition in Special Education (PDS hours)

Special Education certification candidates will complete half their student teaching in a special education setting and half in a general education setting.

### Secondary Education Programs of Study for the Major and Minor Leading to Secondary Certification

The mission of the Secondary Education Program is to develop competent educators with strong subject matter content preparation and authentic, clinical field experiences. This preparation will address the broad set of issues, knowledge, and competencies that are relevant to secondary school teaching and learning. The majors that can be prepared to teach include Biology, Chemistry, Earth & Environmental Science, English, Social Studies (via History and Political Science majors), Mathematics, Physics, and Spanish (K-12). The students must complete the major and may add either the Secondary Certification minor or the Secondary Education major. Equipped with this knowledge and these skills, the teaching candidates will enable their students in grades seven through twelve to achieve academic success.

The Wilkes University Department of Education offers programs leading to Pennsylvania Department of Education (PDE) secondary (grades 7 – 12) certification in the following areas: **Biology, Chemistry, Earth and Space Science, English, General Science, Mathematics, Physics; Social Studies, and Spanish (a K-12 certification)**. Admission to Wilkes University is only the first step in gaining acceptance into the Teacher Education Program (TEP). Requirements for admission to the TEP are in compliance with the mandates of PDE. Students may choose to major or minor in Secondary Education; both the major and the minor lead to certification.

Beginning in 2015-2016, students may choose to pursue a major in Secondary Education, but it is important to note that the major in Secondary Education is **not** a stand-alone major. It must be taken in conjunction with one of the nine content area certification majors. English, History, Mathematics, and Spanish are the four content majors at Wilkes University that would readily accommodate the option for students to complete a Secondary Education major within an eight-semester time frame. The other five content majors—Biology, Chemistry, Earth and Environmental Science, Physics, and Political Science—may not readily allow for completion of a major in Secondary Education within an eight-semester time frame. However, students in these five majors may choose to pursue a major in Secondary Education if they are willing to take coursework beyond the eight semesters. Students in all nine majors have the option of pursuing the minor in Secondary Education as well as Dual Certification in Special Education 7-12.

### Directives for Gaining Admission to the Teacher Education Program to Pursue Secondary Education Certification

- **Schedule a meeting the Secondary Education Program Advisor:** Students should plan to meet with the Secondary Education Program advisor as early as possible in their matriculation at Wilkes to ensure completion of the certification program within four years. At that meeting, students will learn about the Education courses that will lead to certification.
- **Study major area of study and declare the major or minor in Secondary Education:** Students should begin their studies in an academic major related to certification and declare Secondary Education as a major or minor.

- **Fulfill English and Mathematics Requirements:** As required by the PDE, within the first 48 credit hours, students should complete the following courses: English - 7 credits to include [[ENG-101]] (Composition) and [[ENG-120]] (Introduction to Literature and Culture) and Mathematics - 6 credits.
- **Complete ED 180 and earn a final grade of 2.5 or higher:** There is no required GPA for ED 180. A grade of 2.5 in ED 180, as well as an overall GPA of 2.5, is required, however, to enroll in [[ED-190]] and [[ED-191]].
- **Comply with placement requirements and secure proper clearances.**
- **Apply for admission to the Teacher Education Program:** During [[ED-190]], students must begin the application process for admission to the Teacher Education Program. Transfer students who transfer in [[ED-190]] begin this process their first semester.
- **Pass all modules of the Tests of Basic Skills.**
- **Achieve the required GPA:** Students must earn a minimum of 2.5 in [[ED-180]], [[ED-190]], and [[ED-191]] and achieve an overall GPA of 2.85 to enroll in 200-level education. Then, to enter 300-level courses, students must achieve a 3.0 GPA.
- **Register for and pass PRAXIS II and if Dual certification Special Education is completed register for PRAXIS II Special Education Tests** (2 tests- Fundamental Subjects: Content Knowledge and Core Knowledge & Applications): Preferably prior to student teaching or at the conclusion of formal studies in the chosen major field, or prior to student teaching, students should take the appropriate PRAXIS II examination. This is required for certification in Pennsylvania. Complete information about registration, test dates, study guides is available at <http://www.ets.org/praxis>; the Department also provides guidance, resources, and support.
- **Self-monitor progress:** Students are responsible to monitor their GPAs each semester; students will be dropped from course(s) if required GPA is not achieved or if all three tests of Basic Skills are not passed before enrolling in 300-level courses.

### The Secondary Education Major\* and Minor

The Secondary Education major and minor consists of the following courses:

- [[ED-180]] - Educational Psychology
- [[ED-190]] - Effective Teaching with Field Experience (40 hours)
- [[ED-191]] - Integrating Technology into the Classroom (C.I. course).
- [[ED-220]] - Teaching Culturally and Linguistically Diverse Learners
- [[EDSP-210]] - Teaching Students with Special Need
- [[EDSP-225]] - Teaching Students with High Incidence Disabilities with field experience (30-field experience hours)

*Note: Students must meet all the requirements for and be admitted to the Teacher Education Program to proceed to all 300 level Education courses.*

- [[ED-345]] - Assessment in Education (\*required for major only)
- [[ED-375]] – Middle Level and Secondary Education Methods with Field Experience (40-field experience hours) (\*required for major only)
- [[ED-380]] - Content Area Literacy
- ED 3XX (Secondary Methods course in the area of the major degree)
- [[EDSP-388]] - Inclusionary Practices (3 credits; co-requisite: ED 390)
- [[ED-390]] - Student Teaching with Seminar (12 credits; OPO course)

Other *recommended* courses for Secondary Education are

- [[PSY-222]] - Adolescent Psychology (required course for some majors)
- A foreign language

Candidates must maintain a 2.0 GPA in their secondary major courses and a cumulative 3.0 to remain in the Teacher Education Program.

### SECONDARY EDUCATION CERTIFICATION REQUIREMENTS BY ACADEMIC MAJORS

- **Biology:** Students seeking certification should follow the Bachelor of Arts (B.A.) curriculum in Biology. The B.A. curriculum offers flexibility so that students seeking secondary certification can include the professional semester of student teaching in the seventh or eighth semester. Students seeking secondary certification in Biology are required to take the following courses in the major:

In addition, students must take the required Education courses and special methods course ([[ED-371]]) followed by student teaching as listed under Secondary Education Requirements.

## DEPARTMENT OF EDUCATION

- **Chemistry:** Students seeking chemistry certification should follow the Bachelor of Arts (B.A.) curriculum in Chemistry. The B.A. curriculum offers flexibility so that students seeking secondary certification can include the professional semester of student teaching in the seventh or eighth semester. Students seeking secondary certification in Chemistry are required to take the following courses for the major:

In addition, students must take the required Education courses and special methods course ([[ED-371]]) followed by student teaching as listed under Secondary Education Requirements.

- **Earth and Space Science or General Science:** Students seeking Earth and Space Science certification should follow the Bachelor of Arts (B.A.) curriculum in Earth and Environmental Sciences. This curriculum emphasizes human interactions with the earth and environmental sciences while still requiring an extensive background in the sciences. The B.A. curriculum offers flexibility so that students seeking secondary certification can include the professional semester of student teaching in the seventh or eighth semester. Required science courses for the Earth and Space Science certification include the following courses for the major:

Optional course work for General Science certification

- [[BIO-121]] – Principles of Modern Biology I
- [[BIO-122]] – Principles of Modern Biology II or
- [[BIO-225]] – Population and Evolutionary Biology
- [[CHM-114]] – The Chemical Reaction Lab
- [[CHM-116]] – The Chemical Reaction

In addition, students must take the required Education courses and special methods course ([[ED-371]]) followed by student teaching as listed under Secondary Education Requirements.

- **English:** The B.A. curriculum offers flexibility so that students seeking secondary certification can include the professional semester of student teaching in the seventh or eighth semester. Students seeking secondary certification in English are required to take the following courses for the major:
- 12 credit hours in English courses at the 300-level, including [[ENG-397]] – Seminar

In addition, students must take courses in the following areas: major authors, period or movement, and genre and the required Education courses and [[ENG-393]]

- **Mathematics:** Students seeking Mathematics certification should follow the Teacher Certification Track and elect to pursue a Bachelor of Arts (B.A.) or Bachelor of Science (B.S.) degree. The curriculum for either offers flexibility so that students seeking secondary certification can include the professional semester of student teaching in the seventh or eighth semester. The requirements for each degree are found in this bulletin under the section for the Department of Mathematics, Physics and Computer Science. Students seeking certification in Mathematics must take the following courses for the major:

In addition, students must take [[PSY-101]] (General Psychology) and the required Education courses and special methods course ([[MTH-303]], offered in odd years only) followed by student teaching as listed under Secondary Education Requirements.

**Physics:** The B.A. curriculum offers flexibility so that students seeking secondary certification can include the professional semester of student teaching in the seventh or eighth semester. Students seeking secondary certification in Physics are required to take the following courses for the major:

- [[PHY-201]]– General Physics I ~ PHY 204 General Physics I lab
- [[PHY-202]]– General Physics II ~ PHY 205 General Physics II lab
- [[PHY-203]]–General Physics III ~ PHY 206 Modern Physics lab
- [[PHY-311]]–Thermodynamics
- [[PHY-312]]–Analytical Mechanics
- [[PHY-314]]–Quantum Mechanics
- [[PHY-391]]–Senior Projects I
- [[PHY-392]]–Senior Projects II
- [[MTH-111]] – Calculus I
- [[MTH-112]] – Calculus II
- [[MTH-211]]–Differential Equations
- [[MTH-212]] – Multivariable Calculus
- [[EE-337]]– Electromagnetics I
- [[EE-140]]– Scientific Programming or [[CS-125]]
- [[CHM-113]] – Elements and Compounds Lab
- [[CHM-115]] – Elements and Compounds

**Social Studies:** Students seeking Social Studies certification will major in either History or Political Science. The B.A. curriculum offers flexibility so that students seeking secondary certification can include the professional semester of student teaching in the seventh or eighth semester.

Students pursuing a History major and seeking secondary certification in Social Studies are required to take the following courses for the major:

- [[HST-102]] – Europe Before 1600
- [[HST-125]] – American History I
- [[HST-126]] – American History II
- [[HST-297]] – Historical Research and Methods
- [[HST-397]] – Seminar
- History Electives: 15 credits at the 300-level with the following distribution: two courses in American topics; two courses in non-American topics; and one course any topic.

The following courses are also required of History majors for Social Studies Certification:

- [[ANT-101]] – Introduction to Anthropology or [[ANT-102]] – Cultural Anthropology
- [[EC-101]] – Principles of Economics or [[EC-102]] – Principles of Economics II
- [[PS-111]] – Introduction to American Politics
- [[PS-141]] – PS-141 – Introduction to International Politics
- [[PSY-101]] – General Psychology
- [[PSY-222]] – Adolescent Psychology or [[PSY-221]] – Developmental Psychology
- [[SOC-101]] – Introduction to Sociology
- Mathematics – six credits ([[MTH-150]] – Elementary Statistics—is highly recommended)

In addition, students must take the required Education courses and special methods course (ED 381) followed by student teaching as listed under Secondary Education Requirements.

Students pursuing a Political Science major and seeking secondary certification in Social Studies are required to take the following courses for the major:

- [[PS-111]] – Introduction to American Politics
- [[PS-141]] – Introduction to International Politics
- [[PS-151]] – Governments of the World
- [[PS-260]] – Introduction to Political Thinking
- [[PS-265]] – Quantitative Reasoning for the Social Sciences
- [[PS-380]] – Political Science Senior Project
- Major Electives: 21 credits (nine credits must be at the 300-level)

The following courses are also required of Political Science majors for Social Studies Certification:

- [[ANT-101]] – Introduction to Anthropology or [[ANT-102]] – Cultural Anthropology
- [[EC-101]] – Principles of Economics or [[EC-102]] – Principles of Economics II
- [[HST-125]] – American History I
- [[HST-126]] – American History II
- [[PSY-101]] – General Psychology
- [[PSY-222]] – Adolescent Psychology or [[PSY-221]] – Developmental Psychology
- [[SOC-101]] – Introduction to Sociology
- Mathematics – six credits ([[MTH-150]] – Elementary Statistics—is highly recommended)

In addition, students must take the required Education courses and special methods course (ED 381) followed by student teaching as listed under Secondary Education Requirements.

**Spanish:** The B.A. curriculum offers flexibility so that students seeking PK-12 certification can include the professional semester of student teaching in the seventh or eighth semester. Students seeking PK-12 certification in Spanish must take the following courses for the major:

- [[SP-101]] – Elementary Spanish I
- [[SP-102]] – Elementary Spanish II
- [[SP-203]] – Intermediate Spanish I
- [[SP-204]] – Intermediate Spanish II
- [[SP-205]] – Conversation
- [[SP-206]] – Advanced Grammar, Stylistics, and Composition
- [[SP-208]] – Culture and Civilization of Spain
- [[SP-209]] – Cultures and Civilization of Latin America

## DEPARTMENT OF EDUCATION

- [[SP-220]] – Listening and Comprehension
- [[SP-298]] - Topics
- [[SP-301]] – Introduction to Latin American Literature
- [[SP-307]] – Survey of Spanish Literature I or [[SP-308]] – Survey of Spanish Literature II
- [[SP-398]] - Adv. Conversation through Literacy Texts
- [[SP-398]] - Mapp Hisp. Women Writing (WGS/HRS)
- [[ED-390]] - Spanish Capstone
- [[ANT-102]] – Cultural Anthropology
- [[PSY-221]] – Developmental Psychology

In addition, students must take the required Education courses and special methods course ([[ED-300]]) followed by student teaching as listed under Secondary Education Requirements.

### Special Education Major

This major will prepare you to teach students with special needs from Birth - 21 years of age.

### Mission

The mission of the Special Education Major is to develop competent, caring, and ethical educators who are able to meet the diverse learning needs of all students across a variety of age, grade, and ability levels. The preparation program will facilitate competence in areas of academic, social, and emotional growth, and methods of maximizing a student's capabilities through diagnostic and instructionally adaptive practices.

A Special Education major leads to certification in Special Education (PK-12) with an embedded minor in Reading Education. Special Education majors will have experiences working with students with a variety of learning differences and ages and in a variety of settings.

Total minimum number of credits required for a major in Special Education degree – 124.

### PK-12 Special Education Major

- [[FYF-101]] - First-Year Foundations
- [[PSY-101]] - PSY 101 General Psychology
- [[HST-101]] - Historical Foundations of the Modern World
- [[ENG-101]] – Composition
- [[ED-180]] - Educational Psychology
- AREA II (no lab)
- [[ED-190]] - Effective Teaching
- [[ED-191]] - Integrating Technology
- AREA IV
- AREA III
- AREA II W/Lab
- [[EDSP-210]] - Intro.to Spec Needs
- [[ENG-120]] - Introduction to Literature and Culture
- [[MTH-103]] - Mathematics for Elementary School Teachers I
- [[EDSP-263]] – Infants, Toddler, and Young Children with Special Needs (formerly ED 263)
- [[HST-125]] -American History I
- [[EDSP 225]] - Teaching Students with High Incidence Disabilities with field experience (*Cross List with EDSP 501*)
- [[MTH-104]] - Mathematics for Elementary School Teachers II
- [[ED-220]] Teaching Culturally and Linguistically Diverse Learners
- [[CS-115]] - Computers and Applications
- AREA I
- [[EDSP-250]] - Health, PE, Adapted Phys. Ed., & Safety
- [[EDSP-263]] -Infants, Todd, Child. w/sp needs
- [[ED-321]] - Lit Found I
- [[ED-325]] - Reading Strategies
- [[ED-324]] - Children & Adolescent Literature
- [[ED-322]] - Lit Found II
- [[EDSP 300]] - Sp. Ed Assess and Eval
- [[ED-341]] - Language Arts in Early Childhood and Elementary Education
- [[ED-323]] - Diff. Read. Methods
- [[EDSP-226]] -Teaching Students with Low Incidence Disabilities w/ field experience
- [[EDSP-302]] - Sec. Sp. Ed Transition
- [[EDSP-319]] - Principles of Law/Sp. Ed. Law (*Cross-listed with ED 519*)

- [[ED-380]] - Content Area Literacy
- [[EDSP-227]] - Behavior Intervention and Support w/field experience
- [[EDSP-388]] - Inclusionary Practices
- [[ED-390]] - Student Teaching with Seminar

#### Teacher Education Program Requirements for Student Teaching for All Majors and Minors:

1. Successful completion of the requirements for TEP Admission and Retention.
2. Achievement of the major and minor GPA requirements.
3. Attendance at the Student Teaching Placement Meeting in the semester prior to student teaching.
4. Completion of all required paperwork obtained at the Student Teaching Placement Meeting in the semester prior to student teaching.
5. Submission of all clearances with no offenses.
6. Completion of all required course work and fieldwork, with the exception of ED 390: Student Teaching and EDSP 388: Inclusionary Practice.
7. Registration form with advisor's signature for PK-4 and Middle Level Education majors; or
8. For Secondary Education majors or minors, approval of student teaching eligibility by the major content area academic department chair and advisor, the Education Department, and the Teacher Education Committee.

NOTE: Student teaching placement is contingent upon availability of supervisors and decisions of school administrators. Students may not student teach in a school from which they have graduated. Students are expected to reside within driving distance from Wilkes University when completing the student teaching semester. Students should not plan to work while student teaching.

#### Teacher Education Program Requirements for Graduation and Certification

1. Meet the major and minor GPA requirements.
2. Complete all Wilkes University and TEP requirements.
3. Successfully complete Student Teaching, including satisfactory scores on each category of the Pennsylvania Statewide Evaluation Form for Student Professional Knowledge and Practice (PDE 430);
4. Provide evidence of passing scores on all relevant PRAXIS II tests or PECT (PA Educator Certification Tests) for the appropriate area or subjects. NOTE: A student may graduate without passing all PRAXIS II tests or PECT but cannot obtain PDE certification.
5. Complete the Wilkes University application for graduation, which is provided by the University Registrar.
6. Review and complete the graduation audit with academic advisor and submit documentation to Student Services;
7. Submit PDE Application online via TIMS (Teacher Information Management System).

NOTE: Program Requirements may change at the discretion of the Pennsylvania Department of Education.

#### Information about the Exit Tests Required for Specific Certification Areas

PRAXIS II or PECT tests should be taken prior to student teaching and/or at the conclusion of studies in student's major field. Educational Testing Service (ETS) schedules administration of PRAXIS II tests at intervals throughout the year. Refer to [www.ets.org/praxis](http://www.ets.org/praxis) for specific dates, locations, and times. Pearson administers PECT tests for Special Education and PreK-4; information about specific dates, locations, and times is available at <http://www.pa.nesinc.com>.

Major	Test(s)	Required for	Passing Score
Secondary Education Certification (7-12) Praxis II			
Biology	Biology 7-12 Biology: Content Knowledge (5235)	Certification in Biology 7-12	147
Chemistry	Chemistry 7-12 Chemistry: Content Knowledge (5245)	Certification in Chemistry 7-12	154
Earth & Space Science	Earth and Space Science 7-12 Earth and Space Sciences: Content Knowledge (5571)	Certification in Earth & Space Science 7-12	157
General Science	General Science 7-12 General Science: Content Knowledge (5435)	Certification in General Science 7-12	146
English	English 7-12 English Language Arts: Content Knowledge (5038)	Certification in English 7-12	167
History	Social Studies 7-12 Social Studies: Content Knowledge (5081)	Certification in Social Studies 7-12	157

## DEPARTMENT OF EDUCATION

Political Science	Social Studies: Content Knowledge (0081 or 5081)	Certification in Social Studies 7-12	157
Mathematics	Mathematics 7-12 Mathematics: Content Knowledge (5161)	Certification in Mathematics 7-12	160
Physics	Physics 7-12 Physics: Content Knowledge (5265)	Certification in Physics 7-12	140
Spanish	Spanish P-12 Spanish: World Language (5195) and Fundamental Subjects: Content Knowledge (0511/5511)	Certification in Spanish PK-12	168 World Lang. & 150 Fundamental Subjects
Spanish	Spanish PK-12 ACTFL OPI/ OPIc/ProFluent+ and WPT: World Languages Intermediate High	Certification in Spanish PK-12	LTI
PA Grades 4-8 Middle Level: Modules 1, 2, 3, and Concentration Tests required for certification			
Middle Level	PA Grades 4-8: Module 1- Pedagogy (5153)	Certification in Middle Level	162
Middle Level	PA Grades 4-8: Module 2- English Language Arts & Social Studies (5154)	Certification in Middle Level	152
Middle Level	PA Grades 4-8: Module 3- Mathematics & Science (5155)	Certification in Middle Level	164
Middle Level	English PA Grades 4-8: Subject Concentration - English Lang.Arts (5156)	Certification in Middle Level: English & Lang. Arts	156
Middle Level	Science PA Grades 4-8: Subject Concentration - Science (5159)	Certification in Middle Level: Science	156
Middle Level	Social Studies PA Grades 4-8: Subject Concentration - Social Studies (5157)	Certification in Middle Level: Social Studies	150
Middle Level	Mathematics A Grades 4-8: Subject Concentration - Mathematics (5158)	Certification in Middle Level Mathematics	173

Elementary and Early Childhood			
Grades PreK-4: Modules 1, 2, 3 required for certification (Pearson <a href="http://www.pa.nesinc.com">http://www.pa.nesinc.com</a> )			
Grades 5-6 Add on Modules to PK-4 (ETS <a href="http://www.ets.org/praxis">www.ets.org/praxis</a> )			
Elem and Early Childhood	Pre-K-4 Module 1: Child Dev, Assessment, Professionalism (8006)	PreK-8 Certification	197
Elem and Early Childhood	Pre-K-4 Module 2: Lang, Social Stud, Arts (8007)	PreK-8 Certification	193
Elem and Early Childhood	Pre-K-4 Module 3: Math, Science, Health (8008)	PreK-8 Certification	193
Elem and Early Childhood	PA Grades 4-8: Module 2- English Language Arts & Social Studies (5154)	PreK-8 Certification	152
Elem and Early Childhood	PA Grades 4-8: Module 3- Mathematics & Science (5155)	PreK-8 Certification	164
Special Education Certification Tests (ETS <a href="http://www.ets.org/praxis">www.ets.org/praxis</a> )			

Special Education PK-12	Core Knowledge & Applications (5354)	PK-12 Certification	
-------------------------	--------------------------------------	---------------------	--

Special Education    Fundamental Subject: Content Knowledge (5511)    PK-12    150  
Certification

# DEPARTMENT OF ENGLISH

## English Department

**Chairperson:** Dr. Mischelle Anthony

## Faculty

**Professors:** Kuhar

**Associate Professors:** Anthony, Davis, Hamill, Kelly, Stanley

**Faculty Emeriti:** Fiester, R. Heaman, Karpinich

# **DEPARTMENT OF FINANCE, ACCOUNTING AND MANAGEMENT**

## **Department of Finance, Accounting and Management**

**Chairperson:** Dr. Ruth Hughes

### **Faculty**

**Professors:** Rexer, Taylor

**Associate Professors:** Chisarick, Frear, Hughes, Matus, Wang

**Assistant Professors:** Bui, Kim, Muszynski

**Faculty of Practice:** Ghai, Pyke

**Faculty Emeriti:** Raspen, Liuzzo

**Director of Graduate Programs:** Dr. Marianne Rexer

**Director of Personal & Professional Development Programming:** Bridget Turel

- [Accounting](#)
- [Financial Investments](#)
- [Corporate Finance](#)
- [Management](#)
- [Business Analytics Minor](#)
- [Supply Chain Management Minor](#)

# DEPARTMENT OF INTEGRATIVE MEDIA, ART AND DESIGN

## Department of Integrative Media, Art and Design

### Credit Requirements

Total minimum number of credits required for a major in Digital Design + Media Art leading to the B.F.A. or B.A. degree -122

Total minimum number of credits required for a minor in Digital Design + Media Art - 21

Total minimum number of credits required for a minor in Studio Art - 18

Total minimum number of credits required for a minor in Art History - 18

### Digital Design and Media Art Major

The transformation and convergence of media, information, technology, art, culture, business, and entertainment has created a global growth market that is reorienting the ways in which we learn about ourselves and others, conduct business, express ourselves, and play.

Wilkes University requires a minimum of 122 credit hours for a B.F.A. and B.A. degree in Digital Design + Media Art. These include completion of the General Education Requirements and 40 credit hours of Integrative Media Core courses. The B.A. also requires the completion of a minor in one of the following cognate disciplines: Art; Business Administration; Communication Studies; Computer Science; English; Entrepreneurship; Marketing; Theatre Arts (Acting and Directing); or Theatre Arts (Theatre Design).

The B.F.A. requires the General Education Requirements and 40 credit hours of Integrative Media Core courses. Also, the cognate minor in art and 21 credit-hours of art- or design-based electives, plus two alternate DDMA core courses as defined. A minimum of 2 art history courses are also included in the requirement totaling to 65% of courses taken in the topics of art and design.

The Digital Design + Media Art major uses integrated product development as a conceptual framework. Simulating real working environments, students will come together to work in teams, combining various skills to fill core positions including production manager, producer, director, art director, editor, motion designer, writer, interactive guru, coder, animator, f/x artist, etc., as in a production studio. Students will develop a significant portfolio to present to prospective employers within deadline-oriented, high-end studio environments as in feature film, broadcast, interactive, government, corporate, and independent production companies.

The Integrative Media major core curriculum consists of at least 40 credits hours of study comprising the following courses:

[[ART-111]]	Fundamentals of Color and Design	3 cr
[[BA-153]]	Management Foundations I	3 cr
[[CS-125]]	Computer Science I	4 cr.
[[COM-102]]	Principles of Communication	3 cr
[[ENG-202]]	Technical & Professional Writing	3 cr
[[ENT-203]]	Opportunity Identification: Creativity, & Innovation	3 cr
[[IM-101]]	Integrative Media Foundations I	3 cr
[[IM-201]]	Integrative Media Foundations II	3 cr
[[IM-301]]	Principles of Motion and Layering	3 cr
[[IM-302]]	Integrative Media Principles of Interactivity	3 cr
[[IM-320]]	Integrative Media Concept Development & Processes	3 cr
[[IM-391]]	Integrative Media Project I*	3 cr
[[IM-392]]	Integrative Media Project II*	3 cr
[[IM-399]]	Cooperative Education	1-6 cr.
[[IM-400]]	Integrative Media Portfolio Capstone*	3 cr

\*Each of these courses must be completed with a minimum final grade of 2.5 in order to meet degree requirements.

### Cognate Minors

Students majoring in Digital Design + Media Art are required to complete a minor in a cognate discipline (Art, Business Administration, Communication Studies, Computer Science, English, Entrepreneurship, Game and Emergent Technology, Marketing, or Theatre Arts – Acting and Directing, or Theatre Arts – Theatre Design). This minor area of study provides for each

## DEPARTMENT OF INTEGRATIVE MEDIA, ART AND DESIGN

student a specialized skill concentration within the Digital Design + Media Art program experiences. Students will be continually asked to use the knowledge and skills from their cognate minor discipline within the Integrative media project team structure. To the extent possible, courses in each cognate minor have been selected to augment the Digital Design + Media Art major program.

Students interested in pursuing a double major should consult carefully with their academic advisor. Also, available for experience is involvement in Studio 20. This student operated production club works with non-profit, start-up, and internal Wilkes clients to produce a variety of creative content in a real-world production setting.

# **DEPARTMENT OF MARKETING, SPORTS MANAGEMENT, AND HOSPITALITY LEADERSHIP**

## **Department of Marketing, Sports Management and Hospitality Leadership**

**Chairpersons:** Dr. Woojun Lee

### **Faculty**

**Associate Professors:** Lee, Xiao

**Assistant Professors:** Lee, Ma, Tessema

**Faculty Emeriti:** Alves, Batory, Liuzzo, Raspen

**Director of Allan P. Kirby Center:** Charles Pierce

**Director of Graduate Programs:** Karen Alessi

**Director of SBDC:** Dorothy Lane

**Director of Personal & Professional Development Programming:** Bridget Turel

- [Marketing Major](#)
- [Marketing Minor](#)
- [Entrepreneurship Minor](#)
- [Leadership Minor](#)
- [Sports Management Major](#)
- [Sports Management Minor](#)
- [Hospitality Leadership Major](#)
- [Hospitality Leadership Minor](#)
- [Personal Professional Development](#)

# **DEPARTMENT OF MATHEMATICS, PHYSICS AND COMPUTER SCIENCE**

## **Department of Mathematics, Physics and Computer Science**

**Co-Chairpersons:** Dr. Barbara A. Bracken and Dr. John Harrison

### **Faculty**

**Professors:** Kong

**Associate Professors:** Bracken, Chepushtanova, Harms, Harrison, Kapolka, Lew, Lucent, Nazzal, Sullivan, Young

**Assistant Professor:** Luo, Taherzadeh

**Faculty of Practice:** Gapinski, Pryor

**Faculty Emeriti:** Berard, Koch, Merrill, Tillman, Wong

# DEPARTMENT OF MECHANICAL & ELECTRICAL ENGINEERING

## Department of Mechanical & Electrical Engineering

Chairperson: Dr. Henry Castejon

### Faculty

**Professors:** Castejon, Ghorieshi, Razavi, Srinivasan

**Associate Professors:** Bednarz, Ghamari, Sabouni, Zhu

**Assistant Professors:** Anaya-Archila, Baddour, Du, Mu, Sha

**Faculty of Practice:** Greiner, Taylor

**Office Assistant:** Colavitti

### Mission

Our mission is to enable the professional development of students' abilities for analysis, design, and innovation. Our department emphasizes engineering as a creative, hands-on profession. Teamwork, ethics, and communication permeate the educational experience to enhance the graduate's technical problem solving ability. Wilkes Engineering graduates will possess the vision, confidence, and will to pursue and assume increasing responsibilities in engineering and leadership within a global context.

### Vision

Our vision is to be recognized as one of the finest engineering programs in Pennsylvania.

### Values

We foster the values of Wilkes University: mentorship, scholarship, diversity, innovation, and community. Our unique contribution as an engineering department is that we advance the university values in practical ways, specifically:

- **Preparedness:** Prepare students to enter the workforce as engineers with skills and knowledge relevant to economic, environmental, social, and global needs.
- **Mentorship:** Create a nurturing environment to help students reach their full potential in academics, innovation, and career aspirations.
- **Integrity:** Teach students to make ethical professional choices, and live this value ourselves in our interactions with students and with each other.
- **Collaboration:** Partner with industry and community in order to improve our programs, find and fund research projects, and provide opportunities for students.
- **Hands-on Experience:** Encourage students to design, create, and experiment to reinforce their classroom learning.
- **Community:** Design our programs and devise solutions to address challenges within our community and improve the community through our involvement.

### Academic Programs

Total minimum number of credits required for a:

- Major in Electrical Engineering leading to the B.S. degree – 130
- Major in Engineering Management leading to the B.S. degree – 130
- Major in Mechanical Engineering leading to the B.S. degree – 130
- Minor in Computer Engineering – 19-21
- Minor in Engineering Management – 21

Engineering is a creative profession in which technological problems are met within the framework of scientific possibilities, economic constraints, and cultural preferences. The Wilkes University Mechanical Engineering (ME) and Electrical Engineering (EE) programs provide the knowledge and investigative skills, both theoretical and experimental, to address professional and societal needs responsibly through modern curricula, hands-on experiences, cooperative education and internships, and a personalized academic environment. The Engineering Management program blends engineering and business and prepares students for project, process, and technical management careers. The Engineering Management minor is available to any student but is of special interest to those pursuing a traditional engineering degree who also wish to develop business and technical management skills. The Computer Engineering minor is a highly focused option for students majoring in engineering or other related disciplines. Students intending to pursue any engineering major are encouraged to be well prepared in the sciences and mathematics.

The Wilkes University Bachelor of Science in Mechanical Engineering and the Bachelor of Science in Electrical Engineering programs maintain professional accreditation by the Engineering Accreditation Commission of ABET (ABET, 415 North Charles Street, Baltimore, MD 21201; Telephone: (410) 347-7700).

The department also offers a **BS/MS 4+1 option** for students to earn a Master of Science in Mechanical Engineering degree in one additional year. Program details are provided in the "Special Programs" section of this bulletin.

### Honors in Mechanical or Electrical Engineering

Upon the recommendation and approval of department faculty, the honor student in Mechanical Engineering or Electrical Engineering will be recognized upon completion of the following requirements:

- achievement of an overall Grade Point Average (GPA) of 3.25 or better;
- achievement of a Major Field Average (MFA) of 3.75 or better;
- receipt of grades of 2.00 or better in every course comprising the Major Field Average.

The distinction "Honors in Mechanical Engineering" or "Honors in Electrical Engineering" will be recorded on the student's transcript upon graduation.

### Student Activities

Professional societies in which students participate include the American Society of Mechanical Engineers (ASME), the Institute of Electrical and Electronics Engineers (IEEE), SAE International, the Society of Women Engineers (SWE), the Pennsylvania Society of Professional Engineers (PSPE), and the American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE). The Engineering Student Activities Committee (ESAC) is a club that encourages interaction and skill development among all engineering majors. Each group hosts various events and competitions throughout the academic year. Students are invited to join the Wilkes University student chapters of these organizations, which offer excellent opportunities for leadership, networking, and professional development.

### Department Transfer Credit Policy

Students requesting transfer credit must follow all Wilkes University policies as outlined in the current bulletin. No credits will be transferred to Wilkes University unless their prerequisites have been satisfied. Transfer credits must follow the proper course sequence as specified in the Wilkes bulletin. For transfer credits to be awarded, the required prerequisite(s) must be satisfied during the first year at Wilkes. A current Wilkes student requesting a course for transfer should first consult his/her advisor and complete the proper paperwork with required signatures before attempting the course.

### Cooperative Education

An important feature of all engineering programs at Wilkes University is the Cooperative Education experience, a valuable option usually scheduled during the junior year. An internship is encouraged through summers and senior year even if it is not taken for credit (students should register for the zero-credit co-op in these instances). Participants derive three advantages from any co-op experience: a determination of how they wish to fill their elective courses; an enhanced ability to conduct a job search; and a greater recognition that career opportunities may be stimulating and fulfilling as well as financially rewarding. The Cooperative Education opportunity provides a natural extension of the college experience. The co-op option for credit may be taken only one time for either three (3) or six (6) credits as described below. The zero-credit option is encouraged for any internship in which a student is not participating for credit and may be taken as many times as a student wishes. All registered internships at any credit level, including the zero-credit option, appear on a student's transcript.

1. The requirements for the **0-credit hour** co-op are as follows:
  - a. The co-op project should distinctly demonstrate an **engineering** component.
  - b. The working hours should not be less than **10 hours** per week and the total **150 hours** should spread out at least 10 weeks.
  - c. The student should make a **10-minute** final oral presentation to a general audience.
2. The requirements for the **3-credit hours** co-op are as follows:
  - a. The co-op project should distinctly demonstrate an **engineering** component.
  - b. The student, working with his or her manager, should submit bi-weekly project reports to the faculty advisor.
  - c. The working hours should not be less than **10 hours** per week and the total **150 hours** should spread out at least 10 weeks.
  - d. The student should make a **10-minute** final oral presentation to a general audience.
  - e. The student should submit a final project report of approximately **15 pages** (double-spaced) for the body of the report with no limit on details to be included in an appendix. The final report should include at least the background of the company, project background, technical work, and project reflection.

## DEPARTMENT OF MECHANICAL & ELECTRICAL ENGINEERING

3. The requirements for the **6-credit hours** co-op are as follows:
  - a. The co-op project should distinctly demonstrate an **engineering design & analysis** component.
  - b. The student, working with his or her manager, should submit bi-weekly project reports to the faculty advisor.
  - c. The working hours should not be less than **20 hours** per week and the total **300 hours** should spread out at least 10 weeks.
  - d. The student should make a **15-minute** final oral presentation to a general audience.
  - e. The student should submit a final project report of approximately **25 pages** (double-spaced) for the body of the report with no limit on details to be included in an appendix. The final report should include at least the background of the company, project background, technical work, and project reflection.

### Student in Major Classification Categories

Students attain Sophomore standing after successfully completing all Freshman-year required engineering courses.

Students attain Junior standing after successfully completing all Sophomore-year required engineering courses.

Students attain Senior standing after successfully completing all Junior-year required engineering courses.

# **DIVISION OF BEHAVIORAL AND SOCIAL SCIENCES**

## **Division of Behavioral & Social Sciences**

**Chairperson:** Dr. Kyle L. Kreider

### **Faculty**

**Professors:** Kreider, Schicatanano, Tindell, Tuttle

**Associate Professors:** Maieran, Miller, Newell, Seeley, Thomas, Wilczak

**Assistant Professors:** Lacey, Sell, Toll

**Faculty Emeriti:** Baldino, Bohlander, Charnetski, DeYoung, Farrar, Garr, Merryman, Natzke, Stetten, Tuhy

# **DIVISION OF GLOBAL CULTURES: HISTORY, LANGUAGES & PHILOSOPHY**

## **Division of Global Cultures: History, Languages & Philosophy**

**Chair:** Dr. Chris Zarpentine

### **Faculty**

**Professors:** Bianco (Spanish), Morrison (Global Cultures), Riggs (History), Winkler (Anthropology)

**Associate Professors:** Garcia (Spanish), Kuiken (History), Paul (Philosophy), Shimizu (History), Zarpentine (Philosophy)

**Assistant Professors:** Chamberlain (History), Sopcak-Joseph (History)

**Faculty Emeriti:** Berlatsky (History), Hepp (History), Hupchick (History), Karpinich (Foreign Languages), Rodechko (History), Wenger (History)

# DIVISION OF PERFORMING ARTS

## Division of Performing Arts

**Chairperson:** Mr. Jon Liebetrau

The Division of Performing Arts comprises the programs in Theatre, Musical Theatre, Music and Dance.

### Theatre Faculty

**Associate Professor:** *Liebetrau*

**Assistant Professors:** *Morooney, Scoates*

**Master Electrician:** *Moore*

### Dance Faculty

**Director of Dance:** Degnan-Boonin

**Faculty of Practice:** Esgro

### Music Faculty

**Choral Director:** Rupcich

**Voice:** Minsavage

The Division of Performing Arts offers a B.F.A. degree in Musical Theatre, a B.A. degree in Theatre Arts, a B. A. degree in Theatre Design and Technology and minor areas of study in Dance, Music, and Theatre. Students pursuing a B.A. in Theatre Arts may also elect to add a concentration in Acting & Directing, Design & Technology, or Dance.

Total minimum number of credits required for a major in Musical Theatre leading to the B.F.A. degree — 122

Total minimum number of credits required for a major in Theatre Arts leading to the B.A. degree — 121

Total minimum number of credits required for a major in Theatre Design and Technology leading to the B.A. degree — 121

Total minimum number of credits required for a minor in Theatre Arts — 18

Total minimum number of credits required for a minor in Dance — 18

Total minimum number of credits required for a minor in Music — 18

### Musical Theatre Major

The B.F.A. in Musical Theatre provides pre-professional training in voice, acting, dance, and music theory as a foundation to a career in musical theatre. The program also offers opportunities for advanced study in each area. The Musical Theatre major combines the liberal arts core curriculum with the required 67 credits of theatre classes and 21 credits of electives.

### Theatre Arts Major

The B.A. in Theatre Arts program educates students in a variety of theatre disciplines such as performance, design, production, theatre history, literature and criticism. Theatre Arts majors may opt to follow a course sequence in the following concentrations: Acting & Directing, Design & Tech, and Dance. The program combines the liberal arts core curriculum with the required 45 credits of theatre classes and 39 credits of electives. Theatre Arts majors may opt to use their electives to double major in another field.

### Theatre Design and Technology Major

The B.A. in Theatre Design and Technology provides pre-professional training in the fundamentals of scenic design, lighting design, costume design and technical production and provides in-depth study and experience through classroom and practical application. The program combines the liberal arts core curriculum with the required 60 credits of theatre classes and 24 credits of electives.

# INTERDISCIPLINARY MAJORS

## Interdisciplinary Majors

### Individualized Studies

This program is designed for those capable and motivated students who wish to undertake a course of study that cannot be provided by any of the offered bachelor's degree programs. The student will be responsible for submitting to the Academic Studies Committee no later than the first semester of the student's junior year 1) an Individualized Studies request form and 2) a coherent written proposal for a specialized program of study. The Individualized Studies request form is available in the Office of the Registrar.

The proposal should articulate what the program of study is, why the existing structured degree programs do not fulfill the requirements of the specialized program of study, and how the student will make use of existing Wilkes courses to accomplish his or her degree requirements. The proposal may be composed solely by the student; the student should, however, seek the advice of his or her advisor in formulating the plan. The program of studies may incorporate courses offered by all departments at the University and must be of a duration to require, minimally, three additional semesters of full-time study for completion. NOTE: All prerequisites for courses included in the specialized program must be met.

The student's record must demonstrate consistent excellence in academic achievements. In addition, with approval of the appropriate department chairperson and the Academic Standards Committee, academic credit may be assigned for Prior Learning Experience, that is, learning achieved by means of appropriate off-campus study, work, and travel, or for knowledge and skills developed prior to enrollment at the University. For information on Prior Learning Assessment Policies and Procedures at Wilkes University, contact the Prior Learning Assessment Coordinator in the University College.

The entire proposal must be submitted to and approved by the student's advisor(s) and by the Academic Standards Committee before work is begun on the specialized program of study.

### Degree Requirements

The minimal requirements for the baccalaureate degree in Individualized Studies are 1) the accumulation of at least 120 credits, 2) completion of the Wilkes University General Education Curriculum, including a capstone experience, and 3) the completion of an appropriate number of junior- and senior-level courses.

For examples of existing specialized and expanded degree programs, see descriptions of the following majors: Biology with a minor in Earth and Environmental Sciences and a Marine Science option; Computer Information Systems; Criminology; Health Sciences; Integrative Media; International Studies; Medical Technology; Musical Theatre; and Nursing.

# INTERDISCIPLINARY MINORS

## Interdisciplinary Minors

### Women's and Gender Studies

Director: Dr. Jennifer Thomas

Women's and Gender Studies Coordinating Committee:

Dr. Robert Bohlander, Psychology; Dr. Barbara Bracken, Mathematics; Dr. Mia Briceño, Communication Studies; Dr. Helen Davis, English; Dr. Maria Grandinetti, Nursing; Dr. Andreea Maierean, Political Science; Dr. Ellen Newell, Psychology; Heather Sincavage, Integrative Media, Art and Design; Dr. Wagih Taylor, Sidhu School of Business; Dr. Jennifer Thomas, Psychology; Dr. Robert Tuttle, Sociology; Dr. Andrew Wilczak, Sociology; Dr. Linda Winkler, Anthropology

Total minimum number of credits required for a minor in Women's and Gender Studies — 18.

The Women's and Gender Studies Program at Wilkes University welcomes students interested in the study of women, gender, sexuality, and feminism. This interdisciplinary program offers courses in a wide range of subject areas in the Social Sciences, Humanities, Sciences, and Contemporary Arts.

The Women's and Gender Studies Minor focuses on expanding traditional scholarship by studying the ways in which gender has structured intellectual and social traditions. The minor is designed to add a professionally and personally valuable concentration for students majoring in such areas as business, sociology, English, communications, psychology, and nursing, as well as for students in pre-medical and pre-law courses of study.

Students may earn the minor by taking Women's Studies 301 ([WS-301]) in their junior or senior year and an additional 15 hours of designated Women's and Gender Studies eligible courses. Students are additionally required to complete a capstone research project that addresses gender as a category of analysis in the Women's Studies 301 course. It is expected that students will have completed several Women's and Gender Studies eligible courses before enrolling in Women's Studies 301.

Students who wish to declare the minor in Women's and Gender Studies should contact the Director of Women's and Gender Studies Program.

Minors are also available in a variety of other fields including, but not limited to, Aerospace Studies, Art, Computer Engineering, Criminology, Dance, International Studies, Music, Neuroscience, Policy Studies, and Statistics. See the appropriate sections in this bulletin for details about these areas of minor study.

# SPECIAL PROGRAMS

## Special Programs

- [Army Military Science](#)
- [Bioengineering 4 + 1](#)
- [MBA 4 + 1](#)
- [Mechanical Engineering 4 + 1](#)
- [PharmD/MBA](#)
- [Pre-Law Studies](#)
- [Other Special Programs](#)

# THE PASSAN SCHOOL OF NURSING

## The Passan School of Nursing

**Dean:** Dr. Deborah A. Zbegner

**Chair:** Dr. Emily Havrilla

### Faculty

**Associate Professors:** Grandinetti, Havrilla, Hirthler, Lucas, Miskovsky, Sweeney, Victor

**Assistant Professors:** Burry, Jones, Koronkiewicz

**Faculty of Practice:** Cheslick, Hauze, Musto, Olengenski

**Visiting Instructor:** Gaydos

**Faculty Emeriti:** Druffner, Malkemes, Merrigan, Schreiber, Stewart, Zielinski

**Director of Clinical Nursing Simulation Center:**

**Accelerated Baccalaureate Nursing Program Coordinator:** Sunday

**LPN/BSN Program Coordinator:** Pacuska

**Student Affairs Coordinator:** Drozdis

# THE SCHOOL OF PHARMACY

## The School of Pharmacy

**Interim Dean:** Shelli Holt-Macey

**Associate Deans:** Dr. Jennifer Malinowski, Dr. Julie Olenak **Chairperson, Department of Pharmaceutical Sciences:** Dr. Marie Roke-Thomas **Chairperson, Department of Pharmacy Practice:** Dr. Judith DeLuca **Interim Director of Experiential Education:** Dr. Kristina Powers

## Faculty

**Professors:** Bolesta, DeLuca, Olenak

**Associate Professors:** J. Ference, K. Ference, Franko, Malinowski, Manning, McManus, Pezzino, Roke-Thomas, Trombetta, VanWert

**Assistant Professors:** Gruver, Kieck, Lewis, Mahato, Nguyen, Patel, Tucker, Warunek

**Instructors:** Holt-Macey, Powers

**Professor Emeriti:** Kibbe, Witczak

**Dean Emeriti:** Graham

The School of Pharmacy offers a program of professional study leading to the Doctor of Pharmacy (Pharm.D.) degree. The purpose of the program is to prepare graduates for a successful, lifelong career providing contemporary, patient-centered care in a variety of healthcare settings.

The U.S. healthcare system continues to undergo rapid change. The role of pharmacists and medication therapy in the healthcare system is evolving. We strive to prepare graduates who have the knowledge and skills to engage in innovative practice today and the desire for lifelong learning that will prepare them for what comes in the future.

We instill a strong foundation of knowledge in the basic sciences (e.g., pharmaceuticals, pharmacology, medicinal chemistry, anatomy and physiology), clinical sciences (e.g., therapeutics, pharmacokinetics, pathophysiology), and social sciences (e.g., psychology, sociology, economics, health, policy, management) while honing the skills that are needed to provide optimal care for patients (e.g., physical assessment, patient counseling, clinical decision-making).

Our vision is to develop meaningful interprofessional education (IPE) activities where all students participate in both experiential and didactic settings. Through IPE, students understand the roles and responsibilities of health care professionals that are essential to patient care, gain first-hand experience in interdisciplinary collaboration, and develop their own individual professional identity as part of a larger team. These competencies are designed so that graduating students are trained to work as a team in optimizing patient health and outcomes. The goal of the IPE curriculum is to provide students with a set of skills and attitudes necessary to practice in an interprofessional environment.

While knowledge and skills are essential, we also ensure that our students develop as responsible citizens with highly professional demeanors who advocate, serve, care, and lead.

# BACHELORS

## ACCELERATED BACCALAUREATE PROGRAM

### Accelerated Baccalaureate Program for Second Degree Students

This online program admits students who already hold a baccalaureate degree in a discipline other than nursing and have no previous nursing education. Upon successful completion of the program, students are awarded a Bachelor's Degree with a Major in Nursing (BSN). Completion of the requirements for this program prepares a beginning, self-directed practitioner who is capable of initiating, implementing, and revising nursing care. The curriculum is designed for the adult learner and builds upon earlier educational experiences in the humanities, social studies, and sciences. It is based on the development of the individual and the family within a community.

The curriculum flows from both the University's and the School's philosophies and addresses the nursing needs of the community and the nation. It provides opportunity for individuals with changing career aspirations, and it is designed to prepare the learner for a variety of roles in professional practice. Following completion of the prerequisite courses, the program can be completed in three full-time semesters.

Graduates are educationally eligible to take the National Council Licensure Examination for Registered Nurses (NCLEX-RN), which must be successfully completed for registration as a professional nurse.

#### Prerequisites

- Applicants must have received a baccalaureate degree from an accredited institution with a minimum undergraduate GPA of 3.0.
- Students who have graduated from an accredited institution and meet all other admission requirements will be evaluated on a case-by-case basis. Admission is not guaranteed.
- The following courses are required prerequisites:
  - a 3-credit course in Elementary Statistics
  - a 3-credit course in Nutrition
  - two semesters of Anatomy and Physiology, with related laboratory experiences
  - one semester of chemistry, with related laboratory experience
  - one semester of microbiology, with related laboratory experience
  - a minimum grade of 2.5 is required in the sciences. Students will be allowed to repeat a science course one time for a grade less than 2.5. A student who achieves less than a 2.5 in two nurses courses or less than 2.5 in the repeat of the same science course will not be able to progress into the nursing program.
- Applicants whose native language is not English or who hail from non-English-speaking countries must

submit satisfactory scores on the TOEFL along with their applications.

- Check with the ABSN Program Coordinator about the aspect of screening/admission into the program.

#### Length of the Program

- The total number of credits required to complete the Accelerated Baccalaureate Program for Second Degree Students, beyond the pre- and co-requisite requirements, is 48.
- The Accelerated Baccalaureate Program for Second Degree Students can be completed in three full-time semesters.

#### Academic Progression

Follow the Admission and Progression policy of the Passan School of Nursing.

[[NSG-330]] : Nursing Practice I - Course components: Fundamentals of Nursing & Medical-Surgical I

[[NSG-331]] : Nursing Practice II - Course components: Nursing Care of the Psychiatric Mental Health Client & Medical-Surgical II

[[NSG-332]] : Nursing Practice III - Course components: Care of the Childbearing Family (Obstetrics), Care of the Developing Family (Pediatrics) & Leadership/Population Health Nursing

A student may be required to submit, at any time, a health evaluation by a physician, physician assistant, or nurse practitioner if evident limitations interfere with the student's practice or learning.

#### Accelerated Baccalaureate Program for Second Degree Students\*- Required Courses and Recommended Course Sequence

First Semester	Credits
[[NSG-211]] Physical Assessment	3
[[NSG-330]] Nursing Practice I	12
<b>Total Credits</b>	<b>15</b>

Second Semester	
[[NSG-224]] Pharmacotherapeutics and Decision-Making in Nursing	3
[[NSG-331]] Nursing Practice II	12
[[NSG-341]] Nursing Informatics	3

## Accelerated Baccalaureate Program

<b>Total Credits</b>	<b>18</b>
----------------------	-----------

<b>Third Semester</b>	
[[NSG-332]] Nursing Practice III	12
[[NSG-342]] Introduction to Nursing Research	3
<b>Total Credits</b>	<b>15</b>

\*Clinical Hours will be distributed among Acute, Chronic, and Community Settings

## Additional Nursing Expenses and Fees for Accelerated Baccalaureate Students

Item	Semester One	Semester Two	Semester Three
National Student Nurses Association (NSNA)	\$45		
Uniform Scrub Top	\$30 - \$35		
Uniform Scrub Pants	\$25		
Uniform Shoes	\$40 and up		
Stethoscope, penlight, bandage scissors	\$55 - \$85		
Hemostats	\$6		
BP Cuff	\$40		
AHA CPR Certification for Health Care Providers	\$35 and up		
Castle Branch Profile	\$175 and up		
Criminal Record Check	\$40 and up		
PA Child-Abuse-History Clearance	\$10		
Physical, Immunizations, and PPD	\$100 and up*		
Urine for Drug Screen	\$50 and up		

The School of Nursing Faculty reserves the right to revise the Nursing Major requirements as deemed necessary at any time to prepare students for new and emerging roles in nursing.

## License to Practice

Candidates for a license to practice in the health field are required to have "good moral character." The Pennsylvania State Board of Nursing takes into consideration, when deciding on the applications for registration and a license to practice under their jurisdiction, whether candidates have been convicted of any felony or misdemeanor. Candidates are referred to the regulations specified in the Professional Nurse Law (P.L. 317, No. 69).

# ACCOUNTING

## Accounting Major

**Coordinator:** Prof. Cynthia Chisarick

Total minimum number of credits required for a major in Accounting leading to the B.S. degree — 122.

Total minimum number of credits required for a minor in Accounting — 18.

The Jay S. Sidhu School of Business and Leadership offers a major in Accounting, providing the necessary background for an entry-level professional position in public, private, or governmental accounting. Students receive the necessary educational background to compete successfully for placement in graduate and professional schools and for licensure as certified public accountants and certified management accountants. Those choosing a career in administration receive the managerial training necessary for success in a full range of leadership roles.

The Accounting curriculum comprises seven tiers. The first tier begins with a comprehensive study of the arts, sciences, mathematics, communications, and humanities. This liberal arts core is a common experience to all majors and provides the basis for a broadly educated individual. To become competitive, effective organizational leaders and self-fulfilled individuals, Accounting graduates are expected to possess the skills and knowledge acquired through this liberating exposure to the arts, sciences, mathematics, and the humanities.

The second tier of the curriculum is the Sidhu School Foundation courses, which transmit a common educational experience to all Majors within the Sidhu School by addressing topics that are recognized to be basic and necessary to all practicing professionals.

The third tier of educational experience provides a general background in statistical, financial, and managerial techniques.

The fourth tier of basic educational skills relates to the field of financial and managerial accounting. A rigorous thirty-six credit hours are devoted to current accounting theory and applications through the use of texts, computer applications, cases, and practical experience. The sequence begins with introductory level accounting and progresses through intermediate, tax, cost, auditing, and accounting information systems.

A fifth tier utilizes an accounting internship to bond classroom knowledge with practical experience. Most students are placed with public accounting firms where it is possible to experience many areas of accounting as well as a broad range of business problems in a short time span. Additionally, for students with a more specialized interest, accounting internships are also available in banks, in private industry, and with the government. The Wilkes internship program is the oldest in Northeast Pennsylvania, and most successful interns have been placed in positions of their choice, including the large international accounting firms.

The sixth tier requires completion of at least 4 credits geared toward the undergraduate student's Personal & Professional

Development. These courses are intended to prepare students to recognize and use their unique strengths and skills while allowing them to reflect and prepare for a meaningful life and career.

A seventh tier, a five-and-a-half-year BS/M.B.A. program, is available for students who wish to meet the needs of a professional in the 21st century. This program offered by The Jay S. Sidhu School of Business and Leadership has been developed to encompass each of the above-mentioned levels, along with an additional year and a half of graduate course work. Upon successful completion, the student will have earned a Bachelor of Science (B.S.) degree in Accounting and a Master of Business Administration (M.B.A.) degree with 161 credit hours of course work.

Students in Sidhu School majors and minors must complete all required ACC courses at Wilkes University, except ACC 161 and ACC 162 which may be transferred from accredited institutions if they are determined to be the academic equivalent of the course offered at Wilkes University. Any other course that a student seeks to transfer as an ACC course would only be eligible to transfer as ACC 198, ACC 298 or ACC 398, depending on the rigor of the course.

Accounting alumni can be found in public accounting firms ranging in size from those of individual practitioners to international organizations. Many of our graduates who began their careers in public accounting have since moved into leadership positions with government or private industry.

The Accounting major in The Jay S. Sidhu School of Business and Leadership at Wilkes University will provide an individual with the combined educational skills to be a future success as a leader in the accounting profession, industry, or government.

The Accounting major requires an additional 30 credits, including:

### Requirements for the Accounting Major (30 credits total) Credits

[[ACC-201]] – Intermediate Accounting I	3
[[ACC-202]] – Intermediate Accounting II	3
[[ACC-301]] – Advanced Financial Accounting	3
[[ACC-311]] – Advanced Managerial Accounting	3
[[ACC-321]] – Taxes	3
[[ACC-322]] – Advanced Taxes	3
[[ACC-331]] – Auditing	3
[[ACC-341]] – Accounting Information Systems	3
[[BA-336]] – Advanced Topics in Business Law	3
[[MGT-352]] – Productions & Operations Management	3

## Accounting

### Accounting Major- Required Courses and Recommended Course Sequence

#### First Semester Credits

[[ACC-151]] Integrated Management Experience I	3
[[CS-115]] Computers and Applications	3
[[ENG-101]] Composition	4
[[FYF-101]] First-Year Foundations	3
[[EC-101]] Principles of Economics	3
[[PPD-101]] Personal and Professional Development I	1
	<b>17</b>

#### Second Semester

[[ACC-152]] Integrated Management Experience II	3
[[COM-101]] Fundamentals of Public Speaking	3
[[MTH-101]] Solving Problems Using Math	3
[[EC-102]] Principles of Economics II	3
[[ENG-120]] Reading Classical Traditions	3
	<b>15</b>

#### Third Semester

[[ACC-161]] Financial Accounting & Decision Making	3
MGT 251 Management of Organizations & People	3
[[HST-101]] Historical Foundations of the Modern World	3
Arts Distribution Requirement (Area IV)	3
Science Distribution Requirement (Area II)	3
[[PPD-201]] Personal and Professional Development III	1
	<b>16</b>

#### Fourth Semester

[[ACC-162]] Managerial Accounting & Decision Making	3
---	---

MKT 221 Marketing	3
[[FIN-240]] Introduction to Finance	3
Social Science Distribution Area Requirement (Area III)	3
Free Elective (Science Distribution Requirement)	3
	<b>15</b>

#### Fifth Semester

[[ACC-201]] Intermediate Accounting I	3
[[ACC-321]] Taxes	3
[[BA-335]] Law and Business	3
[[BA-319]] Business Statistics	3
Humanities Distribution Requirement (Area I)	3
[[PPD-301]] Personal and Professional Development V	1
	<b>16</b>

#### Sixth Semester

[[ACC-202]] Intermediate Accounting II	3
[[ACC-322]] Advanced Taxes	3
[[BA-336]] Adv. Topics in Business Law	3
[[MGT-352]] Production and Operations Management	3
[[MGT-354]] Organizational Behavior	3
	<b>15</b>

#### Seventh Semester

[[ACC-301]] Advanced Financial Accounting	3
[[ACC-331]] Auditing	3
Free Elective	3
[[MGT-358]] International Business	3
[[BA-461]] Business Strategy and Decision Making	3
[[PPD-401]] Personal and Professional Development VII	1
	<b>16</b>

#### Eighth Semester

[[ACC-311]] Advanced Managerial Accounting	3
[[ACC-341]] Accounting Information Systems	3
[[ACC-462]] Accounting Internship	3

Free Elective	3
	<b>12</b>

*\*[[ACC-462]] may be taken for 6 credits in place of the Free Elective in semester 8.*

# BIOCHEMISTRY

## Biochemistry Major

The Biochemistry curriculum is designed to provide comprehensive background education and training for students interested in the chemistry of physiological systems. The B.S. curriculum meets the liberal arts requirements of the University with a concentration in advanced courses. It was developed for those students who wish to prepare for Biochemistry as a professional option. Holders of this degree seek employment directly in the field or they can pursue advanced degrees in graduate or professional schools.

The Biochemistry degree was developed for those students interested in Biochemistry as a means of preparation for entrance into health science professional schools such as allopathic, osteopathic, and podiatric medicine, dental medicine, optometry, etc. Two specific features of the program are that students (1) may pursue the first three years of the Biochemistry degree curriculum in the three-year option under one of the Wilkes University combined seven-year medical and baccalaureate degree programs or (2) use the seventh or eighth semesters in cooperative research programs. The latter option is particularly useful for those students selected to The Premedical Scholars Program (see Affiliated Degree Programs in Medicine).

The Biochemistry program, with appropriate upper division course selection, meets the standards for approval by the American Chemical Society for the professional training of chemists. Students completing the B.S. program in Biochemistry may be certified with the American Chemical Society at graduation, dependent upon students' choice of chemistry courses. All students should work closely with their academic advisors as they progress toward graduation.

## Biochemistry Major - Required Courses and Recommended Course Sequence

### First Semester Credits

[[CHM-113]] - Elements & Compounds Lab	1
[[CHM-115]] - Elements & Compounds	3
[[BIO-121]] - Princ. of Modern Biology I	4
[[MTH-111]] - Calculus I	4
[[FYF-101]] - First-Year Foundations	3
	<b>15</b>

### Second Semester

[[CHM-114]] - The Chem. Reaction Lab	1
[[CHM-116]] - The Chemical Reaction	3

[[CHM-190]] - Freshmen Seminar	1
[[MTH-112]] - Calculus II	4
[[ENG-101]] - Composition	4
General Education Distribution	3
	<b>16</b>

### Third Semester

[[CHM-231]] - Organic Chemistry I	3
[[CHM-233]] - Organic Chem. I Lab	1
[[PHY-201]] - General Physics I	3
[[PHY-204]] - General Physics I Lab	1
[[CS-125]] - Computer Science I	4
General Education Distribution	3
	<b>15</b>

### Fourth Semester

[[CHM-232]] - Organic Chemistry II	3
[[CHM-234]] - Organic Chem. II Lab	1
[[CHM-248]] - Analytical Chemistry	3
[[CHM-246]] - Analytical Chemistry Lab	1
[[CHM-291]] - Ethical Resp. in Modern Science	1
[[BIO-226]] - Cell and Molecular Biology	4
General Education Distribution	3
	<b>16</b>

### Fifth Semester

[[CHM-361]] - Biochemistry I	3
[[CHM-363]] - Biochemistry Lab*	1
[[CHM-341]] - Instrumental Analysis	3
[[CHM-343]] - Instrumental Analysis Lab	1
[[PHY-202]] - General Physics II	3
[[PHY-205]] - General Physics II Lab	1
Distribution Requirement	3
	<b>15</b>

**Sixth Semester**

[[CHM-355]] - Physical Chemistry for the Life Sciences	4
[[CHM-357]] - Physical Chemistry for the Life Sciences Lab	1
[[CHM-362]] - Biochemistry II	3
[[CHM-390]] - Junior Seminar	1
BIO or CHM XXX - Biochemistry Elective*	3 or 4
Distribution Requirement	3
	<b>15 or 16</b>

**Seventh Semester**

[[CHM-391]] - Senior Research I	2
[[BIO-330]] - Intro. To Bioinformatics Applications* or [[BIO-345]] - Genetics*	3 or 4
BIO or CHM XXX - Biochemistry Elective**	3 or 4
Distribution Requirement	3
Free Elective	3
	<b>14 or 16</b>

**Eighth Semester**

[[CHM-392]] - Senior Research II	2
BIO or CHM XXX - Biochemistry Elective*	3 or 4
Free Elective	9
	<b>14 or 15</b>

\*All biochemistry majors are required to take one of the following two Biology Major Electives: [[BIO-330]] - Intro. To Bioinformatics Applications or [[BIO-345]] - Genetics

\*\*All biochemistry majors are required to take a total of 3 major electives (9 - 12 credits) chosen from the following list:

[[BIO-324]] - Molecular Biology, [[BIO-326]] - Immunology & Immunochemistry, [[BIO-327]] - Medical Microbiology, [[BIO-329]] - Virology, [[BIO-330]] - Intro. To Bioinformatics Applications, [[BIO-345]] - Genetics, [[CHM-322]] and [[CHM-322]] - Inorganic Chemistry and Adv. Inorg. Chem. Lab, [[CHM-367]] - Biochemistry of Cancer, [[CHM-368]] - Protein Chemistry, [[PHY-377]] - Biophysics, or an approved [[CHM-398]] topics course.

# BIOLOGY

## Biology

Total minimum number of credits required for a major in Biology leading to the B.A. degree – 122

Total minimum number of credits required for a major in Biology leading to the B.S. degree – 122

Total minimum number of credits required for a minor in Biology – 22

### Biology Major - Required Courses and Recommended Course Sequences

First Semester Credits	B.A.	B.S.
[[BIO-121]] - Principles of Modern Biology I	4	4
[[CHM-113]] - Elements & Compounds Lab	1	1
[[CHM-115]] - Elements & Compounds	3	3
[[FYF-101]] - First-Year Foundations	3	3
[[MTH-111]] - Calculus I	4	4
<b>Total Credits</b>	<b>15</b>	<b>15</b>

Second Semester	B.A.	B.S.
[[BIO-122]] - Principles of Modern Biology II	4	4
[[CHM-114]] - The Chemical Reaction Lab	1	1
[[CHM-116]] - The Chemical Reaction	3	3
[[ENG-101]] - Composition	4	4
[[MTH-114]] - Calculus & Modeling ...	4	4
<b>Total Credits</b>	<b>16</b>	<b>16</b>

Third Semester	B.A.	B.S.
[[BIO-225]] - Population & Evolutionary Biology	4	4

[[CHM-231]] - Organic Chemistry I****	3	3
[[CHM-233]] - Organic Chemistry I Lab****	1	1
Distribution Requirements	6	6
<b>Total Credits</b>	<b>14</b>	<b>14</b>

Fourth Semester	B.A.	B.S.
[[BIO-226]] - Cellular and Molecular Biology	4	4
[[CHM-232]] - Organic Chemistry II****	3	3
[[CHM-234]] - Organic Chemistry II Lab****	1	1
Distribution Requirements	6	6
<b>Total Credits</b>	<b>14</b>	<b>14</b>

Fifth Semester	B.A.	B.S.
[[BIO-397]] - Professional Prep. Techniques*	0-2	0-2
BIO Elective or Research**	3	3
Distribution Requirements	0	3
Free Elective(s)***	9	3
[[MTH-150]] - Elementary Statistics	0	3
[[PHY-171]] - Principles of Classical & Modern Physics	4	4
<b>Total Credits</b>	<b>16-18</b>	<b>16-18</b>

Sixth Semester	B.A.	B.S.
[[BIO-397]] - Professional Prep. Techniques*	0-2	0-2
BIO Elective or Research	3	3
Computer Science Elective	3	3

Distribution Requirements	3	3
[[PHY-174]] - Applications Classical and Modern Physics	4	4
<b>Total Credits</b>	<b>13–15</b>	<b>13–15</b>

<b>Seventh Semester</b>	B.A.	B.S.
[[BIO-391]] - Senior Research Projects	1	1
BIO Electives	3–4	6–8
Free Electives***	12	9
<b>Total Credits</b>	<b>16–17</b>	<b>16–18</b>

<b>Eighth Semester</b>	B.A.	B.S.
[[BIO-392]] - Senior Research Projects	2	2
BIO Electives	3–4	6–7
Distribution Requirement	3	0
Free Electives***	7	7
<b>Total Credits</b>	<b>15–16</b>	<b>15–16</b>

\*Only one semester of [[BIO-397]] is required, but it must be taken in the fifth or sixth semester.

\*\*No more than four credits of [[BIO-395]] or [[BIO-396]] will count toward the major.

\*\*\*Any course other than a biology course.

\*\*\*\*Students may take [[CHM-235]] / [[CHM-237]] followed by [[CHM-365]] in lieu of [[CHM-231]] / [[CHM-232]] / [[CHM-233]] / [[CHM-234]]. Students are to consult with their academic advisor regarding this alternative pathway.

In order to emphasize the broadening aspects of biological knowledge, the department has established categories of specific biological fields from which the student must achieve reasonable diversity in the selection of upper-level courses. The five categories are 1) Molecular and Cellular Biology, 2) Structural and Functional Biology, 3) Diversity and Populational Biology, 4) Plant Biology, and 5) Quantitative Biology. The B.A. major is required to take a minimum of four electives, with one upper-level course from each of any four of the five categories. The B.S. major must take a minimum of five electives, with one upper-level course from each of the five categories.

## Course Selections within the FIVE Biological Fields

### A. Molecular and Cellular Biology

[[BIO-324]] - Molecular Biology  
 [[BIO-326]] - Immunology and Immunochemistry  
 [[BIO-327]] - Medical Microbiology  
 [[BIO-328]] - Developmental Biology  
 [[BIO-329]] - Virology

[[BIO-338]] - Biology of Cancer  
 [[BIO-345]] - Genetics  
 [[BIO-398]] - Topics

### B. Structural and Functional Biology

[[BIO-311]] - Comparative Physiology  
 [[BIO-314]] - Comparative Vertebrate Anatomy  
 [[BIO-321]] - Mammalian Physiology  
 [[BIO-323]] - Functional Histology  
 [[BIO-325]] - Endocrinology  
 [[BIO-352]] - Pathophysiology  
 [[BIO-398]] - Topics

### C. Diversity and Populational Biology

[[BIO-306]] - Invertebrate Biology  
 [[BIO-312]] - Parasitology  
 [[BIO-340]] - Conservation Biology  
 [[BIO-341]] - Freshwater Ecosystems  
 [[BIO-342]] - The Archosaurs  
 [[BIO-343]] - Marine Ecology  
 [[BIO-344]] - Ecology  
 [[BIO-346]] - Animal Behavior  
 [[BIO-348]] - Field Zoology  
 [[BIO-398]] - Topics

### D. Plant Biology

[[BIO-361]] - Plant Form and Function  
 [[BIO-362]] - Plant Diversity  
 [[BIO-363]] - Hemp Biology and Analysis  
 [[BIO-366]] - Field Botany  
 [[BIO-368]] - Medical Botany  
 [[BIO-369]] - Plant Physiology  
 [[BIO-398]] - Topics

### E. Quantitative Biology

[[BIO-330]] - Introduction to Bioinformatics Applications  
 [[BIO-347]] - Biostatistics and Experimental Design

## Biology Minor

Students in majors other than Biology may wish to elect a minor in Biology. The minor in Biology shall consist of a minimum of 22 credits.

Required courses are as follows:

[[BIO-121]] - Principles of Modern Biology I  
 [[BIO-122]] - Principles of Modern Biology II  
 [[BIO-225]] - Population and Evolutionary Biology  
 [[BIO-226]] - Cellular and Molecular Biology

Two 300-level, Biology electives. These upper-level electives, exclusive of [[BIO-395]] and [[BIO-396]] (Independent Research), will be selected after consultation with the department chairperson.

## Honors in Biology

Honor students in Biology will be recognized upon completion of the following requirements: 1) achievement of a graduating cumulative grade point average of 3.25 or better; 2) achievement of grades of 3.00 or better in all biology courses; 3) pursuit of independent research and completion of a research project in biology; and 4) presentation of the research project results at a national or regional scientific conference or by means of publication of a research paper.

## Biology

The distinction "Honors in Biology" will be recorded on the student's transcript upon graduation.

### Biology in Conjunction with the Secondary Education Major or Minor

Students interested in becoming secondary teachers in Biology should make an appointment with the chairperson of the Education Department or the Coordinator of the Secondary Education Program as early as possible in their course of study to plan their professional studies. These students will declare a major in Biology and as well as a major or minor in Secondary Education. The major in Secondary Education must be taken in conjunction with an approved major; it is not a stand alone major. Upon successful completion of the secondary education program, students may become certified in Pennsylvania to teach in grades 7-12 in their chosen field.

Students interested in pursuing either the major or the minor in Secondary Education should refer to the Education Department section of this bulletin for complete details of the curriculum and other degree requirements. Students should also consult carefully with their Education program and Biology program advisors in planning their course of studies.

Total credits required for **Secondary Education minor - 40**

Total credits required for **Secondary Education major - 47**

Required courses for the major(\*) or minor in Secondary Education are as follows:

[[ED-180]] – Educational Psychology - 3 cr.

[[ED-190]] – Effective Teaching with Field Experience - 3 cr.

[[ED-191]] – Integrating Technology into the Classroom - 3 cr.

[[EDSP-210]] – Teaching Students with Special Needs - 3 cr.

[[ED-220]] – Teaching Culturally and Linguistically Diverse Learners - 3 cr.

[[EDSP-225]] – Special Education Methods I with Field Experience - 3 cr.

\*[[ED-345]] – Assessment - 3 cr.

\*[[ED-375]] – Middle Level/Secondary School Methods with Field Exp. - 4 cr.

[[ED-371]] – Teaching Methods in Science with Field Experience - 4 cr.

[[ED-380]] – Content Area Literacy - 3 cr.

[[EDSP-388]] – Inclusionary Practices (taken concurrently with ED 390) - 3 cr.

[[ED-390]] – Student Teaching with Seminar - 12 cr.

*\*These additional courses required in order to complete the major in Secondary Education.*

- All Teacher Education candidates must apply for admission to the Teacher Education Program in the sophomore or junior year.
- To be admitted into the Teacher Education Program, candidates must
  - Attain a 3.0 GPA
  - Complete 48 credits including six credits in both Mathematics and English
  - Pass a test of basic skills
  - Submit required clearances showing 'no record'
- To remain in the Teacher Education Program, candidates must
  - Maintain a 3.0 GPA
  - Adhere to the Code of Professionalism and Academic Honesty
- To be certified as a teacher in Pennsylvania in grades 7-12, candidates must
  - Successfully complete all required Education courses, including student teaching
  - Graduate with a 3.0 cumulative GPA
  - Pass the appropriate exit test(s) in their content area
  - Apply for certification through the Pennsylvania Teacher Information Management System (TIMS)

# CANNABIS CHEMISTRY

## Cannabis Chemistry Major

The Cannabis Chemistry curriculum is designed to provide a comprehensive background in the fundamentals of the science and technology related to the hemp and cannabis industries. With the growing abundance of products on the market containing cannabidiols (CBD's), there is a shortage of scientists with the specific background and training required to serve the needs of the industry and consumers. The quantity and quality of ingredients in products containing cannabidiols (CBD's) can be best controlled through the use of proper growing technique, proper extraction education, and proper use of the appropriate analytical equipment.

The Cannabis Chemistry program will prepare students for work in chemistry, natural products and other scientific fields. This BS program is designed for students with an interest in immediate employment in QA/QC jobs but will also prepare students advancing to graduate studies. The program meets the criteria for American Chemical Society certification of the degree. The recommended course sequence appears below. In all cases, students will choose specific courses in a concentration after consultation with departmental advisers.

The Wilkes Cannabis Chemistry BS program meets the standards for approval by the American Chemical Society for the professional training of chemists. Students who complete the BS program are certified with the American Chemical Society at graduation.

### Cannabis Chemistry Major (B.S. Degree) - Required Courses and Recommended Course Sequence

First Semester	Credits
[[CHM-113]] – Elements & Compounds Lab	1
[[CHM-115]] – Elements & Compounds	3
[[BIO-121]] – Principles of Modern Biology I	4
[[FYF-101]] – First-Year Foundations	3
[[MTH-111]] – Calculus I	4
<b>Total Credits</b>	<b>15</b>

Second Semester	Credits
[[CHM-114]] – The Chemical Reaction Lab	1
[[CHM-116]] – The Chemical Reaction	3
[[CHM-190]] – Freshmen Seminar	1
[[HST-101]] – Historical Foundations of the Modern World	3
[[ENG-101]] – Composition	4

[[MTH-112]] – Calculus II	4
<b>Total Credits</b>	<b>16</b>

Third Semester	Credits
[[CHM-231]] – Organic Chemistry I	3
[[CHM-233]] – Organic Chemistry Lab I	1
[[CHM-261]] – Plant Sample Preparation for Chemical Analysis	2
[[PHY-201]] – General Physics I	3
[[PHY-203]] – General Physics I Lab	1
[[CS-125]] – Computer Science I	4
[[PHL-101]] – Introduction to Philosophy or Foreign Language	3
<b>Total Credits</b>	<b>17</b>

Fourth Semester	Credits
[[CHM-232]] – Organic Chemistry II	3
[[CHM-234]] – Organic Chemistry Lab II	1
[[CHM-246]] – Analytical Chemistry Lab	1
[[CHM-248]] – Analytical Chemistry	3
[[CHM-291]] – Ethical Resp. in Mod. Sci.	1
[[PHY-202]] – General Physics II	3
[[PHY-202]] – General Physics II Lab	1
[[BIO-226]] - Cellular and Molecular Biology	4
<b>Total Credits</b>	<b>17</b>

Fifth Semester	Credits
[[CHM-341]] – Instrumental Methods	3
[[CHM-343]] – Instrumental Methods Lab	1
[[BIO-363]] - Hemp Biology and Analysis	4
[[CHM-377]] - Intro. to Toxicology or [[CHM-379]] - Medicinal Chemistry*	3
[[ENG-120]] - Introduction to Literature and Culture	3
<b>Total Credits</b>	<b>14</b>

## Cannabis Chemistry

* courses offered in alternate years	
--------------------------------------	--

(5 Cr) with the two-semester course sequence in physical chemistry CHM-351/CHM-353 (4 Cr) and CHM-352/CHM-354 (4 Cr) in the seventh and eighth semesters.

<b>Sixth Semester</b>	
[[CHM-322]] – Inorganic Chemistry	3
[[CHM-346]] – Advanced Separations Chemistry	2
[[CHM-365]] – Medical Biochemistry	4
[[CHM-390]] – Chemistry Junior Seminar	1
Area III or Area IV requirement	3
[[EC-102]] – Principles of Economics II	3
<b>Total Credits</b>	<b>16</b>

<b>Seventh Semester</b>	
[[CHM-379]] – Medicinal Chemistry or [[CHM-377]] – Introduction to Toxicology*	3
[[CHM-363]] – Biochemistry Laboratory	1
[[CHM-391]] – Senior Research I	2
Free Elective or [[BIO-345]] – Genetics	3 or 4
Area III or Area IV requirement	3
<b>Total Credits</b>	<b>15 or 16</b>
* courses offered in alternate years	

<b>Eighth Semester</b>	
[[CHM-355]] – Physical Chemistry for the Life Sciences	4
[[CHM-357]] – Physical Chemistry for the Life Sciences Lab	1
[[CHM-323]] – Advanced Inorganic Chemistry Lab	1
[[CHM-392]] – Senior Research	2
Free elective or [[BIO-324]] – Molecular Biology	3 or 4
Free Elective	3
<b>Total Credits</b>	<b>14 or 15</b>
Students with an interest in attending graduate school in Chemistry programs are strongly encouraged to use their free elective credits in order to complete MTH-212 – Multivariate Calculus (4 Cr) as an additional course in the fifth semester, and also replace CHM-355/CHM-357	

# CHEMISTRY

## Chemistry Major

The Chemistry curriculum is designed to provide a comprehensive background in the fundamentals of the science, and to contribute to the general education of the student. Graduates with a B.S. degree may find industrial or government employment or continue advanced studies in a graduate or professional school.

The B.A. degree is available for students who desire additional flexibility to prepare for a career in secondary education, the health professions (such as medicine or dentistry), law, business, engineering, computer science, or other related fields. The B.A. program in Chemistry includes specific concentrations that allow students to have a solid, fundamental background in Chemistry in combination with disciplines such as Art, Business, Computer Science, Education, Environmental Sciences, Forensic Science, Mathematics, Pharmaceutical Sciences, and Pre-Medical Studies. The ultimate goal is to create a curriculum that is easily adapted to the ever-changing challenges of modern society and of multidisciplinary academic endeavors.

The Wilkes Chemistry program is approved by the American Chemical Society for the professional training of chemists. Students who complete the B.S. program are certified for membership eligibility in the Society at graduation. The B.A. program in Chemistry may be approved, dependent upon the student's choice of chemistry courses. In all cases, students will choose specific courses in a concentration after consultation with departmental advisers.

### Chemistry Major (B.S. Degree) - Required Courses and Recommended Course Sequence

First Semester	Credits
[[CHM-113]] – Elements & Compounds Lab	1
[[CHM-115]] – Elements & Compounds	3
[[ENG-101]] – Composition or Distribution Requirement	4
[[FYF-101]] – First-Year Foundations	3
[[MTH-111]] – Calculus I	4
<b>Total Credits</b>	<b>15</b>

Second Semester	Credits
[[CHM-114]] – The Chemical Reaction Lab	1
[[CHM-116]] – The Chemical Reaction	3
[[CHM-190]] – Freshmen Seminar	1
[[MTH-112]] – Calculus II	4

[[CS-125]] – Computer Science I	4
[[HST-101]] – Historical Foundations of the Modern World	3
<b>Total Credits</b>	<b>16</b>

Third Semester	Credits
[[CHM-231]] – Organic Chemistry I	3
[[CHM-233]] – Organic Chemistry Lab I	1
[[PHY-201]] – General Physics I	3
[[PHY-204]] – General Physics I Lab	1
[[MTH-212]] – Multivariable Calculus	4
[[PHL-101]] – Introduction to Philosophy or Foreign Language	3
<b>Total Credits</b>	<b>15</b>

Fourth Semester	Credits
[[CHM-232]] – Organic Chemistry II	3
[[CHM-234]] – Organic Chemistry Lab II	1
[[CHM-246]] – Analytical Chemistry Lab	1
[[CHM-248]] – Analytical Chemistry	3
[[CHM-291]] – Ethical Resp. in Mod. Sci.	1
[[PHY-202]] – General Physics II	3
[[PHY-205]] – General Physics II Lab	1
Area III requirement or free elective	3
<b>Total Credits</b>	<b>16</b>

Fifth Semester	Credits
[[CHM-341]] – Instrumental Methods	3
[[CHM-343]] – Instrumental Methods Lab	1
[[CHM-351]] – Physical Chem: Quantum & Spectro	3
[[CHM-353]] – Physical Chem: Quantum & Spectro Lab	1
[[MTH-211]] – Introduction to Ordinary Differential Equations	3

## Chemistry

Area III or Area IV requirement	3
<b>Total Credits</b>	<b>14</b>

<b>Sixth Semester</b>	
[[CHM-322]] – Inorganic Chemistry	3
[[CHM-352]] – Physical Chem: Kinetics & Thermo	3
[[CHM-354]] – Physical Chem: Kinetics & Thermo Lab	1
[[CHM-365]] – Medical Biochemistry	4
[[CHM-390]] – Chemistry Junior Seminar	1
[[ENG-120]] – Introduction to Literature and Culture	3
<b>Total Credits</b>	<b>15</b>

<b>Seventh Semester</b>	
[[CHM-363]] – Biochemistry Lab	1
[[CHM-391]] – Senior Research I	2
Major Elective *	3
Area III or Area IV requirement	3
Free Electives	6
<b>Total Credits</b>	<b>15</b>

<b>Eighth Semester</b>	
[[CHM-323]] – Advanced Inorganic Chemistry Lab	1
[[CHM-392]] – Senior Research	2
Major Elective *	3
Area III requirement or free elective	3
Free Electives	6
<b>Total Credits</b>	<b>15</b>

*\*All B.S. chemistry majors must also complete two 300 level major elective courses in addition to the specifically required 300 level courses listed above.*

*\*MTH-211 is not a degree requirement but students are strongly encouraged to complete this course.*

## Chemistry Major (B.A. Degree) - Concentrations and Minor Areas of Study

### Art

Recommended courses for the B.A. degree in Chemistry with a concentration in Art:

ART 113 – Drawing I 3 cr.  
ART 123 – Ceramics 3 cr.  
ART 120 – Painting I 3 cr.  
ART 122 – Sculpture 3 cr.  
ART 140 - History of Art I 3 cr.  
ART 141 - History of Art II 3 cr.

Recommended Area IV Distribution course

ART 101 – Experiencing Art 3 cr.

Recommended Free Elective

ART 121 – Printmaking 3 cr.

### Business (Minor)

Chemistry majors may pursue a minor in one of the areas in Business. For details of minor degree programs in Business, see Accounting Minor, Business Administration Minor, Marketing Minor, and Entrepreneurship Minor.

### Computer Science

Recommended courses for the B.A. degree in Chemistry with a concentration in Computer Science:

CS 126 – Computer Science II 4 cr.  
CS 225 – Computer Science III 3 cr.  
CS 324 – Systems Analysis 3 cr.  
CS 325 – Database Management 3 cr.  
CS 328 – Algorithms 3 cr.  
CS 334 – Software Engineering 3 cr.  
Free Elective: MTH 231 – Discrete Mathematics 3 cr.

Students pursuing a concentration in Computer Science must satisfy all prerequisites for recommended concentration courses.

### Secondary Education (Major or Minor)

Students interested in becoming secondary teachers in Chemistry should make an appointment with the chairperson of the Education Department or the Coordinator of the Secondary Education Program as early as possible in their course of study, to plan their professional studies. These students will declare a major in Chemistry and as well as a major or minor in Secondary Education. The major in Secondary Education must be taken in conjunction with an approved major; it is not a stand alone major. Upon successful completion of the secondary education program, students may become certified in Pennsylvania to teach in grades 7-12 in their chosen field.

Students interested in pursuing either the major or the minor in Secondary Education should refer to the Education Department section of this bulletin for complete details of the curriculum and other degree requirements. Students

should also consult carefully with their Education program and Chemistry program advisors in planning their course of studies.

Total credits required for Secondary Education minor - 40 credits

Total credits required for Secondary Education major - 47 credits

#### **Required courses for the major(\*) or minor in Secondary Education are as follows:**

ED 180 Educational Psychology 3 cr.  
 ED 190 Effective Teaching with Field Experience 3 cr.  
 ED 191 Integrating Technology into the Classroom 3 cr.  
 EDSP 210 Teaching Students with Special Needs 3 cr.  
 ED 220 Teaching Culturally and Linguistically Diverse Learners 3 cr.  
 EDSP 225 Special Education Methods I with Field Experience 3 cr.  
 \* ED 345 Assessment 3 cr.  
 \* ED 375 Middle Level/Secondary School Methods with Field Exp. 4 cr.  
 ED 371 Teaching Methods in Science with Field Experience 4 cr.  
 ED 380 Content Area Literacy 3 cr.  
 EDSP 388 Inclusionary Practices (taken concurrently with ED 390) 3 cr.  
 ED 390 Student Teaching with Seminar 12 cr.  
 \* These additional courses required in order to complete the major in Secondary Education.

- All Teacher Education candidates must apply for admission to the Teacher Education Program in the sophomore or junior year.
- To be admitted into the Teacher Education Program, candidates must
  - Attain a 3.0 GPA
  - Complete 48 credits including six credits in both Mathematics and English
  - Pass a test of basic skills
  - Submit required clearances showing 'no record'
- To remain in the Teacher Education Program, candidates must
  - Maintain a 3.0 GPA
  - Adhere to the Code of Professionalism and Academic Honesty
- To be certified as a teacher in Pennsylvania in grades 7-12, candidates must
  - Successfully complete all required Education courses, including student teaching
  - Graduate with a 3.0 cumulative GPA
  - Pass the appropriate exit test(s) in their content area
  - Apply for certification through the Pennsylvania Teacher Information Management System (TIMS).

#### **Forensic Science**

Recommended courses for the B.A. degree in Chemistry with a concentration in Forensic Science:

BIO 121 – Principles of Modern Biology I 4 cr.  
 CHM 398 – Forensic Chemistry 3 cr.  
 PS 232 – Criminal Law 3 cr.  
 PSY 242 – Personality 3 cr.  
 PSY 355 – Forensic Psychology 3 cr.

SOC 222 – Criminology 3 cr.

#### **Recommended Distribution Courses:**

EC 102 – Principles of Economics II 3 cr.  
 PSY 101 – General Psychology 3 cr.  
 SOC 101 – Introduction to Sociology 3 cr.

#### **Recommended Free Electives:**

BIO 226 – Cellular and Molecular Biology 4 cr.  
 BIO 345 – Genetics 4 cr.  
 MTH 150 – Elementary Statistics 3 cr.

Students pursuing a concentration in Forensic Science must satisfy all prerequisites for recommended concentration courses.

#### **Pre-Medical Studies**

Recommended and required courses for the B.A. degree in Chemistry with a concentration in Pre-Medical Studies:

CHM 361 and 362 is recommended in place of CHM 365.

Required Courses:

BIO 121 – Principles of Modern Biology I 4 cr.  
 BIO 122 – Principles of Modern Biology II 4 cr.  
 CS 265 – Medical Informatics 3 cr.

Recommended Courses (select 18 credits from the following list of courses):

BIO 321 – Mammalian Physiology 4 cr.  
 BIO 323 – Functional Histology 4 cr.  
 BIO 326 – Immunology and Immunochemistry 4 cr.  
 BIO 327 – Medical Microbiology 4 cr.  
 BIO 328 – Developmental Biology 4 cr.  
 BIO 329 – Virology 3 cr.  
 BIO 345 – Genetics 4 cr.  
 BIO 368 – Medical Botany 3 cr.  
 BIO 398 – Medical Ethics 3 cr.  
 CHM 398 – Brain Chemistry 3 cr.  
 CHM 398 – Medicinal Chemistry 3 cr.  
 MTH 150 – Elementary Statistics 3 cr.  
 SP 210 – Medical Spanish 3 cr.

Students pursuing a concentration in Pre-Med Studies must satisfy all prerequisites for recommended concentration courses.

#### **Sustainability**

Recommended course for the B.A. degree in Chemistry with a concentration in Sustainability:

CHM 398 – Environmental Chemistry 3 cr.

The B.A. degree in Chemistry with a concentration in Sustainability requires a minimum of 29 credits in the concentration area. Students should select courses from the following content areas:

Content Area I: Writing Perspective (3 cr.) Credits  
 ENG 202 – Technical and Professional Writing 3  
 ENG 228 – Professional and Workplace Writing 3  
 Content Area II: Political and Legal Perspective (6 cr.) Credits

## Chemistry

BA 335 – Law and Business 3  
 PS 224 – Public Policy Analysis 3  
 PS 260 – Introduction to Political Thinking 3  
 Content Area III: Ethical Perspective (3 cr.) Credits  
 PHL 218 – Environmental Ethics 3  
 PHL 350 – Philosophy of Science 3  
 Content Area IV: Environmental Perspective (17 cr.) Credits  
 EES 210 – Global Climatic Change 3  
 EES 240 – Principles of Environmental Science 3  
 EES 261 – Regional Geography 3  
 EES 271 – Environmental Mapping I: The Global Positioning System 3  
 EES 272 – Environmental Mapping II: Geographic Information Systems 3  
 EES 304 – Environmental Data Analysis 3  
 EES 330 – Water Quality 3  
 EES 332 – Air Quality 3  
 EES 344 – Ecology 3  
 EES 341 – Freshwater Ecosystems 3  
 EES 343 – Marine Ecology 3  
 EES 398 – Topics in EES 3  
 ENV 305 – Solid Waste Management 3  
 ENV 315 – Soils 3  
 ENV 321 – Hydrology 4  
 ENV 351 – Water and Wastewater Treatment 4  
 ENV 353 – Air Pollution Control 3  
 ENV 354 – Hazardous Waste Management 3  
 ENV 398 – Topics in Engineering 3  
 ME 322 – Engineering Thermodynamics 3

Students pursuing a concentration in Sustainability must satisfy all prerequisites for recommended concentration courses.

### Chemistry Major (B.A. Degree) - Required Courses and Recommended Course Sequence

First Semester	Credits
[[CHM-113]] – Elements & Compounds Lab	1
[[CHM-115]] – Elements & Compounds	3
[[ENG-101]] – Composition	4
[[FYF-101]] – First-Year Foundations	3
[[MTH-111]] – Calculus I	4
<b>Total Credits</b>	<b>15</b>

Second Semester	Credits
[[CHM-114]] – The Chemical Reaction Lab	1
[[CHM-116]] – The Chemical Reaction	3
[[CHM-190]] – Freshmen Seminar	1
[[CS125]] – Computer Science I	4
[[MTH-112]] – Calculus II	4

[[HST-101]] – Historical Foundations of the Modern World	3
<b>Total Credits</b>	<b>16</b>

Third Semester	Credits
[[CHM-231]] – Organic Chemistry I	3
[[CHM-233]] – Organic Chemistry Lab I	1
[[PHY-201]] – General Physics I	3
[[PHY-204]] – General Physics I Lab	1
Area III requirement	3
[[PHL-101]] – Introduction to Philosophy or Foreign Language	3
Concentration Area or Minor Course	3
<b>Total Credits</b>	<b>17</b>

Fourth Semester	Credits
[[CHM-232]] – Organic Chemistry II	3
[[CHM-234]] – Organic Chemistry Lab II	1
[[CHM-246]] – Analytical Chemistry Lab	1
[[CHM-248]] – Analytical Chemistry	3
[[CHM-291]] – Ethical Resp. in Mod. Sci.	1
[[PHY-202]] – General Physics II	3
[[PHY-204]] – General Physics II Lab	1
<b>Total Credits</b>	<b>13</b>

Fifth Semester	Credits
[[CHM-341]] – Instrumental Methods	3
[[CHM-343]] – Instrumental Methods Lab	1
Concentration Area or Minor Course	3
Concentration Area or Minor Course	3
[[ENG-120]] - Introduction to Literature and Culture	3
Area III or Area IV requirement	3

<b>Total Credits</b>	<b>16</b>
----------------------	-----------

verify completion of the requirements. <sup>+</sup>B.A. students may, with the selection of the correct major electives have their degree certified by the American Chemical Society.

<b>Sixth Semester</b>	
[[CHM-322]] – Inorganic Chemistry	3
[[CHM-355]] – Physical Chemistry for the Life Sciences	4
[[CHM-357]] – Physical Chemistry for the Life Sci. Lab	1
[[CHM-365]] – Medical Biochemistry	4
[[CHM-390]] – Chemistry Junior Seminar	1
Concentration Area or Minor Courses	3
<b>Total Credits</b>	<b>16</b>

<b>Seventh Semester</b>	
[[CHM-363]] – Biochemistry Laboratory	1
[[CHM-391]] – Senior Research	2
Major Elective <sup>+</sup>	3
Concentration Area or Minor Course	3
Area III or Area IV requirement	3
Free Elective <sup>*</sup>	3
<b>Total Credits</b>	<b>15</b>

<b>Eighth Semester</b>	
[[CHM-323]] – Advanced Inorganic Laboratory	1
[[CHM-392]] – Senior Research	2
Major Elective <sup>+</sup>	3
Concentration Area or Minor Courses	3
Concentration Area or Minor Courses	3
Free elective <sup>*</sup>	3
<b>Total Credits</b>	<b>15</b>

<sup>\*</sup>All B.A. chemistry majors must also complete the required courses for their specific concentration or minor area of study which include: Art, Business, Computer Science, Education, Forensic Science, Pre-Medical Studies, and Sustainability. Students must work with their advisors to

# CIVIL ENGINEERING

## Civil Engineering Major

The Department of Civil and Environmental Engineering (CEE) offers a four-year degree program in Civil Engineering (CIV). CEE envisions future accreditation by EAC-ABET of this program. The Civil Engineering program will have four concentrations that will equip Wilkes to educate students to address sustainable and resilience design to minimize risk to infrastructure due to climate change, natural and man-made disasters, and current and future pandemics and other human health threats. This program provides strong engineering and scientific experience with advanced techniques to analyze systems, use of software for civil engineering design, and hands-on activities heavily integrated into the curriculum.

Students intending to major in this program are encouraged to be well prepared in the sciences and mathematics.

Concentration areas of the Civil Engineering program include Environmental, Geotechnical, Structural or Water Resources and Hydraulics. Total Credits – 128.

The student professional chapters of the Air & Waste Management Association (AWMA), American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE), the Pennsylvania Society of Professional Engineers (PSPE) and the Society of Women (SWE) in conjunction with the Department of Environmental and Civil Engineering periodically offer seminars on subjects of a timely nature. Attending these seminars and taking the Fundamentals of Engineering (FE) exam are mandatory for the completion of the degree in Civil Engineering.

### Honors Program in Civil Engineering

Upon the recommendation and approval of the Civil Engineering faculty, honor students in Civil Engineering will be recognized upon completion of the following requirements: achievement of an overall grade point average of 3.25 or better; receipt of grades of 3.00 or better in all engineering courses of his or her discipline; pursuit of independent research or special projects in engineering; and presentation of research and project results at meetings, conferences, or by means of publication of a paper. The distinction “Honors in Engineering” will be recorded on the student’s transcript upon graduation.

## Civil Engineering Major - Required Courses and Recommended Course Sequence

### First Semester

[[ME-180]] CADD lab	1
[[CHM-118]] Chemistry for Engineers	3
[[CHM-117]] Introductory Chemistry Lab for Engineers	1
[[MTH-111]] Calculus I	4
[[ENG-101]] Composition	4

[[FYF-101]] First-Year Foundations	3
	<b>16</b>

### Second Semester

[[EGR-200]] Materials Science	3
[[MTH-112]] Calculus II	4
[[PHY-201]] General Physics I	3
[[PHY-204]] General Physics I Lab	1
Distribution Requirement	6
	<b>17</b>

### Third Semester

[[MTH-211]] Introduction to Ord. Diff. Equations	4
[[PHY-202]] General Physics II	3
[[PHY-205]] General Physics II Lab	1
[[ME-231]] Statics	3
[[EES-240]] Principles of Environmental Engineering and Science	3
[[EES-241]] Principles of Environmental Engineering and Science Lab	1
	<b>15</b>

### Fourth Semester

[[ENV-201]] Probability and Statistics for Engineers	2
[[ME-232]] Strength of Materials	3
[[ME-234]] Dynamics	3
[[ME-322]] Thermodynamics	3
[[GEO-101]] Introduction to Geology	3
[[GEO-103]] Introduction to Geology Lab	1
	<b>15</b>

### Fifth Semester

[[ME-321]] Fluid Mechanics	3
[[ME-323]] Fluid Mechanics Lab	1
[[EGM-320]] Engineering Project Management	3
[[ENV-321]] Hydrology	3
[[CE-231]] Soil Mechanics	3

[[CE-323]] Soil Mechanics Lab	1
CE Concentration Elective or Distribution Requirement	3
	<b>17</b>

### Sixth Semester

[[CE-261]] Construction Project Management	2
[[CE-263]] Structural Analysis	3
[[CE-390]] Civil Engineering Seminar	1
[[EGR-201]] Professionalism and Ethics	1
[[GEO-352]] Hydrogeology	3
[[GIS-271]] Introduction to GPS and GIS	3
CE Concentration Elective or Distribution Requirement	3
	<b>16</b>

### Seventh Semester

[[CE-391]] Senior Projects I	1
[[CE-311]] Geotechnical Engineering	3
[[CE-321]] Open Channel Hydraulics	3
[[CE-325]] Sustainability Engineering	3
[[CE-327]] Adv. Civil Engineering Graphics	2
CE Concentration Elective or Distribution Requirement	3
	<b>15</b>

### Eighth Semester

[[CE-392]] Senior Projects II	2
CE Concentration Elective or Distribution Requirement	12
Free Elective	<b>3</b>
	<b>17</b>

# COMMUNICATIONS, B.A. - MEDIA PRODUCTION CONCENTRATION

## Communication Studies Requirements

All students choosing to major in Communication Studies must fulfill specific department core requirements. These courses contain skills, theory, analysis, performance, writing, and research. They are as follows (29 credits):

[[COM-101]]	Fundamentals of Public Speaking
[[COM-102]]	Principles of Communication
[[COM-124]]	Mass Media Literacy
[[COM-144]]	Practicum (2 credits minimum with at least one in each concentration taken)
[[COM-202]]	Interpersonal Communication
[[COM-260]]	Basic Newswriting (WI)
[[COM-261]]	Multimedia Communication
[[COM-304]]	Intercultural Communication
[[COM-324]]	Communication Research Methods
[[COM-397]]	Senior Seminar

## Concentration Requirements

### MEDIA PRODUCTION

The Media Production concentration prepares students for working in the rapidly changing world of digital media. Students will learn the foundation skills of audio and video production in both studio and field settings in order to create and adapt information for a wide variety of purposes. Students learn to prepare content for a host of media production platforms including television, radio, and the Internet.

This concentration also introduces students to the history, economics, regulations, and functions of the radio, television, cable and web-based media industries. It provides students with a combination of skills, performance, and theory that will enable graduates to seek employment in those industries.

*All students concentrating in Media Production must take the following two courses (6 credits):*

[[COM-220]]: Introduction to Electronic Media  
[[COM-222]]: Broadcast Production

*In addition, students pursuing a concentration in Broadcast Media will complete 6 credits selected from the following courses:*

[[COM-223]]: The Art of Film  
[[COM-320]]: Media Management  
[[COM-322]]: Advanced Video Production  
[[COM-323]]: Advanced Audio Production  
[[COM-362]]: Mass Communication Law  
[[COM-399]]/CPE-399: Cooperative Education

## Recommended Course Sequence

First Semester Credits	
[[COM-101]] Fundamentals of Public Speaking	3
Distribution Requirements	6
[[ENG-101]] Composition or Distribution Requirement	4
[[FYF-101]] First-Year Foundations	3
<b>Total Credits</b>	<b>15-16</b>

Second Semester	
[[COM-102]] Principles of Communication	3
[[COM-124]] Mass Media Literacy	3
Distribution Requirements	6
[[ENG-101]] Composition or Distribution Requirement	4
<b>Total Credits</b>	<b>15-16</b>

Third Semester	
[[COM-202]] Interpersonal Communication	3
[[COM-260]] Basic Newswriting	3
Free Electives	9
[[COM-144]] Practicum	1
<b>Total Credits</b>	<b>16</b>

Fourth Semester	
Concentration Selection	3
Distribution Requirements	9
[[COM-261]] Multimedia Communication	3
<b>Total Credits</b>	<b>15</b>

Fifth Semester	
[[COM-304]] Intercultural Communication	3
Concentration Selections	6
Free Electives	6

Total Credits	15
---------------	----

<b>Sixth Semester</b>	
Concentration Selection	3
[[COM-144]] Practicum	1
Distribution Requirements	6
Free Electives	6
Total Credits	16

<b>Seventh Semester</b>	
[[COM-324]] Research Methods	3
Free Electives	12
Total Credits	15

<b>Eighth Semester</b>	
[[COM-397]] Senior Seminar	3
Free Electives	12
Total Credits	15

# COMMUNICATIONS, B.A. - MULTIMEDIA JOURNALISM CONCENTRATION

## Communication Studies Requirements

All students choosing to major in Communication Studies must fulfill specific department core requirements. These courses contain skills, theory, analysis, performance, writing, and research. They are as follows (29 credits):

[[COM-101]]	Fundamentals of Public Speaking
[[COM-102]]	Principles of Communication
[[COM-124]]	Mass Media Literacy
[[COM-144]]	Practicum (2 credits minimum with at least one in each concentration taken)
[[COM-202]]	Interpersonal Communication
[[COM-260]]	Basic Newswriting (WI)
[[COM-261]]	Multimedia Communication
[[COM-304]]	Intercultural Communication
[[COM-324]]	Communication Research Methods
[[COM-397]]	Senior Seminar

## Concentration Requirements

### MULTIMEDIA JOURNALISM

The multimedia journalism concentration prepares students for this continually evolving field where new trends and technologies are constantly having an impact on traditional practices. The Communication Studies Department addresses this transformation by incorporating these changes into its classes or developing new courses that deal with specific needs in the field. However, the core to any journalism training is the ability to work with words, gather information and synthesize that into meaningful messages for its intended audience regardless of format- print, broadcast or digital.

*All students pursuing a concentration in Multimedia Journalism must take the following two courses (6 credits):*

[[COM-321]]: Advanced Multimedia Reporting  
[[COM-362]]: Mass Communication Law

*In addition, students pursuing a concentration in Multimedia Journalism will complete 6 credits selected from the following courses:*

[[COM-262]]: Visual Communications  
[[COM-300]]: Communication Criticism  
[[COM-302]]: Fundamentals of Public Relations  
[[COM-361]]: Feature Writing  
[[COM-399]]/CPE-399: Cooperative Education

## Recommended Course Sequence

First Semester Credits	
[[COM-101]] Fundamentals of Public Speaking	3
Distribution Requirements	6
[[ENG-101]] Composition or Distribution Requirement	4
[[FYF-101]] First-Year Foundations	3
<b>Total Credits</b>	<b>15-16</b>

Second Semester	
[[COM-102]] Principles of Communication	3
[[COM-124]] Mass Media Literacy	3
Distribution Requirements	6
[[ENG-101]] Composition or Distribution Requirement	4
<b>Total Credits</b>	<b>15-16</b>

Third Semester	
[[COM-202]] Interpersonal Communication	3
[[COM-260]] Basic Newswriting	3
Free Electives	9
[[COM-144]] Practicum	1
<b>Total Credits</b>	<b>16</b>

Fourth Semester	
Concentration Selection	3
Distribution Requirements	9
[[COM-261]] Multimedia Communication	3
<b>Total Credits</b>	<b>15</b>

Fifth Semester	
[[COM-304]] Intercultural Communication	3
Concentration Selections	6
Free Electives	6

Total Credits	15
---------------	----

<b>Sixth Semester</b>	
Concentration Selection	3
[[COM-144]] Practicum	1
Distribution Requirements	6
Free Electives	6
Total Credits	16

<b>Seventh Semester</b>	
[[COM-324]] Research Methods	3
Free Electives	12
Total Credits	15

<b>Eighth Semester</b>	
[[COM-397]] Senior Seminar	3
Free Electives	12
Total Credits	15

# COMMUNICATIONS, B.A. - RHETORICAL STUDIES CONCENTRATION

## Communication Studies Requirements

All students choosing to major in Communication Studies must fulfill specific department core requirements. These courses contain skills, theory, analysis, performance, writing, and research. They are as follows (29 credits):

[[COM-101]]	Fundamentals of Public Speaking
[[COM-102]]	Principles of Communication
[[COM-124]]	Mass Media Literacy
[[COM-144]]	Practicum (2 credits minimum with at least one in each concentration taken)
[[COM-202]]	Interpersonal Communication
[[COM-260]]	Basic Newswriting (WI)
[[COM-261]]	Multimedia Communication
[[COM-304]]	Intercultural Communication
[[COM-324]]	Communication Research Methods
[[COM-397]]	Senior Seminar

## Concentration Requirement RHETORICAL STUDIES

The Rhetorical Studies concentration rests on the premise that, in order to be responsible citizens, we must be critical, ethically minded producers and consumers of a wide variety of publicly communicated messages. Contemporary rhetorical scholars inquire into the development and consumption of many of these kinds of messages, including presidential addresses, social movement discourse, radio, films and television shows, and digital communication. Keeping this context in mind, students are challenged to improve their rhetorical skills by crafting, delivering, and critiquing public presentations, practicing the rhetorical arts of listening and silence, deliberating across differences, and analyzing public discourse. As they apply these skills, students engage in critical thinking, gain a deeper understanding of their roles and responsibilities as citizens in a deliberative democracy, and improve their understanding of the power of rhetoric when adapted and communicated effectively in diverse settings.

*All students pursuing a concentration in Rhetorical Studies are required to take the following two courses (6 credits):*

[[COM-300]]: Communication Criticism  
[[COM-301]]: Persuasion

*In addition, students pursuing a concentration in Rhetorical Studies will take 6 credits selected from the following courses:*

[[COM-201]]: Advanced Public Speaking  
[[COM-204]]: Argumentation and Debate

[[COM-305]]: Studies in Public Address  
[[COM-399]]/CPE-399: Cooperative Education

## Recommended Course Sequence

First Semester Credits	
[[COM-101]] Fundamentals of Public Speaking	3
Distribution Requirements	6
[[ENG-101]] Composition or Distribution Requirement	4
[[FYF-101]] First-Year Foundations	3
<b>Total Credits</b>	<b>15-16</b>

Second Semester	
[[COM-102]] Principles of Communication	3
[[COM-124]] Mass Media Literacy	3
Distribution Requirements	6
[[ENG-101]] Composition or Distribution Requirement	4
Distribution Requirement	3
<b>Total Credits</b>	<b>15-16</b>

Third Semester	
[[COM-202]] Interpersonal Communication	3
[[COM-260]] Basic Newswriting	3
Free Electives	9
[[COM-144]] Practicum	1
<b>Total Credits</b>	<b>16</b>

Fourth Semester	
Concentration Selection	3
Distribution Requirements	9
[[COM-261]] Multimedia Communication	3
<b>Total Credits</b>	<b>15</b>

<b>Fifth Semester</b>	
[[COM-304]] Intercultural Communication	3
Concentration Selections	6
Free Electives	6
Total Credits	15

<b>Sixth Semester</b>	
Concentration Selection	3
[[COM-144]] Practicum	1
Distribution Requirements	6
Free Electives	6
Total Credits	16

<b>Seventh Semester</b>	
[[COM-324]] Research Methods	3
Free Electives	12
Total Credits	15

<b>Eighth Semester</b>	
[[COM-397]] Senior Seminar	3
Free Electives	12
Total Credits	15

# COMMUNICATIONS, B.A. - STRATEGIC COMMUNICATION CONCENTRATION

## Communication Studies Requirements

All students choosing to major in Communication Studies must fulfill specific department core requirements. These courses contain skills, theory, analysis, performance, writing, and research. They are as follows (29 credits):

[[COM-101]]	Fundamentals of Public Speaking
[[COM-102]]	Principles of Communication
[[COM-124]]	Mass Media Literacy
[[COM-144]]	Practicum (2 credits minimum with at least one in each concentration taken)
[[COM-202]]	Interpersonal Communication
[[COM-260]]	Basic Newswriting (WI)
[[COM-261]]	Multimedia Communication
[[COM-304]]	Intercultural Communication
[[COM-324]]	Communication Research Methods
[[COM-397]]	Senior Seminar

## Concentration Requirements STRATEGIC COMMUNICATION

The strategic communication concentration, which blends theory with practice, focuses on the ways in which organizations use interpersonal and ever-evolving media channels to establish mutually beneficial relationships and to accomplish specific goals. Students in this concentration will gain real world experience working with businesses and nonprofit organizations. Students will also focus on learning the theories and ethical practices of strategic communication, persuasion and public relations while developing a range of communication skills appropriate for professional settings.

*All students pursuing a concentration in Strategic Communication will take the following two courses (6 credits):*

[[COM-302]]: Fundamentals of Public Relations  
[[COM-303]]: Organizational Communication  
*In addition, students pursuing a concentration in Strategic Communication will complete 6 credits selected from the following courses:*

[[COM-203]]: Small Group & Team Communication  
[[COM-206]]: Business and Professional Communication  
[[COM-300]]: Communication Criticism  
[[COM-301]]: Persuasion  
[[COM-352]]: Advanced Public Relations Campaigns  
[[COM-372]]: Managing a Public Relations Agency  
[[COM-399]]/CPE-399: Cooperative Education

## Recommended Course Sequence

<b>First Semester Credits</b>	
[[COM-101]] Fundamentals of Public Speaking	3
Distribution Requirements	6
[[ENG-101]] Composition <b>or</b>	4
Distribution Requirement	3
[[FYF-101]] First-Year Foundations	3
<b>Total Credits</b>	<b>15-16</b>

<b>Second Semester</b>	
[[COM-102]] Principles of Communication	3
[[COM-124]] Mass Media Literacy	3
Distribution Requirements	6
[[ENG-101]] Composition <b>or</b>	4
Distribution Requirement	3
<b>Total Credits</b>	<b>15-16</b>

<b>Third Semester</b>	
[[COM-202]] Interpersonal Communication	3
[[COM-260]] Basic Newswriting	3
Free Electives	9
[[COM-144]] Practicum	1
<b>Total Credits</b>	<b>16</b>

<b>Fourth Semester</b>	
Concentration Selection	3
Distribution Requirements	9
[[COM-261]] Multimedia Communication	3
<b>Total Credits</b>	<b>15</b>

<b>Fifth Semester</b>	
[[COM-304]] Intercultural Communication	3
Concentration Selections	6
Free Electives	6

<b>Total Credits</b>	<b>15</b>
----------------------	-----------

<b>Sixth Semester</b>	
Concentration Selection	3
[[COM-144]] Practicum	1
Distribution Requirements	6
Free Electives	6
<b>Total Credits</b>	<b>16</b>

<b>Seventh Semester</b>	
[[COM-324]] Research Methods	3
Free Electives	12
<b>Total Credits</b>	<b>15</b>

<b>Eighth Semester</b>	
[[COM-397]] Senior Seminar	3
Free Electives	12
<b>Total Credits</b>	<b>15</b>

# COMPUTER INFORMATION SYSTEMS

## Computer Information Systems

Total minimum number of credits required for a major in Computer Information Systems leading to the B.S. degree — 120.

Total minimum number of credits required for a minor in Computer Information Systems — 17.

The Department of Mathematics, Physics and Computer Science, in cooperation with the Jay S. Sidhu School of Business and Leadership, offers an interdisciplinary program leading to the B.S. in Computer Information Systems.

### Computer Information Systems Major

Computer Information Systems is concerned primarily with the use of computer systems in business and industrial organizations. Its principal focus includes the study of systems analysis, systems design, and computer programming, along with other analytical areas of business that are pertinent to the development, implementation, and maintenance of information systems.

### Recommended Course Sequence

#### First Semester Credits

[[CS-125]] Computer Science I	4
[[ACC-161]] Financial Accounting and Decision Making	3
[[ENG-101]] Composition	4
[[FYF-101]] First-Year Foundations	3
	<b>14</b>

#### Second Semester

[[CS-126]] Computer Science II	4
[[ACC-162]] Managerial Accounting and Decision Making	3
[[MTH-111]] Calculus I	4
[[CS-246]] C and Unix	3
Distribution Requirements	3
	<b>17</b>

#### Third Semester

[[CS-225]] Computer Science III	3
---------------------------------	---

[[CS-285]] Mobile Applications or [[CS-283]] Web Development I	3
[[ENG-202]] Technical & Professional Writing	3
Distribution Requirements	6
	<b>15</b>

#### Fourth Semester

[[CS-226]] Computer Science IV	3
[[MTH-150]] Elementary Statistics	3
[[BA-153]] Management Foundations	3
Distribution Requirements	6
	<b>15</b>

#### Fifth Semester

[[CS-324]] Systems Analysis <b>OR</b> [[CS-325]] Database Management	3
[[CS-317]] Software Integration or CS Elective	3
[[CS-285]] Mobile Applications <b>OR</b> [[CS-283]] Web Development I	3
[[MGT-251]] Management of Organizations and People	3
Distribution Requirements	3-6
	<b>15-18</b>

#### Sixth Semester

CS Electives	6
[[MGT-354]] Organizational Behavior	3
Distribution Requirements or Free Electives	6
	<b>15</b>

#### Seventh Semester

[[CS-324]] Systems Analysis <b>OR</b> [[CS-325]] Database Management	3
[[CS-317]] Software Integration or CS Elective	3
[[CS-391]] Senior Projects I	1
BA Elective	3
Distribution Requirements or Free Electives	3 - 6

	13-16
<b>Eighth Semester</b>	
[[CS-392]] Senior Projects II	2
Distribution Requirements <b>OR</b> Free Electives	13
	<b>15</b>

**Additional Courses (61 credits)**

Distribution Requirements 24  
 [[ENG-101]] – Composition 4  
 [[ENG-202]] – Technical and Professional Writing 3  
 [[FYF101]] – First-Year Foundations 3  
 Free Electives 17  
 [[MTH-111]] – Calculus I 4  
 [[MTH-150]] – Elementary Statistics 3

## Summary of the minimum credit distribution for the major in Computer Information Systems:

**Business Administration (18 credits)****Required Courses (15 credits)**

[[ACC-161]] – Financial Accounting and Decision Making 3  
 [[ACC-162]] – Managerial Accounting and Decision Making 3  
 [[BA-153]] – Management Foundations 3  
 [[MGT-251]] – Management of Organizations and People 3  
 [[MGT-354]] – Organizational Behavior 3

**Elective (3 credits)**

[[MKT-221]] – Marketing 3  
 [[FIN-341]] – Managerial Finance 3  
 [[MGT-352]] – Production and Operations Management 3

**Computer Science Courses (44 credits)****Required Courses (35 credits)**

[[CS-125]] – Computer Science I 4  
 [[CS-126]] – Computer Science II 4  
 [[CS-225]] – Computer Science III 3  
 [[CS-226]] – Computer Science IV 3  
 [[CS-246]] – C and Unix 3  
 [[CS-283]] – Web Development I 3  
 [[CS-285]] – Mobile Applications 3  
 [[CS-317]] – Software Integration 3  
 [[CS-324]] – Systems Analysis 3  
 [[CS-325]] – Database Management 3  
 [[CS-391]] – Senior Projects I 1  
 [[CS-392]] – Senior Projects II 2

**Electives (9 credits)**

[[CS-321]] – Simulation and Data Analysis 3  
 [[CS-334]] – Software Engineering 3  
 [[CS-335]] – Advanced Database Concepts 3  
 [[CS-340]] – Artificial Intelligence 3  
 [[CS-350]] – Object-Oriented Programming 3  
 [[CS-355]] – Computer Networks 3  
 [[CS-360]] – Linear Programming 3  
 [[CS-363]] – Operations Research 3  
 [[CS-366]] – 3-Dimensional Environments and Animation 3  
 [[CS-367]] – Computer Graphics 3  
 [[CS-383]] – Web Development II 3  
 [[MTH-354]] – Statistical Methodology 3

# COMPUTER SCIENCE

## Computer Science

Total minimum number of credits required for a major in Computer Science leading to the B.A. degree — 120.

Total minimum number of credits required for a major in Computer Science leading to the B.S. degree — 120.

Total minimum number of credits required for a minor in computer science — 17.

The Department of Mathematics, Physics and Computer Science offers a program study leading to the B.A. or B.S degree with a major in Computer Science. Interested students may also pursue Computer Science as a minor area of study.

## Computer Science Major

The Computer Science curriculum consists of theoretical as well as application-oriented courses and is based on a strong foundation in mathematics. The B.A. degree is intended for those interested in management and social sciences, whereas the B.S. degree requires greater concentration in the engineering, natural, and physical sciences. The Computer Science prepares students for graduate study and research in the discipline or for employment in government or industry. Students are encouraged, through the pursuit of a minor or second major, to acquire competence in an area that lends itself to meaningful computer applications.

Because certain required and elective courses are offered in either alternative semesters or alternative years, or when demand warrants, degree candidates are strongly encouraged to meet with their advisors on a regular basis to discuss their academic schedule to ensure satisfactory progress toward the degree.

## Computer Science Major - Required Courses and Recommended Course Sequence

First Semester	B.A.	B.S.
[[CS-125]] Computer Science I	4	4
[[FYF-101]] First-Year Foundations	3	3
[[ENG-101]] Composition or Distribution Requirement	4/3	4/3
[[MTH-111]] Calculus I	4	4
	<b>14-15</b>	<b>14-15</b>

Second Semester	B.A.	B.S.
[[CS-126]] Computer Science II	4	4
[[MTH-112]] Calculus II	4	4
[[CS-246]] C and Unix	3	3
[[ENG-101]] Composition or Distribution Requirement	3	3
	<b>14-15</b>	<b>14-15</b>

Third Semester	B.A.	B.S.
[[CS-225]] Computer Science III	3	3
[[MTH-231]] Discrete Mathematics	3	3
Laboratory Science Sequence	0	4
Distribution Requirements	9	6
	<b>16</b>	<b>17</b>

Fourth Semester	B.A.	B.S.
[[CS-226]] Computer Science IV	3	3
[[MTH-232]] Discrete Mathematics II	3	3
Laboratory Science Sequence	0	4
Distribution Requirement(s)	6	3
[[ENG-202]] Tech. & Prof. Writing	3	3
	<b>15</b>	<b>16</b>

Fifth Semester	B.A.	B.S.
[[CS-326]] Operating System Principles or [[CS-328]] Analysis of Algorithms	3	3
[[MTH-150]] Elementary Statistics or [[MTH-351]] Probability and Statistics I	3	3

Laboratory Science Elective	0	4
Distribution Requirements or Free Electives	9	6
	<b>15</b>	<b>16</b>

Sixth Semester	B.A.	B.S.
[[CS-334]] Software Engineering	3	3
CS Elective or [[CS-330]] Computer Arch.	3	3
CS Elective or [[CS-319]] Programming Languages or [[CS-323]] Theory of Computation or [[CS-327]] Compiler Design	3	3
Free Electives	6	6
	<b>15</b>	<b>15</b>

Seventh Semester	B.A.	B.S.
[[CS-391]] Senior Projects 1	1	1
CS Elective	3	3
[[CS-326]] Operating System Principles or [[CS-328]] Analysis of Algorithms	3	3
Free Electives	6-9	6-9
	<b>13-16</b>	<b>13-16</b>

Eighth Semester	B.A.	B.S.
[[CS-392]] Senior Projects II	2	2
CS Elective or CS330	3	3
CS Elective or [[CS-319]] Programming Languages or [[CS-323]] Theory of Computation or [[CS-327]] Compiler Design	3	3

Free Electives	6-9	6-9
	<b>14-17</b>	<b>14-17</b>

## Science Electives for Computer Science Majors

### B.A. candidates

see General Education Curriculum requirements

### B.S. candidates

A laboratory science sequence, which must be one of the following:

[[BIO-121]]; [[BIO-122]]  
 [[CHM-113]] & [[CHM-115]]; [[CHM-114]] & [[CHM-116]]  
 [[EES-211]]; [[EES-230]]  
 [[PHY-201]] & [[PHY204]]; [[PHY-202]] & [[PHY-205]]

**and**

one additional four-credit course in Biology, Chemistry, Earth and Environmental Sciences, Physics, or any Engineering course not cross-listed in Computer Science. The course must be number above 200, except that [[BIO-121]], [[BIO-122]], [[CHM-113]] and [[CHM-115]], [[CHM-114]] and [[CHM-116]] are also acceptable in fulfilling this requirement.

## Computer Science Electives for Computer Science Majors

[[CS-319]] or [[CS-323]] or [[CS-327]] and three additional 300-level CS courses not listed as a required course excluding CS399.

### Summary of the minimum credit distribution for the major in Computer Science:

B.A. and B.S.

[[CS-125]] – Computer Science I 4

[[CS-126]] – Computer Science II 4

[[CS-225]] – Computer Science III 3

[[CS-226]] – Computer Science IV 3

[[CS-246]] – C and Unix 3

[[CS-326]] – Operating System Principles 3

[[CS-328]] – Algorithms 3

[[CS-330]] – Computer Architecture 3

[[CS-334]] – Software Engineering 3

[[CS-391]] – Senior Projects I 1

[[CS-392]] – Senior Projects II 2

[[CS-319]] – Principles of Programming Languages or

[[CS-323]] – Theory of Computation or

## Computer Science

[[CS-327]] – Compiler Design 3

CS Electives 9

[[MTH-111]] – Calculus I 4

[[MTH-112]] – Calculus II 4

[[MTH-231]] – Discrete Mathematics I 3

[[MTH-232]] - Discrete Mathematics II 3

[[MTH-150]] – Elementary Statistics or

[[MTH-351]] – Probability and Statistics I 3

[[ENG-101]] – Composition 4

[[ENG-202]] – Technical and Professional Writing 3

[[FYF-101]] – First-Year Foundations 3

Science Electives (B.A.) 6 (B.S.) 12

Distribution Requirements 18

Free Electives (B.A.)25 (B.S.) 19

Total minimum number of credits required for degree completion 120

**Summary of the minimum credit distribution for the major in Computer Science – 120**

# CORPORATE FINANCE

## Corporate Finance Major

**Coordinator:** Dr. Shaokang (Ken) Wang

Total minimum number of credits required for a Major in Corporate Finance leading to the Bachelor of Science degree — 123.

There is no minor in Corporate Finance.

The Corporate Finance Major at Wilkes is constructed upon the Sidhu School's common foundation courses and the General Education requirements of the University. Corporate Finance Majors begin their studies with FIN 240. Subsequent courses cover other topics such as financial analysis, long-term strategic financial planning, risk management and insurance, and money and banking.

Students in Sidhu School majors and minors must complete all required ACC courses at Wilkes University, except ACC 161 and ACC 162 which may be transferred from accredited institutions if they are determined to be the academic equivalent of the course offered at Wilkes University. Any other course that a student seeks to transfer as an ACC course would only be eligible to transfer as ACC 198, ACC 298 or ACC 398 depending on the rigor of the course.

Common career paths for graduates in this major are in the fields of financial management, financial analysis, financial examiners, as well as those that function in either accounting or finance in corporations. For those considering an academic career, the major may lead to an MBA and/or doctoral program

## Requirements (27 credits total)

**Each student with a major in Corporate Finance must complete the following 27 credits:**

[[FIN-219]] Financial Analysis	3
[[FIN-230]] Money and Banking	3
[[FIN-341]] Managerial Finance	3
[[FIN-342]] Property and Life Insurance	3
[[FIN-345]] Long Range Financial Planning	3
[[ACC-201]] Intermediate Accounting I	3
[[ACC-202]] Intermediate Accounting II	3
[[ACC-321]] Taxes	3
[[ACC-322]] Advanced Taxes	3

## Corporate Finance Major- Required Courses and Recommended Course Sequence

### First Semester Credits

[[BA-151]] Integrated Management Experience I	3
[[CS-115]] Computers and Applications	3
[[ENG-101]] Composition	4
[[FYF-101]] First-Year Foundations	3
[[HST-101]] Introduction of the Modern World	3
[[PPD-101]] Personal and Professional Development I	1
	<b>17</b>

### Second Semester

[[BA-152]] Integrated Management Experience II	3
[[COM-101]] Fundamentals of Public Speaking	3
[[MTH-100]] Pre-Calculus	3
[[BA-119]] Data Analysis in Excel	3
[[ENG-120]] Reading Classical Traditions	3
	<b>15</b>

### Third Semester

[[ACC-161]] Financial Accounting & Decision Making	3
[[MGT-251]] Management of Organizations & People	3
[[FIN-240]] Introduction to Finance	3
[[EC-101]] Principles of Economics	3
[[MTH-111]] Calculus I	3
[[PPD-201]] Personal and Professional Development III	1
	<b>16</b>

### Fourth Semester

[[ACC-162]] Managerial Accounting & Decision Making	3
[[EC-102]] Principles of Economics II	3

## Corporate Finance

[[FIN-230]] Money and Banking	3
[[MKT-221]] Marketing	3
[[FIN-341]] Managerial Finance	3
	<b>15</b>

[[ACC-341]] Accounting Information Systems	3
Arts Distribution Requirement (Area IV)	3
	<b>12</b>

## Fifth Semester

[[ACC-201]] Intermediate Accounting I	3
Science Distribution Requirement (Area II)	3
[[BA-335]] Law and Business	3
[[BA-319]] Business Statistics	3
[[FIN-219]] Financial Analysis	3
[[PPD-301]] Personal and Professional Development V	1
	<b>16</b>

## Sixth Semester

[[BA-336]] Advanced Topics in Business Law	3
[[FIN-342]] Property and Life Insurance	3
[[ACC-202]] Intermediate Accounting II	3
Science Distribution Requirement (Area II)	3
Humanities Distribution Requirement (Area I)	3
Free Elective	3
	<b>18</b>

## Seventh Semester

[[MGT-358]] International Business	3
[[ACC-321]] Taxes	3
[[FIN-345]] Long Range Financial Planning	3
Social Science Distribution Requirement (Area III)	3
[[PPD-401]] Personal and Professional Development VII	1
	<b>13</b>

## Eighth Semester

[[BA-461]] Business Strategy and Decision Making	3
[[FIN-462]] Professional Business Experience	3
[[ACC-322]] Advanced Taxes	3

# CRIMINOLOGY, B.A.

## Requirements

### Criminology

**Coordinator:** Dr. Kyle L. Kreider

Total minimum number of credits required for a major in Criminology leading to the B.A. degree - 120

Total minimum number of credits required for a minor in Criminology - 18

The Division of Behavioral and Social Sciences offers an interdisciplinary major in Criminology. Designed for flexibility and appeal to both the practicing professional and the student seeking admission to graduate school, the program incorporates a variety of carefully chosen courses in sociology, psychology, political science, and economics, such as Criminology, Juvenile Delinquency, Abnormal Behavior, Forensic Psychology, Criminal Law, and the Economics of Crime, leading to the Bachelor of Arts degree in Criminology. Internships in the areas of corrections, law enforcement, and the administration of justice are readily available to eligible students. Credit hours in internships may not be applied to the 45 hours required in the major.

Information about the program and about career opportunities in the field may be obtained from the advisor for this program.

### Criminology Major

A major in Criminology consists of 44 hours, including introductory courses (12 hours), criminology core courses (20 hours), major electives (9 hours), and a capstone course (3 hours). The 44 hours do not include any prerequisites.

Introductory Courses (12 hours)		credits
[[PS-233]]	Law & Society	3
[[EC-102]]	Microeconomics	3
[[PSY-101]]	General Psychology	3
[[SOC-101]]	Introduction to Sociology	3

Criminology Core Courses (20 hours)		
[[EC-320]]	Economics of Crime	3
[[PS-232]]	Criminal Law	3
[[PSY-352]] OR [[PSY-355]]	Abnormal Behavior or Forensic Psychology	3
[[SOC-222]]	Criminology	3

[[SOC-309]]	Career Mentoring in the Social Sciences	2
[[PS-261]] OR [[SOC-371]]	Research Methods in Political Science or Methods of Social Research	3
[[PS-265]] OR [[SOC-370]]	Quantitative Reasoning in the Social Sciences	3

Major Electives (9 hours)		
[[PS-332]]	Civil Rights and Civil Liberties	3
[[PSY-352]] OR [[PSY-355]]	Abnormal Behavior or Forensic Psychology	3
[[SOC-201]]	Introduction to Criminal Justice	3
[[SOC-215]]	Family Violence	3
[[SOC-220]]	Violence in Society	3
[[SOC-223]]	Drugs and Alcohol in American Society	3
[[SOC-226]]	Corrections, Probation, and Parole	3
[[SOC-228]]	Deviance and Social Control	3
[[SOC-235]]	Corrections Counseling	3
[[SOC-252]]	Race, Class, Gender and Crime	3
[[SOC-325]]	Juvenile Delinquency	3
[[SOC-352]]	Social Stratification	3
[[SOC-360]]	White Collar Crime	3
[[SOC-375]]	Advanced Criminological Theory	3

Capstone (3 hours)		
[[SOC-390]]	Senior Capstone in Sociology	3

### Five-year B.A./M.B.A. in Criminology

- Fast-track your career by earning both a bachelor's degree in Criminology and a Master of Business Administration degree in just five years.
- Wilkes University offers a unique opportunity for you to earn a Master of Business Administration degree in only one extra year with the accelerated five-year B.A./M.B.A. in Criminology.

### REQUIREMENTS

## Criminology, B.A.

The bachelor of arts (B.A.) degree in Criminology requires 120 credits, and the Master of Business Administration (M.B.A.) requires 39 credits. Wilkes University's B.A./M.B.A. program allows students to apply elective credits as an undergraduate that can be applied to the M.B.A. requirements, thereby allowing the student to finish the master's program in only three semesters.

## Recommended Course Sequence

### Required Courses and Recommended Course Sequence

First Semester	Credits
PS 111 Introduction to American Government	3
ENG101 Composition or Distribution Requirement	4
FYF 101 First-Year Foundations	3
PSY 101 General Psychology	3
SOC 101 Introduction to Sociology	3
<b>Total Credits</b>	<b>15-16</b>

Second Semester	
Distribution Requirements	6
ENG 101 Composition or Distribution Requirement	4
Major Elective	3
Free Elective	3
<b>Total Credits</b>	<b>15-16</b>

Third Semester	
Distribution Requirement	3
Free Electives	6
SOC 222 Criminology	3
Major Elective	3
<b>Total Credits</b>	<b>15</b>

Fourth Semester	
Distribution Requirement	3
EC 102 Microeconomics	3
Free Elective	3
Major Elective	3
PS 233 Law and Society	3

<b>Total Credits</b>	<b>15</b>
----------------------	-----------

Fifth Semester	
Distribution Requirements	6
EC 320 Economics of Crime	3
PS 232 Criminal Law	3
SOC 370 or PS 265 Qualitative Reasoning	3
<b>Total Credits</b>	<b>15</b>

Sixth Semester	
Distribution Requirement	3
Major Elective	3
Free Electives	6
SOC 309 Career Mentoring in the Social Sciences	2
SOC 371 Methods of Social Research <b>OR</b> PS 261 Research Methods in Political Science	3
<b>Total Credits</b>	<b>17</b>

Seventh Semester	
Free Electives	12
Major elective	3
<b>Total Credits</b>	<b>15</b>

Eighth Semester	
Free Electives	11
SOC 390 or PS 390 Senior Capstone	3
<b>Total Credits</b>	<b>14</b>

*\*See the General Education Curriculum for a list of courses that satisfy the Distribution Requirements.*

# EARTH AND ENVIRONMENTAL SCIENCE, B.A.

## Earth and Environmental Science Major

### Recommended Course Sequence for a B.A. Degree in Earth and Environmental Sciences and a Minor in Secondary Education Leading to Certification in Earth & Space Science in the Commonwealth of Pennsylvania

The B.A. degree in Earth and Environmental Sciences is for students interested in Secondary Education. Interested students should make an appointment with the chairperson of the Department of Education early in their program of study to plan their professional studies. These students will declare a minor in Secondary Education. All Teacher Education students must apply for Admission to the Teacher Education Program in their sophomore or junior year. Candidates must maintain a 2.0 GPA in their secondary major courses, a cumulative 3.0 GPA to remain in the Teacher Education Program, and pass the appropriate PRAXIS tests in order to be certified

#### First Semester

[[ED-180]] Educational Psychology	3
[[PSY-101]] General Psychology	3
[[FYF-101]] First-Year Foundations	3
[[ENG-101]] Composition	4
[[MTH-111]] Calculus I	4
	<b>17</b>

#### Second Semester

[[ED-190]] Effective Teaching with Field Experience	4
[[ED-191]] Integrating Technology into the Classroom	3
[[GEO-101]] Introduction to Geology	3
[[GEO-103]] Introduction to Geology Lab	1
[[MTH-150]] Elementary Statistics	3
Distribution Requirement	3
	<b>17</b>

#### Third Semester

[[EDSP-210]] Teaching Students with Special Needs	3
[[CHM-113]] Elements & Compounds Lab	1
[[CHM-115]] Elements & Compounds	3
[[EES-251]] Synoptic Meteorology	4
[[GEO-212]] Historical Geology	3
Distribution Requirement	3
	<b>17</b>

#### Fourth Semester

[[ED-220]] Teaching Culturally and Linguistically Diverse Learners	3
[[EES-240]] Principles of Environmental Engineering & Science	3
[[EES-241]] Principles of Environmental Engineering & Science Lab	1
[[CS-115]] Computers & Applications	3
EES Elective	3
Distribution Requirement	3
	<b>16</b>

#### Fifth Semester

[[EDSP-225]] Teaching Students with High Incidence Disabilities with Field Experience	3
[[EES-230]] Ocean Science	4
[[PHY-171]] Principles of Classical & Modern Physics	4
[[EES-280]] Principles of Astronomy	4
	<b>15</b>

#### Sixth Semester

[[EES-302]] Science Research & Communication	1
[[EES-304]] Environmental Data Analysis	2
[[EES-210]] Global Climate Change	3
[[PHY-174]] Applications of Classical & Modern Physics	4
[[GIS-271]] Introduction to GPS & GIS	3
Distribution Requirement	3

## Earth and Environmental Science, B.A.

	<b>16</b>
--	-----------

### Seventh Semester

[[ED-380]] Content Area Literacy	3
[[ED-371]] Teaching Methods in Science with Field Experience	4
[[EES-391]] Senior Projects I	1
[[EES-394]] Field Study	1
EES Elective	3
Distribution Elective	3
	<b>15</b>

### Eighth Semester

[[ED-390]] Student Teaching with Seminar	12
[[EDSP-388]] Inclusionary Practices (taken concurrently with ED 390)	3
[[EES-392]] Senior Projects II	2
	<b>17</b>

### Grand Total - 130 credits

The above course sequence is designed to be completed in four years. There are additional options that can be added to the above: (1) the addition of coursework that would lead to certification in General Science as well as in Earth & Space Science and, (2) upgrading the minor in Secondary Education to a double major (both B.A. degrees) in Secondary Education. Note that the B.A. degree in Secondary Education cannot stand alone; it must be paired with another major.

It should also be understood that adding these options to the basic program will require additional courses which may require more than four years to complete. A summary of the options is as follows:

(Basic Program) Bachelor of Arts degree in Earth & Environmental Sciences

Minor in Secondary Education

Secondary Teaching Certification in Earth & Space Sciences

Total credits required: 130 credits

(Option 1) Bachelor of Arts degree in Earth & Environmental Sciences

Minor in Secondary Education

Secondary Teaching Certification in Earth & Space Sciences

Secondary Teaching Certification in General Science

Total credits required: 141 credits

add: BIO 121 (4 credits) + BIO 122 or 225 (4 credits) + CHM 114/116 (4 credits)

(Option 2) Bachelor of Arts degree in Earth & Environmental Sciences

Bachelor of Arts degree in Secondary Education (double major)

Secondary Teaching Certification in Earth & Space Sciences

Total credits required: 136 credits

add: ED 345 (3 credits) + ED 375 (4 credits)

In addition to the course requirements, there are non-course requirements:

- All Teacher Education candidates must apply for admission to the Teacher Education Program in sophomore or junior year.
- In order to be admitted into the Teacher Education Program, candidates must:
  - Attain a 3.0 GPA
  - Complete 48 credits including six credits in both Mathematics and English
  - Pass a test of basic skills
  - Submit required clearances showing 'no record'
- To remain in the Teacher Education Program, candidates must:
  - Maintain a 3.0 GPA
  - Adhere to the Code of Professionalism and Academic Honesty
- To be certified as a teacher in the Commonwealth of Pennsylvania in grades 7 – 12, candidates must:
  - Successfully complete all required Education courses including student teaching
  - Graduate with a 3.0 or better cumulative GPA
  - Pass the appropriate exit test(s) in their content area
  - Apply for certification through the Pennsylvania Teacher Information Management System (TIMS)

Students interested in becoming secondary teachers in these programs should make an appointment with the chairperson of the Wilkes Education Department or the Coordinator of the Secondary Education Program as early as possible in their course of study to plan their professional studies. These students will declare a major in Earth & Environmental Sciences and a minor or major in Secondary Education. Students will be advised both by a faculty member in the Earth & Environmental Sciences Program and by the Coordinator of the Secondary Education Program. The advisors will ensure that the student is aware of course prerequisites which is especially important for some of the education courses which require completed clearances which can take months to acquire. Students should also refer to the Education Department section of this bulletin for complete details of the education curriculum.

# ELECTRICAL ENGINEERING

## Electrical Engineering

The Department of Mechanical & Electrical Engineering offers a four-year Bachelor of Science degree program in Electrical Engineering. The BS EE program prepares its students for industry and graduate study with the expectation of eventual leadership responsibilities. To that end, its faculty and facilities emphasize design and industrial experience, student-faculty-industry cooperative projects, teamwork, the adoption of new technologies, and the hands-on student utilization of laboratories and computing systems. The Electrical Engineering program maintains professional accreditation by the Engineering Accreditation Commission of ABET (ABET, 415 North Charles Street, Baltimore, MD 21201; Telephone: (410) 347-7700).

The EE program is designed to achieve a balance among the major areas of Communication Systems, Microelectronics, and Computer Systems. Descriptions of program objectives and outcomes are publicly posted in the department and on the department's [webpages](#).

The Master of Science degree in Electrical Engineering (MSEE) is also available. This degree program is described in the Graduate Bulletin.

## Electrical Engineering B.S Degree - Required Courses and Recommended Course Sequence

### First Semester

[[MTH-111]] Calculus I	4
[[CHM-117]] Chemistry Lab for Engineers	1
[[CHM-118]] Chemistry for Engineers	3
[[ME-180]] CADD Lab	1
[[ENG-101]] Composition	4
[[FYF-101]] First-Year Foundations	3
	<b>16</b>

### Second Semester

[[MTH-112]] Calculus II	4
[[PHY-201]] General Physics I	3
[[PHY-204]] General Physics I Lab	1
[[EE-140]] Scientific Programming	3
[[EE-216]] Circuit Analysis I	3
General Education	3
	<b>17</b>

### Third Semester

[[MTH-211]] Intro. to Differential Equations	4
[[PHY-202]] General Physics II	3
[[PHY-205]] General Physics II Lab	1
[[EE-217]] Circuit Analysis II	3
[[EE-285]] Electrical Circuits Lab	1
[[ME-231]] Statics	3
	<b>15</b>

### Fourth Semester

[[MTH-212]] Multivariable Calculus	4
[[EE-251]] Electronics I	3
[[EE-222]] Mechatronics	3
[[EE-241]] Digital Design	4
General Education	3
	<b>17</b>

### Fifth Semester

[[EE-252]] Electronics II	4
[[EE-271]] Semiconductor Devices	4
[[EE-381]] Microfabrication Lab	3
Technical Elective*	3
General Education	3
	<b>17</b>

### Sixth Semester

[[EE-399]] Cooperative Education** <b>OR</b>	
Technical Electives*	3
[[PHY-203]] Modern Physics	3
[[PHY-206]] Modern Physics Lab	1
[[EGR-201]] Professionalism and Ethics	1
[[PHY-214]] Applied Physics	3
General Education	3
[[EGM-320]] Engineering Project Management	3
	<b>17</b>

### Seventh Semester

[[EE-314]] Control Systems	3
[[EE-337]] Electromagnetics I	3
[[EE-391]] Senior Projects I	1

## Electrical Engineering

[[EE-325]] Energy Conversion Devices	3
General Education	6
	<b>16</b>

### Eighth Semester

[[EE-339]] Electromagnetics II	4
[[EE-382]] Modern Communication Systems	4
[[EE-392]] Senior Projects II	2
Technical Elective*	3
Free Elective***	2
	<b>15</b>

*\*Two technical elective courses must be taken from Electrical Engineering and Physics courses; the third technical elective course may be from EE or other engineering departments. All technical electives must be advisor approved.*

*\*\*Students must consult with the Cooperative Education Coordinator to determine availability and proper scheduling of the Cooperative Education experience.*

*\*\*\* Free elective may be chosen from any course numbered 101 or above.*

# ELEMENTARY AND EARLY CHILDHOOD EDUCATION MAJOR LEADING TO PK-4

## Recommended Course Sequence

124 Credits

Elementary and Early Childhood Education majors will also complete a Reading Education minor within the major requirements.

### First Semester

FYF 101 First-Year Foundations	3
PSY 101 General Psychology	3
HST 101 Historical Foundations of the Modern World	3
ENG 101 Composition	4
CS 115 Computers and Applications	3
	<b>16</b>

### Second Semester

ED 190 Effective Teaching *40	3
ED 191 Integrating Technology into the Classroom	3
PS 111 Introduction to American Politics	3
Science Elective	3
FL Elective	3
	<b>15</b>

### Third Semester

MTH 103 Mathematics for Elementary School Teachers I	3
ENG 120 Introduction to Literature and Culture	3
HST 125 American History	3
EDSP 210 Teaching Students with Special Needs	3
ED 263 Child Development and Cognition I *15	3
	<b>15</b>

### Fourth Semester

Science Elective	3
------------------	---

MTH 104 Mathematics for Elementary School Teachers II	3
ED 220 Teaching Culturally and Linguistically Diverse Learners	3
ED 264 Child Development and Cognition II *30	3
EDSP 225 Teaching Students with High Incidence Disabilities with field experience ( <i>Cross List with EDSP 501</i> )	3
	<b>15</b>

### Fifth Semester

Visual/Performing Arts	3
ED 310 Health, Physical Education, and Safety	3
ED 321 Literacy Foundations I *30	3
ED 324 Children's Literature	3
ED 360 Social Studies in EC & Elem. Ed.	3
	<b>15</b>

### Sixth Semester

ED 330 Mathematics in Early Childhood and Elementary Education	3
ED 322 Literacy Foundations II	3
ED 341 Language Arts	3
ED 345 Assessment in Education	3
ED 370 Science in Early Childhood and Elementary Education	3
ED 325 Applied Reading Strategies *15	3
	<b>18</b>

### Seventh Semester

ED 344 Assessment in Early Childhood & Elementary Education	3
ED 350 The Arts in Early Childhood and Elementary Education	3
ED 323 Differentiated Reading	3
ED 385 Classroom Management	3
ED 363 School, Family, and Community	3

## Elementary and Early Childhood Education Major leading to PK-4

	<b>15</b>
--	-----------

### **Eighth Semester**

ED 390 Student Teaching with Seminar **40	12
EDSP 388 Inclusionary Practices	3
	<b>15</b>

*\*Denotes field experience hours*

*\*\*Denotes pre-student teaching hours completed during the first two weeks of the eighth semester.*

# ELEMENTARY AND EARLY CHILDHOOD EDUCATION MAJOR LEADING TO PK-4 CERTIFICATION WITH DUAL CERTIFICATION IN SPECIAL EDUCATION (PK-12)

## Recommended Course Sequence

133 Credits

Elementary and Early Childhood Education majors will also complete a Reading Education minor within the major requirements.

### First Semester

FYF 101 First-Year Foundations	3
ED 180 Educational Psychology	3
HST 101 Historical Foundations of the Modern World	3
ENG 101 Composition	4
CS 115 Computers and Applications	3
	<b>16</b>

### Second Semester

ED 190 Effective Teaching *40	3
ED 191 Integrating Technology into the Classroom	3
PS 111 Introduction to American Politics	3
PSY 101 General Psychology	3
Science Elective	3
FL Elective/PHL 101, 110	3
	<b>18</b>

### Third Semester

MTH 103 Mathematics for Elementary School Teachers I	3
HST 125 American History I	3
ENG 120 Introduction to Literature and Culture	3
EDSP 210 Teaching Students with Special Needs	3

ED 263 Child Development and Cognition *1	3
	<b>15</b>

### Fourth Semester

Visual/Performing Arts	3
ED 341 Language Arts	3
MTH 104 Mathematics for Elementary School Teachers II	3
ED 220 Teaching Culturally and Linguistically Diverse Learners	3
ED 264 Child Development and Cognition I *30	3
EDSP 225 Special Education Methodology I *30	3
	<b>18</b>

### Fifth Semester

ED 310 Health, Physical Education, and Safety	3
ED 330 Mathematics in Early Childhood & Elementary Education	3
ED 321 Literacy Foundations I *30	3
ED 350 The Arts in Early Childhood and Elementary Education	3
EDSP 226 Spec. Ed. Methodology II *20	3
	<b>15</b>

### Sixth Semester

EDSP 327 Behavior Management *20	3
ED 322 Literacy Foundations II	3
ED 345 Assessment in Education	3
ED 370 Science in EC & Elementary Education	3
ED 325 Applied Reading Strategies *15	3
EDSP 300 Assessment in Special Education	3
	<b>18</b>

### Seventh Semester

ED 324 Children's Literature	3
ED 323 Differentiated Reading	3

**Elementary and Early Childhood Education Major leading to PK-4 Certification with Dual Certification in Special Education (PK-12)**

ED 385 Classroom Management	3
ED 360 Social Studies in EC & Elementary Education	3
EDSP 302 Special Ed. Methods	3
	<b>15</b>

**Eighth Semester**

ED 390 Student Teaching with Seminar **40	12
EDSP 388 Inclusionary Practices	3
	<b>15</b>

*\*Denotes field experience hours*  
*\*\*Denotes pre-student teaching hours completed during the first two weeks of the eighth semester.*

# **ELEMENTARY AND EARLY CHILDHOOD EDUCATION MAJOR WITH DUAL SPECIAL EDUCATION CERTIFICATION**

## **Requirements**

Students majoring in Elementary and Early Childhood Education pursuing dual certification in Special Education PK-8 complete the following courses in addition to the aforementioned Elementary and Early Childhood program requirements (no course substitutions permitted):

[[ED-180]] - Educational Psychology

[[EDSP-226]] - Special Education Methodology II with Field Experience (20 hours)

[[EDSP-227]] - Behavior Management with Field Experience (20 hours)

[[EDSP-300]] - Assessment in Special Education (This course replaces the PK-4 course [[ED-344]] - Assessment in Early Childhood and Elementary Education.)

[[EDSP-302]] - Special Education Methods

All EDSP courses, in combination, will substitute for the PK-4 [[ED-363]] -- School, Family, & Community course.

Special Education certification candidates will complete half their student teaching in a special education setting and half in a regular education setting

# ENGINEERING MANAGEMENT

## Engineering Management

The four-year Bachelor of Science degree program in Engineering Management (EGM) prepares students for eventual leadership responsibilities in technological environments. Traditional paths for EGM graduates include project management, project engineering, process management, new product development, manufacturing management, new product development processes, quality control, and reliability analysis.

The EGM program integrates the engineering disciplines of electrical and mechanical engineering with business. Flexibility exists for the student to develop concentrations in Information Systems or Entrepreneurship, for example. This program is attractive to companies seeking graduates who are well-rooted in engineering fundamentals, yet who are broadly interested in technology, competitive markets, and business development. Wilkes University does not maintain professional accreditation for the Engineering Management degree.

The Master of Science degree in Engineering Management (MSEGM) is also available. This degree program is described in the Graduate Bulletin.

## Engineering Management Major - Required Courses and Recommended Course Sequence

### First Semester

[[MTH-111]] Calculus I	4
[[CHM-117]] Chemistry Lab for Engineers	1
[[CHM-118]] Chemistry for Engineers	3
[[ME-180]] CADD Lab	1
[[ENG-101]] Composition	4
[[FYF-101]] First-Year Foundations	3
	<b>16</b>

### Second Semester

[[MTH-112]] Calculus II	4
[[PHY-201]] General Physics I	3
[[PHY-204]] General Physics I Laboratory	1
[[ME-140]] Scientific Programming	3
[[EGR-200]] Materials Science	3
[[EC-102]] Principles of Economics II	3
	<b>17</b>

### Third Semester

[[MTH-211]] Introduction to Ordinary Differential Equations	4
[[PHY-202]] General Physics II	3
[[PHY-205]] General Physics II Laboratory	1
[[EE-211]] Electrical Circuits and Devices	3
[[EE-283]] Electrical Engineering Lab	1
[[ME-231]] Statics	3
Distribution Requirement	3
	<b>18</b>

### Fourth Semester

[[EGM-320]] Engineering Project Management	3
[[ME-232]] Strength of Materials	3
[[ME-175]] Machining	1
[[MTH-150]] Elementary Statistics	3
[[BA-335]] Law and Business	3
[[EGR-222]] Mechatronics	3
	<b>16</b>

### Fifth Semester

[[ME-333]] Machine Design	3
[[BA-153]] Management Foundations	3
[[ME-215]] Manufacturing Processes	3
[[FIN-240]] Introduction to Finance	3
[[ACC-161]] Financial Accounting and Decision-Making	3
Distribution Requirement	3
	<b>18</b>

### Sixth Semester

[[EGM-399]] Cooperative Education** or Technical Elective*	6/3
[[EGR-201]] Professionalism and Ethics	1
[[EGM-321]] Quantitative Analysis	3
[[ME-322]] Thermodynamics	3
[[MGT-251]] Management of Organizations and People	3
Distribution Requirement	3

	<b>16</b>
--	-----------

### Seventh Semester

[[EGM-391]] Senior Projects I	1
[[EGM-336]] Engineering and Management Models	3
[[EGM-325]] Project Analysis	3
[[EGM-315]] Quality Management	3
[[EGR-202]] Engineering Professional Development I	1
Distribution Requirement	3
	<b>14</b>

### Eighth Semester

[[EGM-392]] Senior Projects II	2
[[EGM-310]] Project Decision Processes	3
[[EGM-322]] Operations Analysis	3
Technical Elective*	3
[[EGR-203]] Engineering Professional Development II	1
Distribution Requirement	3
	<b>15</b>

*\*Technical electives may be chosen from any advisor-approved math, science, or engineering course numbered 200 or above.*

*\*\*Consult with the Cooperative Education Coordinator to determine availability and proper scheduling of the Cooperative Education experience.*

# ENGLISH, B.A.

## Requirements

### English Major

Total minimum number of credits required for a major in English leading to the B.A. degree — 120.

Total minimum number of credits required for a minor in English — 18 (beyond [[ENG-101]])

Wilkes University requires a minimum of 120 credit hours for a B.A. degree in English. These include completion of General Education Curriculum requirements and 39 credits in English, including [[ENG-101]], which is a prerequisite for [[ENG-120]].

The English major offers students an opportunity to develop skills in language, rhetoric, and writing; to practice critical and creative thinking; and to examine the diversity of human identity and experience through the study of literature. The skills, values, and habits of thought acquired through the study of language and literature prepare students for leadership positions and careers in teaching, graduate school, law, communications, journalism, publishing, business, government service, and other professional areas. The department strongly recommends that students who major in English take a foreign language.

A second major or a minor in English adds an attractive dimension to a student's major preparation in communications, business, theatre, pre-law, and other pre-professional and technical programs in which effective writing, liberal learning, and critical thinking are valued.

Students who major in English may concentrate in literature, writing, digital humanities, or may choose a program leading to certification in secondary teaching.

Non-majors may be admitted to courses numbered 300 and above with the permission of the instructor and department chair.

### Literature Concentration in English

Students who concentrate their studies in literature are required to take [[ENG-101]], [[ENG-120]] (Introduction to Literature and Culture), [[ENG-201]] (Writing About Literature and Culture), and three of four survey courses: [[ENG-233]] (Survey of English Literature I), [[ENG-234]] (Survey of English Literature II), [[ENG-281]] (Survey of American Literature I), and [[ENG-282]] (Survey of American Literature II). The department strongly recommends that students concentrating in literature take all four survey courses. In addition, students must complete 19 credit hours in English courses numbered above 300, including one course in major author studies, one course in genre studies (fiction, drama, poetry), two courses in a period or movement, [[ENG-397]] (English Seminar), and a Senior Capstone project.

### Writing Concentration in English

Students who pursue a concentration in writing are required to take [[ENG-101]], [[ENG-120]], [[ENG-201]] and an additional nine credit hours in other writing courses numbered above 200. Students must take three of four survey courses: [[ENG-233]], [[ENG-234]], [[ENG-281]] and [[ENG-282]].

In addition, students must complete nine credit hours in advanced literature courses numbered above 300, including [[ENG-397]] (English Seminar), and a Senior Capstone project.

### Digital Humanities Concentration in English

Students who concentrate in Digital Humanities must take [[ENG-101]], [[ENG-120]], [[ENG-201]] and three of the four survey courses: [[ENG-233]], [[ENG-234]], [[ENG-281]], and [[ENG-282]]. In addition, students must complete nine credit hours in Digital Humanities-designated courses numbered 200 and above, including [[ENG-222]] (Introduction to Digital Humanities), as well as nine credits in advanced English courses numbered 300 or above, including [[ENG-397]]. Students must also complete a Digital Humanities-designated senior capstone project.

### Certifications in Secondary Education and Middle Level Education

Students interested in Secondary Education or Middle Level Education certification should make appointments as early as possible with the chairpersons of the English program and of the Education Department to plan their professional studies. Students seeking certification as secondary level or middle level education public school teachers should refer to the Education Department's undergraduate section of the current Bulletin for a complete outline of Pennsylvania Department of Education (PDE) and program requirements.

Students majoring in English with a minor in Secondary Education and seeking certification as secondary public school teachers of English (seventh through twelfth grade certification) must take [[ENG-101]], [[ENG-120]] (Introduction to Literature and Culture), [[ENG-201]] (Writing About Literature and Culture), [[ENG-225]] (Comparative Grammar), [[ENG-324]] (History of the English Language), [[ENG-393]] (The Teaching of English in Middle-Level and Secondary Schools), and three of four survey courses: [[ENG-233]] (Survey of English Literature I), [[ENG-234]] (Survey of English Literature II), [[ENG-281]] (Survey of American Literature I), and [[ENG-282]] (Survey of American Literature II). The department strongly recommends that students seeking certification take all four survey courses. In addition, students must complete twelve hours in English courses numbered above 300, including one course in major author studies, one course in genre studies (fiction, drama, poetry), one course in a period or movement, and [[ENG-397]] (English Seminar).

Required Education courses are [[ED-180]] (Educational Psychology), [[ED-190]] (Effective Teaching with Field Experience), [[ED-191]] (Integrating Technology into the Classroom), [[ED-220]] (Teaching Culturally and Linguistically Diverse Learners), [[ED-390]] (Student Teaching with Seminar), [[EDSP-210]] (Teaching Students with Special Needs), [[EDSP-225]] (Special Education Methodology I with Field Experience), and [[EDSP-388]] (Inclusionary Practices).

Students interested in Secondary Education should make an appointment with the coordinator of the Secondary Education program as early as possible to design an effective and efficient course of study that incorporates all requirements of the major and minor degree programs. These students will

declare a minor in Secondary Education. The requirements for the minor in Secondary Education and certification are contained in the Education section of the Bulletin. All Teacher Education students must apply for admission to the Teacher Education Program in their sophomore or junior year. Candidates must maintain a 3.0 GPA and pass the appropriate PAPA and PRAXIS tests in order to be certified.

Students seeking certification as Middle Level public school teachers (fourth through eighth grade certification) in English/ Language Arts/Reading should refer to the Education Department's undergraduate section of this Bulletin for a complete outline of Pennsylvania Department of Education (PDE) and program requirements. Students seeking certification as Middle Level public school teachers should also consult carefully with their Education program and English program advisors in planning their program.

## Recommended Course Sequence

<b>First Semester</b>	
Distribution Requirements	9
ENG 101 Composition	4
FYF 101 First-Year Foundations	3
<b>Total Credits</b>	<b>16</b>

<b>Second Semester</b>	
Distribution Requirements	9
ENG 120 Introduction to Literature and Culture	3
Free Elective	3
<b>Total Credits</b>	<b>15</b>

<b>Third Semester</b>	
ENG 201 Writing about Literature and Culture	4
English Survey (ENG 233,282)	3
Free Electives	9
<b>Total Credits</b>	<b>16</b>

<b>Fourth Semester</b>	
English Survey (ENG 234,281)	6
Free Electives	9
<b>Total Credits</b>	<b>15</b>

<b>Fifth Semester</b>	
Free Electives	9
Major Electives*	6
<b>Total Credits</b>	<b>15</b>

<b>Sixth Semester</b>	
Free Electives	6
Major Electives*	9
<b>Total Credits</b>	<b>15</b>

<b>Seventh Semester</b>	
ENG 397 Seminar	3
Free Electives	12
<b>Total Credits</b>	<b>15</b>

<b>Eighth Semester</b>	
Free Electives	12
Major Capstone	1
<b>Total Credits</b>	<b>13</b>

\*Students select major electives to meet requirements in their area of concentration.

# ENVIRONMENTAL ENGINEERING

## Environmental Engineering Major

The Department of Civil and Environmental Engineering (CEE) offers a four-year EAC-ABET-accredited degree program in Environmental Engineering (ENV). This program provides strong engineering and scientific experience with advanced techniques heavily integrated into the curriculum. Students intending to major in this program are encouraged to be well prepared in the sciences and mathematics. Specialization is achieved by means of the selection of appropriate technical electives. Total credits - 130.

The student professional chapters of the Air & Waste Management Association (AWMA), American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE), the Pennsylvania Society of Professional Engineers (PSPE) and the Society of Women Engineers (SWE) in conjunction with the Department of Civil and Environmental Engineering periodically offer seminars on subjects of a timely nature. Attending these seminars and taking the Fundamentals of Engineering Exam (FE) are mandatory for the completion of the degree in Environmental Engineering.

## Honors Program in Environmental Engineering

Upon the recommendation and approval of the Environmental Engineering faculty, honor students in Environmental Engineering will be recognized upon completion of the following requirements: achievement of an overall grade point average of 3.25 or better; receipt of grades of 3.00 or better in all engineering courses of his or her discipline; pursuit of independent research or special projects in engineering; and presentation of research and project results at meetings, conferences, or by means of publication of a paper. The distinction "Honors in Engineering" will be recorded on the student's transcript upon graduation.

## Environmental Engineering Major - Required Courses and Recommended Course Sequence

### First Semester

[[CHM-117]] Introductory Chemistry Lab for Engineers	1
[[CHM-118]] Chemistry for Engineers	3
[[ENG-101]] Composition	4
[[FYF-101]] First-Year Foundations	3
[[ME-180]] CADD Lab	1
[[MTH-111]] Calculus I	4

	16
--	----

### Second Semester

Distribution Requirements	6
[[ENV-205]] Environmental Microbiology	3
[[MTH-112]] Calculus II	4
[[PHY-201]] General Physics I	3
[[PHY-204]] General Physics I Lab	1
	17

### Third Semester

Distribution Requirement	3
[[EES-240]] Principles of Environmental Engineering and Science	3
[[EES-241]] Principles of Environmental Engineering and Science Lab	1
[[ME-231]] Statics	3
[[MTH-211]] Intro. to Ordinary Differential Equations	4
[[PHY-202]] General Physics II	3
[[PHY-203]] General Physics II Lab	1
	18

### Fourth Semester

Distribution Requirements	6
[[GEO-101]] Introduction to Geology	3
[[GEO-103]] Introduction to Geology Lab	1
[[ENV-201]] Probability & Statistics for Engineers	2
[[ME-232]] Strength of Materials	3
[[ME-322]] Thermodynamics	3
	18

### Fifth Semester

[[ENV-315]] Soils	3
[[ENV-202]] Environmental Engineering Systems: Analytical and Computational Analysis	2
[[ENV-321]] Hydrology	3
[[ENV-323]] Hydrology Lab	1
[[ME-321]] Fluid Mechanics	3

[[ME-323]] Fluid Mechanics Lab	1
[[GIS-271]] Introduction to GPS and GIS	3
	<b>16</b>

### Sixth Semester

Distribution Requirement	3
[[EGM-320]] Engineering Project Management	3
[[EGR-201]] Professionalism & Ethics	1
[[ENV-330]] Water Quality	4
[[ENV-332]] Air Quality	3
[[ENV-390]] Junior Seminar	1
Technical Elective**	3
	<b>18</b>

### Seventh Semester

[[ENV-305]] Solid Waste Management	3
[[ENV-356]] Physical/Chemical Treatment Processes	3
[[ENV-353]] Air Pollution Control	3
[[ENV-391]] Senior Projects I	1
Technical Elective**	3
	<b>13</b>

### Eighth Semester

[[ENV-322]] Water Resources Engineering	3
[[ENV-352]] Hydraulic Engineering	3
[[ENV-357]] Biological Treatment Proc.	3
[[ENV-354]] Hazardous Waste Management	3
[[ENV-392]] Senior Projects II	2
	<b>14</b>

\*\*Technical Elective Requirements: ENV/CE/SUS (3 credits; ENV/CE has to be 2xx or above, or SUS 3xx or above); others can be any 200 or above level science or engineering course. .

# ENVIRONMENTAL SCIENCE, B.S.

## Environmental Science Major

The major leading to the B.S. degree emphasizes the technical and analytical aspects of environmental science with concentrations in earth science and biology. The program is designed for those students intending to work as scientists in laboratory, field, or research positions. Students with this degree may enter graduate programs in geology, biology, and environmental science. Total credits - 126

## Environmental Science with a Concentration in Earth Science B.S. Degree-Required Courses and Recommended Course Sequence

### First Semester Credits

[[BIO-121]] Principles of Modern Biology I	4
[[FYF-101]] First-Year Foundations	3
[[MTH-111]] Calculus I	4
[[CHM-113]] Elements & Compounds Lab	1
[[CHM-115]] Elements & Compounds	3
	<b>15</b>

### Second Semester

[[CHM-114]] The Chemical Reaction Lab	1
[[CHM-116]] The Chemical Reaction	3
[[BIO-122]] Principles of Modern Biology II	4
[[GEO-101]] Introduction to Geology	3
[[GEO-103]] Introduction to Geology Lab	1
[[MTH-114]] Calculus and Modeling for the Biological and Health Sciences	4
	<b>16</b>

### Third Semester

[[EES-251]] Synoptic Meteorology	4
[[MTH-150]] Elementary Statistics	3
[[ENG-101]] Composition	4
[[PHY-171]] Principles of Classical and Modern Physics	4

Distribution Requirement	3
	<b>18</b>

### Fourth Semester

[[EES-210]] Global Climate Change	3
[[EES-213]] Climate Modeling	1
[[EES-240]] Principles of Environmental Engineering & Science	3
[[EES-241]] Principles of Environmental Engineering & Science Lab	1
[[PHY-174]] Applications of Classical & Modern Physics	4
Distribution Requirement	3
	<b>15</b>

### Fifth Semester

[[EES-230]] Ocean Science	4
[[ENV-321]] Hydrology	3
[[ENV-323]] Hydrology Lab	1
[[GIS-271]] Introduction to GPS & GIS	3
[[EES-394]] Field Study	1
Distribution Requirements	6
	<b>18</b>

### Sixth Semester

[[ENV-330]] Water Quality	4
[[GIS-272]] Advanced GIS & Remote Sensing	3
[[EES-302]] Science Research and Communication	1
[[EES-304]] Environmental Data Analysis	2
Program Elective	3
	<b>16</b>

### Seventh Semester

[[EES-201]] Environmental Ethics and Sustainability	1
[[ENV-315]] Soils	3
[[EES-391]] Senior Projects I	1
Program Electives	6
Distribution Requirement	3
	<b>14</b>

### Eighth Semester

[[GEO-370]] Geomorphology	3
---------------------------	---

[[EES-390]] Environmental Science Seminar	3
[[EES-392]] Senior Projects II	2
Distribution Requirements	3
Free Elective	3
	<b>14</b>

**NOTE:**

All program electives must be 200 level or higher.

B.S. candidates are encouraged to complete a science minor (e.g., Physics, Chemistry, or Biology); consult the undergraduate bulletin for details. Candidates are also encouraged to have relevant cooperative educational experiences, 6 credits of which may be applied as EES electives.

Courses at the 200-level and above are intended for science and mathematics majors only. Exceptions may be made with permission of the instructor. Election of a 200-level course by a non-science major will preclude registration for the corresponding 100-level course.

## Environmental Science with a Concentration in Biology B.S. Degree - Required Courses and Recommended Course Sequence

**First Semester Credits**

[[BIO-121]] Principles of Modern Biology I	4
[[FYF-101]] First-Year Foundations	3
[[MTH-111]] Calculus I	4
[[CHM-113]] Elements & Compounds Lab	1
[[CHM-115]] Elements & Compounds	3
	<b>15</b>

**Second Semester Credits**

[[CHM-114]] The Chemical Reaction Lab	1
[[CHM-116]] The Chemical Reaction	3
[[BIO-122]] Principles of Modern Biology II	4
[[GEO-101]] Introduction to Geology	3
[[GEO-103]] Introduction to Geology Lab	1
[[MTH-114]] Calculus and Modeling for the Biological & Health Sciences	4

	<b>16</b>
--	-----------

**Third Semester Credits**

[[EES-251]] Synoptic Meteorology	4
[[MTH-150]] Elementary Statistics	3
[[ENG-101]] Composition	4
[[PHY-171]] Principles of Classical and Modern Physics	4
Distribution Requirement	3
	<b>18</b>

**Fourth Semester Credits**

[[EES-210]] Global Climate Change	3
[[EES-213]] Climate Modeling	1
[[EES-240]] Principles of Environmental Engineering & Science	3
[[EES-241]] Principles of Environmental Engineering & Science Lab	1
[[PHY-174]] Applications of Classical & Modern Physics	4
Distribution Requirement	3
	<b>15</b>

**Fifth Semester Credits**

[[BIO-225]] Population and Evolutionary Biology	4
[[BIO-347]] Biostats and Experimental Design	4
[[GIS-271]] Introduction to GPS & GIS	3
[[CHM-231]] Organic Chemistry I	3
[[CHM-233]] Organic Chemistry I Lab	1
Distribution Requirement	3
	<b>18</b>

**Sixth Semester Credits**

[[GIS-272]] Advanced GIS & Remote Sensing	3
[[EES-302]] Science Research and Communication	1
EES/BIO Electives	6
Distribution Requirement	3
Free Elective	3
	<b>16</b>

## Environmental Science, B.S.

### Seventh Semester Credits

[[EES-201]] Environmental Ethics and Sustainability	1
[[ENV-315]] Soils	3
[[EES-341]] Freshwater Ecosystems	3
[[ENV-391]] Senior Projects I	1
EES/BIO Electives	6
	<b>14</b>

### Eight Semester Credits

[[EES-390]] Environmental Science Seminar	3
[[EES-392]] Senior Projects II	2
Distribution Requirements	6
Free Elective	3
	<b>14</b>

#### NOTE:

All program electives must be 200 level or higher.

B.S. candidates are encouraged to complete a science minor (e.g., Physics, Chemistry, or Biology); consult the undergraduate bulletin for details. Candidates are also encouraged to have relevant cooperative educational experiences, 6 credits of which may be applied as EES electives.

Courses at the 200-level and above are intended for science and mathematics majors only. Exceptions may be made with permission of the instructor. Election of a 200-level course by a non-science major will preclude registration for the corresponding 100-level course.

# FINANCIAL INVESTMENTS

## Financial Investments Major

**Coordinator:** Dr. Dean Frear

Total minimum number of credits required for a Major in Financial Investments leading to the Bachelor of Science degree — 123.

The Financial Investments Major at Wilkes is constructed upon the Sidhu School's common foundation courses and the General Education requirements of the University. Financial Investment Majors begin their studies with [[FIN-240]]. Subsequent courses cover other topics such as investment management, long-term strategic financial planning, risk management and insurance, money and banking and personal finance

Common career paths for graduates in this major are in the fields of financial management, financial analysis, securities, commodities, financial services sales agents and personal financial advisors. For those considering an academic career, the major may lead to an MBA and/or doctoral program.

Requirements for the Financial Investments Major (30 credits total) Credits

<b>Requirements (30 credits)</b>	
[[FIN-201]] Personal Finance	3
[[FIN-219]] Financial Analysis	3
[[FIN-230]] Money and Banking	3
[[FIN-319]] Financial Derivatives	3
[[FIN-341]] Managerial Finance	3
[[FIN-342]] Property and Life Insurance	3
[[FIN-343]] Investments and Portfolio Management	3
[[FIN-345]] Long-Range Financial Planning	3
[[FIN-358]] International Finance	3
[[BA-419]] Quantitative Decision Making	3

## Financial Investments Major- Required Courses and Recommended Course Sequence

### First Semester Credits

[[BA-151]] Integrated Management Experience I	3
[[CS-115]] Computers and Applications	3
[[ENG-101]] Composition	4

[[FYF-101]] First-Year Foundations	3
[[HST-101]] Introduction of the Modern World	3
[[PPD-101]] Personal and Professional Development I	1
	<b>17</b>

### Second Semester

[[BA-152]] Integrated Management Experience II	3
[[COM-101]] Fundamentals of Public Speaking	3
[[MTH-100]] Pre-Calculus	3
[[BA-119]] Data Analysis in Excel	3
[[ENG-120]] Reading Classical Traditions	3
	<b>15</b>

### Third Semester

[[ACC-161]] Financial Accounting & Decision Making	3
[[MGT-251]] Management of Organizations & People	3
[[FIN-240]] Introduction to Finance	3
[[EC-101]] Principles of Economics	3
[[MTH-111]] Calculus I	3
[[PPD-201]] Personal and Professional Development III	1
	<b>16</b>

### Fourth Semester

[[ACC-162]] Managerial Accounting & Decision Making	3
[[EC-102]] Principles of Economics II	3
[[FIN-230]] Money and Banking	3
[[MKT-221]] Marketing	3
[[FIN-341]] Managerial Finance	3
	<b>15</b>

### Fifth Semester

[[FIN-343]] Investments and Portfolio Management	3
--	---

## Financial Investments

Science Distribution Requirement (Area II)	3
[[BA-335]] Law and Business	3
[[BA-319]] Business Statistics	3
[[FIN-219]] Financial Analysis	3
[[PPD-301]] Personal and Professional Development V	1
	<b>16</b>

## Sixth Semester

[[BA-336]] Advanced Topics in Business Law	3
[[FIN-342]] Property and Life Insurance	3
[[FIN-319]] Financial Derivatives	3
[[FIN-201]] Personal Finance	3
Science Distribution Requirement (Area II)	3
Humanities Distribution Requirement (Area I)	3
	<b>18</b>

## Seventh Semester

[[MGT-358]] International Business	3
[[BA-419]] Quantitative Decision Making	3
[[FIN-345]] Long Range Financial Planning	3
Social Science Distribution Requirement (Area III)	3
[[PPD-401]] Personal and Professional Development VII	1
	<b>13</b>

## Eighth Semester

[[BA-461]] Business Strategy and Decision Making	3
[[FIN-462]] Professional Business Experience	3
[[FIN-358]] International Finance	3
Arts Distribution Requirement (Area IV)	3
[[BA-419]] Quantitative Decision Making	
	<b>15</b>

# GEOLOGY

## Geology Major

The major leading to the B.S. degree emphasizes the fundamental of the science of geology with upper-level courses that provide both breadth and depth in the curriculum.

The program is designed to optimize classroom, lab, and field experiences and prepare students for the modern demands of a geoscientist or entry into graduate school.

Total credits - 122

## B.S. Geology Degree- Required Courses and Recommended Course Sequence

### First Semester Credits

[[CHM-115]] Elements & Compounds	3
[[CHM-113]] Elements & Compounds Lab	1
[[ENG-101]] Composition	4
[[FYF-101]] First-Year Foundations	3
[[MTH-111]] Calculus I	4
	<b>15</b>

### Second Semester

[[CHM-116]] The Chemical Reaction	3
[[CHM-114]] The Chemical Reaction Lab	1
[[GEO-101]] Intro to Geology	3
[[GEO-103]] Intro to Geology Lab	1
[[MTH-112]] Calculus II	4
Distribution Requirement	3
	<b>15</b>

### Third Semester

[[GEO-212]] Historical Geology	3
[[GEO-281]] Mineralogy	4
[[MTH-150]] Elementary Statistics	3
[[PHY-171]] Principles of Classical and Modern Physics	4
Distribution Requirement	3
	<b>17</b>

### Fourth Semester

[[EES-240]] Principles of Environmental Engineering & Science	3
---	---

[[EES-241]] Principles of Environmental Engineering & Science Lab	1
[[GEO-282]] Petrology	3
[[PHY-174]] Appl of Classical and Modern Physics	4
Distribution Requirement	3
	<b>14</b>

### Fifth Semester

[[CE-346]] Rock Engineering	3
[[ENV-321]] Hydrology	3
[[ENV-323]] Hydrology Lab	1
[[GEO-345]] Stratigraphy and Sedimentation	4
[[GIS-271]] Intro to GPS & GIS	3
	<b>14</b>

### Sixth Semester

[[EES-302]] Science Research and Communication	1
[[EES-304]] Environmental Data Analysis	2
[[GEO-349]] Structure and Tectonics	4
[[GEO-351]] Paleoclimatology	3
[[GEO-352]] Hydrogeology	3
[[GIS-272]] Advanced GIS & Remote Sensing	3
	<b>16</b>

### Summer Session

[[GEO-380]] Geology Field Camp	4
--------------------------------	---

### Seventh Semester

[[GEO-390]] Applied Geophysics	3
[[GEO-391]] Senior Projects I	1
Distribution Requirements	6
Program Elective	3
	<b>13</b>

### Eighth Semester

[[GEO-370]] Geomorphology	3
[[GEO-392]] Senior Projects II	2
Distribution Requirements	3
Free Elective	3

**Geology**

Program Elective	3
	<b>14</b>

## HEALTH SCIENCES

### Health Sciences Professional Programs

**Director, Center for Health Sciences and Student**

**Success:** Mrs. Constance Dombroski

**Premedical and Pre-Professional Programs Advisor:** Ms. Debra I. Chapman

#### MLS Clinical Preceptors

Stacy Pond, MS, MLS(ASCP)CM, Program Director, Medical Laboratory Science, Robert Packer Hospital, Sayre, PA  
Christine M. Wheary, MS, MT(ASCP), Program Director, Clinical Laboratory Science, UPMC Susquehanna, Williamsport, PA;

Carol Bond, MT (ASCP), Program Director, Medical Laboratory Science, Pennsylvania College of Health Sciences, Lancaster, PA;

Sherry Soost BS, MT(ASCP), CHO(NRCC), Faculty/Clinical Coordinator, Medical Laboratory Science, Pennsylvania College of Health Sciences, Lancaster, PA;

Lynn Jones, MEd, MT(ASCP), Program Director, Clinical Laboratory Science Program, New York-Presbyterian Brooklyn Methodist Hospital, Brooklyn, NY;

Jean Buchenhorst, MS, MLS(ASCP), Program Director, Medical Laboratory Science, Pennsylvania Hospital, Philadelphia, PA;

Susanne Dannert, MS, MT(ASCP), Program Director, Medical Laboratory Science, St. Christopher's Hospital for Children in Philadelphia, PA;

#### Health Sciences Committee (reports to the Dean of the College of Arts and Sciences)

William J. Biggers, Ph.D., Associate Professor of Biology  
Amy Bradley, Ph.D., Associate Professor of Chemistry  
Debra I. Chapman, M.S., Faculty of Practice, Biology  
Constance Dombroski, M.S., Director, Center for Health Sciences and Student Success

Linda Gutierrez, M.D., Professor of Biology

Christopher H. Henkels, Ph.D., Associate Professor of Chemistry

Lisa Kadlec, Ph.D., Professor of Biology

Kenneth M. Klemow, Ph.D., Professor and Chair of Department of Biology and Earth System Sciences

Prahlad Murthy, Ph.D., P.E., BCEE, QEP, Professor, Civil and Environmental Engineering

Edward J. Schicatano, Ph.D., Professor of Psychology

Michael A. Steele, Ph.D., Professor of Biology

Wilkes University has a long-standing tradition of educating students who become health care professionals in a variety of community settings—large and small, rural and urban. The Health Sciences Programs at Wilkes provide a particularly broad and rich range of choices for entry into the medical and allied health professions.

The University's pre-professional medical programs prepare students for careers in allopathic and osteopathic medicine, dentistry, optometry, podiatric medicine, and veterinary medicine. Pre-professional programs in allied health provide preparation for students to enter the health care professions of physical therapy, occupational therapy, clinical laboratory sciences, and physician assistant studies.

#### Advisement, Guidelines and Procedures for all Health Sciences Students

All Health Sciences students must declare a specific academic major and also complete a core of courses for their chosen health profession. Many pre-doctoral students major in Biology, Chemistry, Biochemistry, or Psychology. However, students who have majored in the traditional liberal arts, Math or Engineering have also been successful in gaining admission to health professions schools. Health professions schools are generally interested in students who have in-depth training in the sciences along with a broad background in the humanities and social sciences. Many students pursuing one of the allied health areas major in Biology, Psychology or one of the other traditional science or social science programs.

An important component of the University's Health Sciences Programs is its counseling and advising system. The Wilkes tradition of close student advising permits thorough understanding of the student's aspirations and goals. A faculty advisor is assigned to the student in his or her academic major. This academic advisor is the first point of contact regarding course planning and registration for the student. In addition, the student is counseled on the particulars of pre-doctoral and allied health education by the Health Sciences Director.

The Center for Health Sciences and Student Success specifically provides information about standards for admission to the various health professions. In addition, time lines for individual programs, admission services for health professions schools, test dates and study guides for professional school admission exams, admission deadlines, and catalogues and online resources from a variety of professional schools in the health sciences are available.

All students planning to pursue careers in the health sciences must declare their specific interest with the Wilkes Center for Health Sciences and Student Success. Students must complete a Health Sciences Declaration Form as soon as they determine their interest and submit a schedule of their classes each semester to the Center. The Declaration Form enables the Center for Health Sciences and Student Success to track the student and monitor his or her academic progress.

#### Health Sciences Pre-professional Programs

These programs prepare students for health professional programs in Allopathic Medicine, Osteopathic Medicine, Dentistry, Optometry, Podiatric Medicine, and Veterinary Medicine.

### Overview

Wilkes University offers premedical programs that share a fundamental and formative premise—that unprecedented technological and scientific dynamism will characterize the context of medical careers conducted in the next thirty to fifty years. This perspective has important implications for the future health professionals' baccalaureate studies, including the need to master computer-based information access systems, to reach a level of mastery in the sciences permitting independent judgment and research, and to grow in ethical sensitivity and sophistication. Drawing on the University's strengths in science, information systems, and the humanities, Wilkes has defined an approach to health sciences pre-professional education that produces exceptionally competent and competitive candidates for admission to the nation's leading health professions institutions.

The Wilkes Health Sciences pre-professional graduate stands out because he or she is not only broadly trained but also has mastered the rapidly evolving medical information technologies. Throughout the science curriculum at Wilkes, students are exposed to and use databases that relate up-to-date information at the cutting edge of research in science fields. Interviews with professional school professors and admissions officers indicate that such information access skills are increasingly relevant and are essential for the health practitioner. As a comprehensive University, with a full range of bachelor's and master's degree programs in natural sciences, computer science, and engineering, Wilkes provides a sophisticated, research-capable science environment in which students learn how to negotiate the information-rich and highly complex world of scientific database communications.

The future health practitioner will also be called upon to assess and implement promising information emerging in the fields of molecular biology, biochemistry, cell biology, and organic chemistry. A general exposure to science at the undergraduate level, typical of universities with a liberal learning emphasis for health sciences pre-professional studies, will no longer be sufficient to prepare medical students and practitioners to be fully competent as professionals. The Wilkes science-intensive pre-professional program involves students in research projects and applications activities during their undergraduate years and helps them to gain real mastery as scientists, able to make independent judgments and to conceptualize and conduct independent research. Health care now makes obsolete the former dichotomous categorization of science and pre-professional studies, in that the superior physician will increasingly have to be a research-capable scientist. Pre-professional studies at Wilkes have adapted to this trend well in advance of programs at most other institutions.

Database information and scientific dynamism make it necessary to focus attention on the moral and ethical dimensions of pre-professional studies. Through its General Education Requirements, Wilkes provides the future health practitioner with a highly meaningful learning experience in philosophy, ethics, and social problems. These learning experiences are augmented by the robust atmosphere of intellectual discussion and debate, which has long been one of Wilkes' distinguishing institutional characteristics, as a nondenominational, non-sectarian university at which issues

of morality and ethics are taken seriously. In this way, Wilkes prepares its Health Sciences students for the real world in which they will function as broadly educated, competent professionals.

The descriptions of courses and curricula that follow put into practice what we at Wilkes believe to be a progressive program of pre-professional studies in health care careers.

### Premedical Coursework and Competencies

Before applying, medical schools expect that applicants develop certain competencies through undergraduate coursework, especially in the sciences, to provide the foundation for studying medicine. Most medical schools currently require that students complete at least one year of college coursework (including both lecture and lab components) in biology, general/inorganic chemistry, organic chemistry, and physics to meet their admission requirements.

Science and medicine are changing, however, and some medical schools are changing their admission requirements and how they evaluate applicants. It has been proposed that medical schools eventually move away from course-based admission requirements toward competency-based admission requirements, in order to allow greater flexibility in the types of courses that students take to prepare for medical school.

The following section outlines many of the common course requirements for admission to medical schools. Please note that there can be important variations in admissions requirements. Students should research the requirements for the schools where they intend to apply. There are several resources for researching requirements. Students can consult the individual medical school websites for information on their admission requirements. The guide produced by the Association of American Medical Colleges, *Medical School Admissions Requirements*, provides information on admission requirements for allopathic medical schools. The American Association of Colleges of Osteopathic Medicine publishes an *Osteopathic Medical College Information Book* that provides information on admissions requirements for osteopathic medical schools. Students also may consult with an advisor at the Health Professions and Prelaw Center on premedical coursework.

Most medical schools will not require that you complete all required coursework before you submit the application for admission; most will simply require you to complete all required coursework before you matriculate to (enroll in) the school. However, before taking the MCAT exam you should be sure to complete the necessary coursework in the sciences and social sciences for building competencies in the areas covered on the exam.

You should not view your premedical coursework as simply part of a checklist of tasks to get out of the way before applying to medical school. You should view your premedical coursework as a means to build critical competencies that will be vitally important for the MCAT exam, success in medical school, and your future practice as a physician.

Your performance in premedical science courses will be viewed by admissions committees as a predictor of your ability

to cope with the rigorous demands of medical school. Simply earning passing grades in these courses is not sufficient.

Medical schools have expectations that students who are building the necessary competencies should be able to excel in their premedical science coursework, generally earning A's in most premedical science courses, with occasional B's. If you are earning C's, D's or F's you cannot be regarded as developing the necessary competencies for success and you may need to reevaluate whether medical school is the path for you.

For more information on the competencies required for success in medical school please see the report, "Scientific Foundations for Future Physicians."

For more information on requirements for Health Professions Schools, direction in appropriate coursework, and assistance in the application process, students should consult with the Director of the Center for Health Sciences and Student Success on a regular basis.

## The Wilkes Health Sciences Pre-Professional Core

This core program is required of all students aspiring to enter programs in Allopathic Medicine, Osteopathic Medicine, Dentistry, Optometry, Podiatric Medicine, and Veterinary Medicine. The goals of the Pre-professional Core are to

1. Help the student develop a useful scientific foundation for their selected career choice;
2. Serve as a unique signature, which Wilkes graduates can carry forward as successful professionals; and
3. Facilitate the preparation for standardized admissions tests such as MCAT, OAT, and DAT.

A unique feature of the university's pre-professional education is the pre-professional core, a sequence of courses designed to prepare students for the challenges and rigors of a health care doctoral education. The core was developed after consulting admissions personnel from health professions schools regarding undergraduate courses required for admission. The pre-professional core not only includes the traditional requirements expected by health professional schools, but also capitalizes on the University's strengths in science and technology.

The pre-professional core includes a meaningful research or project experience, a practicum and observation, experience provided by local health professionals, knowledge and utilization of computers in health care, meaningful laboratory background with emphasis on the understanding and use of modern instrumentation, and participation in a variety of seminars and programs offered through the Center for Health Sciences and Student Success.

## The Wilkes Pre-Professional Core

The Wilkes Pre-professional Core Curriculum requires the following courses:

- Two courses in Modern Biology
  - [[BIO-121]] – Principles of Modern Biology I
  - [[BIO-122]] – Principles of Modern Biology II

- Four courses in Chemistry]]
  - [[CHM-115]] – Elements and Compounds (plus [[CHM-113]] – Elements and Compounds Lab)
  - [[CHM-116]] – The Chemical Reaction (plus [[CHM-114]] – The Chemical Reaction Lab)
  - [[CHM-231]] – Organic Chemistry I (plus [[CHM-233]] – Organic Chemistry I Lab)
  - [[CHM-232]] – Organic Chemistry II (plus [[CHM-234]] – Organic Chemistry II Lab)
- Two courses in Physics
  - [[PHY-171]] – Principles of Classical and Modern Physics and
  - [[PHY-174]] – Applications of Classical and Modern Physics; **OR** (depending on a student's major)
  - [[PHY-201]] – General Physics I and
  - [[PHY-202]] – General Physics II
- Two courses in Mathematics
  - [[MTH-111]] – Calculus I
  - [[MTH-114]] – Biological Calculus **OR** (depending on a student's major)
  - [[MTH-112]] - Calculus II
- One course in Computer Sciences
  - [[CS-115]] - Computers & Applications **OR** (depending on a student's major)
  - [[CS-125]] - Computer Science I
- Two courses in Behavioral and Social Sciences
  - [[PSY-101]] – General Psychology
  - [[SOC-101]] - Introduction to Sociology
- One - two courses in English\*\* (emphasizing writing skills)
- Research course or a Special Project\*
- Volunteer/Community Service (minimum 20 hours) in each of the undergraduate years
- Shadowing & Patient Care Hours experience (20 hours) in each of the undergraduate years
- Participation in Pre-Professional programming through the Center for Health Science and Student Success.

\*Pre-optometry students are also required to take [[MTH-150]] – Statistics, [[BIO-327]] – Medical Microbiology

\*\*Students enrolled in an accelerated professional program may elect to be waived from the senior year research course or special project.

The Wilkes Pre-professional Core Curriculum recommends the following courses (based on the recommendations of a wide variety of health professional school programs):

- Three additional courses in Biology
  - [[BIO-226]] – Cellular & Molecular Biology
  - Two - BIO 300 Level Courses
- One additional course in Mathematics
  - [[MTH-150]] – Statistics

**Pre-dental students** are also recommended to take [[BIO-323]] – Histology

**Pre-veterinary students** are also recommended to take [[BIO-345]] – Genetics

Pre-requisites vary from one health professions school to another. It is the student's responsibility to meet the requirements of a particular health professions school.

All students intending to enter doctoral programs in health care must complete these pre-professional core courses. Students should work with their academic advisors and the Health

## Health Sciences

Sciences Director to integrate this core into the recommended course sequence for their academic major as outlined in this bulletin.

### Letter of Evaluation

Students applying to a health professions school may request a Letter of Evaluation from the Wilkes Health Sciences Committee. In order to receive the Letter of Evaluation from the Committee, students must have a Declaration Form on file, successfully complete the Pre-professional Core, develop knowledge of and experience in the field they wish to enter through shadowing, and gain experience in the social service field by volunteering their time with community agencies. These types of experiences are required by health professions schools. The application for the committee letter must be submitted to the Health Sciences Committee by April 1st of a student's intended year of health professional school application.

### Placement of Pre-doctoral Students

Wilkes enjoys an enviable record of placement of students in health professions schools with acceptance rates of about 90%. Allopathic medical schools accepting Wilkes students include the Geisinger Commonwealth School of Medicine (previously known as The Commonwealth Medical College), George Washington, Georgetown, Harvard, John Hopkins, Drexel University, Pennsylvania State University-Hershey, Stanford, SUNY Upstate, Temple University, Thomas Jefferson University, Tulane, the University of Pennsylvania, the University of Pittsburgh, and Yale. A number of Wilkes students also enter osteopathic medical schools such as Lake Erie College of Osteopathic Medicine, the Philadelphia College of Osteopathic Medicine, Ohio University College of Osteopathic Medicine, and University of Health Sciences College of Osteopathic Medicine in Kansas City, MO.

Wilkes students have attended dental school at the University of Connecticut, Tufts University, the University of Pittsburgh the University of Buffalo School of Dental Medicine, and Temple University Kornberg School of Dentistry. Pre-optometry students have gained admission to institutions such as Illinois College of Optometry, New England College of Optometry, Ohio State University College of Optometry, and Pennsylvania College of Optometry at Salus University. Podiatric medical schools accepting Wilkes students include California College of Podiatric Medicine, New York College of Podiatric Medicine, Ohio College of Podiatric Medicine, and Temple University School of Podiatric Medicine. Wilkes students have also gained admission to veterinary schools such as the Oklahoma State University School of Veterinary Medicine, the University of Illinois School of Veterinary Medicine, University of Pennsylvania School of Veterinary Medicine, the University of Wisconsin-Madison Veterinary School, and the Virginia-Maryland Regional College of Veterinary Medicine.

## Affiliated Degree Programs in Medicine

### Early Assurance B.S./M.D. Program in Allopathic Medicine

Wilkes has developed special early assurance joint B.S.-M.D. degree program and established agreements with major

Pennsylvania State University College of Medicine at Hershey, which leads to a baccalaureate degree from Wilkes University and a medical degree from Pennsylvania State University College of Medicine at Hershey. Once students have been granted acceptance to Wilkes University and identified as qualified to be considered for selection for the early assurance program, they will be required to submit letters from two high school science teachers and one humanities/English teacher to the Health Sciences Committee and successfully complete three interviews. If ultimately selected for the program, students must satisfy all requirements as articulated in the specific affiliation agreement. All students in the early assurance program will spend their 7th or 8th semester in a clinical setting. Wilkes University has established special affiliations with Guthrie Health Systems (GHS), which includes the Robert Packer Medical Center in Sayre, Pennsylvania (Guthrie Scholars), for students to participate in this clinical experience.

### The Premedical Scholars Program with the Pennsylvania State University College of Medicine at Hershey

The Pennsylvania State University College of Medicine at Hershey (Penn State Hershey) and Wilkes University offer a special Premedical Scholars Program for outstanding high school seniors from rural or medically underserved areas of Pennsylvania who must be interested in a career in primary care medicine. This program allows students to participate in the Guthrie Scholars Clinical Semester for their senior year clinical experience.

The program allows high school seniors to be assured admission to the Pennsylvania State University College of Medicine at Hershey as they enter Wilkes University to pursue undergraduate study. Details of this program are as follows:

- Program Admission
  - To be considered for selection to the Penn State Hershey Premedical Scholars BS/MD Program, applicants must meet the following conditions:
    - be accepted into the entering freshman class at Wilkes University by November of their senior year in high school;
    - have a high GPA;
    - rank in the top 10% of their high school graduating class;
    - have satisfactorily completed three (3) years of natural sciences, including biology, chemistry, and physics, and mathematics through trigonometry (calculus is recommended);
    - have had at least one shadowing experience (preferably with a primary care or general practice physician);
    - have a strong understanding of the medical field and what is involved in being a physician.
  - Once students have been accepted to Wilkes University, the Wilkes Center for Health Sciences and Student Success will notify students who meet minimal qualification criteria for selection to this early assurance program. To be selected, students are required to successfully complete interviews at Wilkes, at Robert Packer Medical Center of the Guthrie Health Care

System and at the Pennsylvania State University College of Medicine.

- Emphasis in recruiting will be placed on students from rural or medically underserved areas of Pennsylvania who wish to pursue a career in primary care medicine.
- Successful applicants should expect to be interviewed at Wilkes in December of their senior year of high school. Finalists from this interview will be called to subsequent interviews in February and March of their senior year of high school.
- Final selection for this program is at the discretion of the Pennsylvania State University College of Medicine at Hershey.
- Program Format:
- Four (4) years of successful undergraduate study at Wilkes University, which includes completion of an academic major and the Pre-professional Core. Students must maintain a minimum of 3.5 in biology, chemistry, and physics and an overall GPA of at least 3.5 by the end of their junior year at Wilkes. Specific criteria by year are as follows:
  - Freshman Year
    - Minimum GPA of 3.3
- Sophomore Year
  - Minimum GPA of 3.4
  - Shadowing experience with a primary care physician
  - Meet with the Associate Dean for Admissions and Student Affairs of the Pennsylvania State College of Medicine
- Junior Year
  - Minimum GPA in biology, chemistry, and physics of 3.5 and a minimum overall GPA of 3.5
  - A second shadowing experience with a primary care physician
  - A Letter of Evaluation from the Health Sciences Committee at Wilkes University
  - Completion of the MCAT; MCAT score must meet expectations of the Admissions Committee at Pennsylvania State University College of Medicine at Hershey
  - Completion of the AMCAS application
- Senior Year
  - Maintain a high level of academic achievement and complete Wilkes pre-medical core
  - Participate in Guthrie Clinical Semester
  - Meet with Associate Dean for Admissions and Student Affairs of the Pennsylvania College of Medicine in the fall of Senior year

### Early Interview Assurance Program in Medicine

Wilkes has developed special Early Interview Assurance Programs and established agreements with Geisinger Commonwealth School of Medicine and Philadelphia College of Medicine (PCOM). Once students have been granted acceptance to Wilkes University and identified as qualified to be considered for selection for an early interview assurance program, they will be required to submit letters from two high school science teachers and one humanities/English teacher to the Center for Health Sciences and Student Success. Students must satisfy all requirements as articulated in the

specific affiliation agreement. Students should work with their academic advisors and the Health Sciences Director.

### Geisinger Commonwealth School of Medicine at Scranton, PA

Geisinger Commonwealth School of Medicine at Scranton, PA and Wilkes University have developed a special Early Interview Assurance Program with Wilkes University. This program allows Wilkes University students that meet all of the following criteria to receive an interview for the allopathic medical degree program.

- Program Admission
  - Students should have a high GPA and high rank in their high school graduating class
  - Student must be from Lackawanna or Luzerne County.
  - Guaranteed interview will be contingent upon the following:
    - Submitting an AMCAS application to Geisinger Commonwealth in the year preceding desired entry as a first-year medical student.
    - Submitting the Geisinger Commonwealth secondary application in the year preceding desired entry as a first-year medical student.
    - Achieving a cumulative grade point average (GPA) of at least a 3.5 on a scale of 4.00 in biology, organic chemistry, inorganic chemistry, and physics (and any other required course determined by Geisinger Commonwealth) at Wilkes University.
    - Achieving a cumulative grade point average (GPA) of at least a 3.5 on a scale of 4.00 in the sciences courses at Wilkes University.
    - Achieving a cumulative GPA of at least 3.5 for all courses completed at Wilkes University.
    - Having no grade in any course below a "C" at Wilkes University.
    - Achieving a score of 509 or higher on the Medical College Admissions Test (MCAT) with a score of at least 126 in each section. Additionally, Geisinger Commonwealth will consider previous MCAT results if they are within three years of the date of application and the student has scored a 30 or higher with a score of at least 8 in each section.
    - Submitting a committee letter endorsing the candidate from the faculty at Wilkes University.

### Philadelphia College of Osteopathic Medicine (PCOM) at Philadelphia, PA

- Philadelphia College of Osteopathic Medicine (PCOM) at Philadelphia, PA and Wilkes University have developed a special Early Interview Assurance Program with Wilkes University. This program allows Wilkes University

## Health Sciences

students that meet all of the following criteria to receive an interview for the osteopathic medical degree program.

- Program Admission
  - Students should have a high GPA and high rank in their high school graduating class
  - Guaranteed interview will be contingent upon the following:
    - The candidate must complete the undergraduate course requirements as listed in PCOM's catalog.
    - The candidate must have earned (on the 4.0 grading system) a grade point average of at least 3.75 through the end of the sophomore year at University for the 3+4 program or a grade point average of 3.25 through the end of junior year for the 4+4 program.
    - The candidate must take the Medical College Admissions Test as early as possible but no later than the fall of the senior year (based on program of interest). The candidate must earn a minimum score of the fiftieth percentile (50%) in each section of the MCAT.
    - The candidate must also submit an application to PCOM through AACOMAS no later than October 31<sup>st</sup> of the senior year and submit the PCOM Supplemental Application (with application fee) no later than November 30<sup>th</sup> of the senior year.
    - The candidate must submit a letter of recommendation from an Osteopathic Physician (D.O.).

### Affiliated Accelerated Health Professions Programs

In addition to the traditional four-year premedical undergraduate programs, Wilkes University has maintained affiliations with health professions schools in osteopathic medicine, optometry, podiatric medicine and physical therapy education for many years. These accelerated programs permit students to spend three years at Wilkes in the basic sciences and liberal arts and four years at the affiliated health professions school. The University has developed these seven-year health professions programs with the following institutions:

Philadelphia College of Osteopathic Medicine (PCOM)

Pennsylvania College of Optometry at Salus University (PCO)

Temple University School of Podiatric Medicine (TUSP)

Widener University Institute for Physical Therapy Education (WU-IPTE)

These programs offer a unique opportunity for outstanding high school students, who are fairly certain of the career path they wish to pursue, to complete their pre-professional and professional education in seven years. Students should have a high GPA and high rank in their high school graduating class, and should have completed Honors or AP course work, especially in the sciences.

In order to qualify for any of these seven-year programs, students must apply and be accepted to Wilkes University by January of their senior year in high school. If minimum prerequisites are met and students are accepted to the University, they will be interviewed by representatives of the Wilkes University Health Sciences Committee for final selection.

Once students are selected for one of these affiliated programs and begin their undergraduate education, they will receive assistance from the Center for Health Sciences and Student Success in advising them through their accelerated program of study and in the application process to the health profession school. Students must complete all general education requirements, academic major requirements and requirements associated with the program of interest during their three years at Wilkes. They will also be expected to maintain a high GPA and are required to participate in shadowing experiences, volunteer activities, and seminars and programs sponsored by the Center for Health Sciences and Student Success during their three years at Wilkes.

Wilkes University students must apply for and receive a Health Sciences Committee Letter of Evaluation after their sophomore year in order to apply to any of the accelerated programs. Only students who have earned a high grade point average by the end of their sophomore year and who have fulfilled appropriate requirements of the Pre-professional Core and the General Education Curriculum will be endorsed and receive a Letter of Evaluation for the accelerated program of interest. Students whose academic credentials fall below the standards set by the Committee will be advised to complete a third year of study at Wilkes before reapplying for a Letter of Evaluation. Students must meet all admission requirements as outlined by the health professions schools with the final admission decision determined by the health professions institution.

Students will go through the formal professional school application process for their accelerated program of interest following the completion of their sophomore year. Qualified students will then be notified by their professional school of interest of the guaranteed interview date.

If accepted by the professional school, following successful completion of his/her first year of basic science education in professional school, a student is responsible for transferring the credits earned at the professional school to Wilkes and Wilkes will confer upon each student the Wilkes University baccalaureate degree.

If not accepted by professional school, students will become traditional, 4-year students at Wilkes University. Students will reapply to any programs of choice following the completion of their junior year.

Students must fulfill the course requirements as follows in addition to any additional items outlines by the individual professional institution.

## Seven-Year Programs with a Major in Biology-Required Courses and Recommended Course Sequence

The Wilkes Accelerated Pre-Professional Program Core Curriculum requires the following courses:

- Seven courses in Biology
  - [[BIO-121]] – Principles of Modern Biology I
  - [[BIO-122]] – Principles of Modern Biology II
  - [[BIO-225]] – Population and Evolutionary Biology
  - [[BIO-226]] – Cellular and Molecular Biology
  - [[BIO-397]] – Professional Preparation Techniques
  - BIO Elective\* – Structure/Function Course
  - BIO Elective\* – Diversity/Population Course
- Four courses in Chemistry
  - [[CHM-115]] – Elements and Compounds (plus [[CHM-113]] – Elements and Compounds Lab
  - [[CHM-116]] – The Chemical Reaction (plus [[CHM-114]] – The Chemical Reaction Lab
  - [[CHM-231]] – Organic Chemistry I (plus [[CHM-233]] – Organic Chemistry I Lab
  - [[CHM-232]] – Organic Chemistry II (plus [[CHM-234]] – Organic Chemistry II Lab
- Two courses in Biochemistry
  - [[CHM-361]] – Biochemistry: Structure and Function
  - [[CHM-362]] – Biochemistry: Metabolism
- Two courses in Physics
  - [[PHY-171]] – Principles of Classical and Modern Physics
  - [[PHY-174]] – Applications of Classical and Modern Physics
- Three courses in Mathematics
  - [[MTH-111]] – Calculus I
  - [[MTH-114]] – Biological Calculus
  - [[MTH-150]] – Statistics
- One course in Computer Sciences
  - [[CS-115]] - Computers & Applications **OR** (depending on a student's major)
- Three courses in Behavioral and Social Sciences
  - [[PSY-101]] – General Psychology
  - [[SOC-101]] - Introduction to Sociology
- One course in English
  - [[ENG-101]] – Composition
- One course in FYF
  - [[FYF-101]] – First Year Foundations
- One Free Elective Course
- 15 Credits of Distribution Requirements

*\*Select one course from the Structural and Functional Biology category and one course from the Diversity and Population Biology category.*

*Pre-Optometry Students must also take [[BIO-327]] – Medical Microbiology*

*Visit Center for Health Sciences & Student Success for recommended course sequence.*

## Transfer Doctoral Degree Programs

The transfer program is similar to the Seven-Year Affiliated Degree programs. However, instead of choosing this 3+4 track before entering Wilkes University as a freshman (as in the 3+4

programs), a student may elect this path during their tenure as an undergraduate student.

Typically, four (4) years of undergraduate study are required to qualify for the bachelor's degree. Wilkes University makes an exception to this requirement in special circumstances for doctoral students in osteopathic medicine, dentistry, optometry, podiatric medicine, and doctoral level physical therapy (DPT).

These students may, with the approval of the Wilkes University Academic Standards Committee, satisfy the requirements for the bachelor's degree by completing three years of an academic major, at least the last two of which must be at Wilkes, and by requesting credit toward the degree for their first two years of work in a professional school. Students in these programs must, however, satisfy the General Education Curriculum requirements at Wilkes University in order to be considered for a bachelor's degree from the University.

Such students must also petition the Academic Standards Committee for permission to graduate, submit official transcripts from the professional school, and pay the usual graduation fees. In all cases, the final approval for the granting of the baccalaureate degree rests with the Academic Standards Committee of Wilkes University.

## Allied Health Programs

Wilkes University has developed programs that prepare students for admission to physical therapy and occupational therapy schools as well as programs in medical laboratory sciences.

With career opportunities expanding in the allied health fields known as physical therapy, occupational therapy, clinical laboratory sciences, physician assistant, and chiropractic medicine, admission to programs in these areas has become increasingly competitive. Wilkes University has defined an approach to pre-allied health education to produce competitive, noteworthy candidates for admission.

The University has structured a program of study emphasizing the basic sciences and social sciences to provide students with the appropriate background knowledge to enter occupational and physical therapy programs. The curriculum is complemented by an advising system that closely monitors the student's academic progress and their application process to a professional program.

Students interested in allied health fields must meet with their academic advisors and advisors from the Health Sciences Director early in their freshman year to work out an individualized course of study. It is important to look at professional programs in these areas because there is no set standard of prerequisites for all programs. By choosing schools to which a student may want to apply, the Health Science Director can help to make sure he or she meets the prerequisites of a particular program in order to be a viable candidate when applying to the professional school. Students may plan to apply to a pre-professional undergraduate program in physical therapy, occupational therapy, physician assistant, and chiropractic medicine after two or three years of course work at Wilkes. Student may also plan to complete an undergraduate degree at Wilkes and apply to an entry-level

## Health Sciences

allied health master's or doctoral degree program. Career plans affect course selection and must be reviewed with academic and health sciences advisors.

### Medical Laboratory Sciences (Medical Technology)

Total minimum number of credits required for a major in Medical Laboratory Science (Medical Technology) leading to the B.S. degree – 120.

The Board of Certification of Medical Technology, part of the American Society for Clinical Pathology, recommends certain requirements for a program of training leading to the B.S. degree in Medical Laboratory Science. The curriculum offered at Wilkes University follows these recommendations and is presented below.

At the completion of three years, the student may be accepted by an affiliated program of medical technology for a period of twelve months of clinical training. Following graduation from the programs, the students will receive the B.S. degree in Medical Laboratory Science from Wilkes University and will be eligible for certification as a Medical Technologist by the Board of Registry of Medical Technology or as a Clinical Laboratory Scientist by the National Certification Agency for Medical Laboratory Personnel.

Wilkes University has established formal affiliations with a variety of MLS programs including Robert Packer Hospital in Sayre, Pennsylvania, Pennsylvania Hospital in Philadelphia, Pennsylvania, PA College of Health Sciences at Lancaster General Hospital in Lancaster, Pennsylvania, and NY Presbyterian Brooklyn Methodist Hospital in Brooklyn, New York. Fulfillment of the fourth year requirement at non-affiliated NACCLS certified hospital programs may be arranged by agreement between the program and Wilkes University.

### Medical Laboratory Science Major (Medical Technology)- Required Courses and Recommended Course Sequence

#### First Semester

[[BIO-121]] Principles of Modern Biology I	4
[[CHM-115]] Elements and Compounds	3
[[CHM-113]] Elements and Compounds Lab	1
[[FYF-101]] First-Year Foundations	3
[[MTH-111]] Calculus I	4
	15

#### Second Semester

[[BIO-122]] Principles of Modern Bio II	4
[[CHM-116]] The Chemical Reaction	3

[[CHM-114]] The Chemical Reaction Lab	1
[[ENG-101]] Composition	4
Distribution Requirement	3
	15

#### Third Semester

[[BIO-225]] Population and Evolutionary Biology	4
[[CHM-231]] Organic Chemistry I	3
[[CHM-233]] Organic Chemistry Lab	1
Computer Science Elective	3
Distribution Requirement	3
	14

#### Fourth Semester

[[BIO-226]] Cellular and Molecular Biology	4
[[CHM-232]] Organic Chemistry II	3
[[CHM-234]] Organic Chemistry II Lab	1
[[MTH-150]] Elementary Statistics	3
Distribution Requirement	3
	14

#### Fifth Semester

[[BIO-327]] Medical Microbiology	4
[[CHM-361]] Biochemistry: Structure & Function	3
Distribution Requirements/ Free Electives	9
	16

#### Sixth Semester

[[BIO-326]] Immunology and Immunochemistry	4
[[BIO-397]] Professional Prep. Techniques	2
[[PHY-174]] Appls. of Classical and Modern Physics	4
Distribution Requirements/ Free Electives	6
	16

#### Seventh and Eighth Semesters

CLINICAL LABORATORY SCIENCES PROFESSIONAL STUDY YEAR

The 30 credits supplied by the twelve months of clinical training are divided into the following courses:

[[BIO-371]] Clinical Microbiology	7
[[BIO-372]] Clinical Chemistry	8
[[BIO-373]] Clinical Hematology & Coagulation	5
[[BIO-374]] Clinical Immunohematology	4
[[BIO-375]] Clinical Immunology & Serology	3
[[BIO-376]] Clinical Seminar	3
	30

## Occupational Therapy

Occupational therapists work with members of the community who encounter difficulties with tasks of living. These difficulties may be from developmental deficits, the aging process, physical illness or injury, economic stress, cultural differences, or psychological problems. Occupational therapists provide services along with other health professionals in a number of different settings ranging from hospitals and clinics to schools to reach a wide population of all ages.

### The Wilkes Pre-Occupational Therapy Core

In addition to completing an academic major, each student must also complete the Wilkes University Pre-Occupational Therapy Core. The Pre-Occupational Therapy Core provides a base from which students can structure their classes. The Pre-Occupational Therapy Core includes a sequence of courses identified by the American Association of Occupational Therapy Schools as common prerequisites at most occupational therapy schools. It must be emphasized that there are no universal prerequisite courses for all existing occupational therapy programs.

American Occupational Therapy Association: [www.aota.org](http://www.aota.org)

## The Wilkes Pre-Occupational Therapy

The Wilkes Pre-Occupational Therapy Core Curriculum requires the following courses:

- Two courses in Biology
  - [[BIO-115]] – Anatomy & Physiology I
  - [[BIO-116]] – Anatomy & Physiology II
- One course in Physics
  - [[PHY-171]] – Principles: Classic/Modern Physics

### OR

- [[PHY-174]] – Application: Classic/Modern Physics
- One course in Chemistry
  - [[CHM-113]] / [[CHM-115]] – Elements and Compounds with Lab
- One course in Mathematics
  - [[MTH-100]] – Pre-calculus
  - **OR**
  - [[MTH-101]] – Solving problems Using Math

- One course in English
  - ENG Elective
- Four courses in Psychology
  - [[PSY-101]] – General Psychology
  - [[PSY-200]] – Research and Design Statistics I
  - [[PSY-221]] – Developmental Psychology
  - [[PSY-222]] – Adolescent Psychology
- One course in Sociology
  - [[SOC-101]] – Introduction to Sociology
- One course in Computer Science
  - [[CS-115]] – Computers & Applications
- Cooperative Education or Internship

The Wilkes Pre-Occupational Therapy Core Curriculum recommends the following courses (based on the recommendations of a wide variety of Occupational Therapy programs):

- Two additional courses in Biology
  - [[BIO-121]] – Principles of Modern Biology I
  - [[BIO-122]] – Principles of Modern Biology II
- One additional course in Sociology
  - [[SOC-251]] – Sociology of Minorities
- One additional course in Psychology
  - PSY Elective
- One Medical Terminology Course
  - Visit Center for Health Sciences & Student Success for more information

Pre-requisites vary from one Occupational Therapy program to another. It is the student's responsibility to meet the requirements of a particular Occupational Therapy program.

Minimum 100 hours through work or volunteer experiences in a clinical setting (observation hour requirements vary by Occupational Therapy program)

## Physical Therapy

Physical Therapy is a profession concerned with restoration of physical function and the prevention of disability following disease, injury, or loss of body parts. The goal of physical therapy is to help the patient reach maximum potential and to a place in society while learning to live within the limits of his or her capabilities.

Physical therapists are qualified to utilize such physical agents as therapeutic heat, light, electricity, water, exercise, or massage in treating patients. Treatment may consist of teaching the patient an exercise regimen to increase muscle power or to improve coordination, or teaching the patient to walk with prostheses, braces, or other ambulatory aids. Appropriate psychological and sociological principles are applied in motivating and instructing the patient, his or her family, and others. Physical therapists may delegate selected forms of treatment to supportive personnel with assumption of the responsibilities for the care of the patient and the continuing supervision of the supportive personnel.

Career opportunities exist for physical therapists in hospitals, rehabilitation centers, pediatric facilities, private practice, research, industry, sports medicine, school systems, nursing homes, and other health care settings.

### The Wilkes Pre-Physical Therapy Core

In addition to completing an academic major, each student must also complete the Wilkes University Pre-Physical Therapy Core, which provides a base from which students can structure their classes. The Pre-Physical Therapy Core includes a sequence of courses that are common prerequisites at most physical therapy schools. It must be emphasized that there are no universal prerequisite course for all physical therapy programs. Therefore, students must consult with each school to which they seek admission to ascertain that particular school's prerequisites: [www.apta.org](http://www.apta.org).

The Wilkes Pre-Physical Therapy Core Curriculum requires the following courses:

- Five-six courses in Biology
  - [[BIO-115]] – Anatomy & Physiology I
  - [[BIO-116]] – Anatomy & Physiology II
  - [[BIO-121]] – Principles of Modern Biology I
  - [[BIO-122]] – Principles of Modern Biology II
  - One 300 Level Biology Course (although two 300 level courses are highly recommended)
- Two courses in Chemistry with laboratory
  - [[CHM 113]] / [[CHM-115]] – Elements and Compounds with Lab
  - [[CHM 114]] / [[CHM-116]] – The Chemical Reaction with Lab
- One course in Physics (although both courses are highly recommended)
  - [[PHY-171]] – Principles of Classical and Modern Physics
  - [[PHY-174]] – Applications of Classical and Modern Physics
- Two courses in Psychology
  - [[PSY-101]] – General Psychology
  - [[PSY-221]] – Developmental Psychology
- Two courses in English
  - [[ENG-101]] – Composition
  - ENG Elective
- One course in Sociology
  - [[SOC-101]] – Intro to Sociology
- One course in Mathematics
  - [[MTH-150]] – Statistics

The Wilkes Pre-Physical Therapy Core Curriculum recommends the following courses (based on the recommendations of a wide variety of Physical Therapy programs):

- Two additional courses in Biology
  - [[BIO-314]] – Comparative Vertebrate Anatomy
  - [[BIO-321]] – Mammalian Physiology
- One additional course in Psychology
  - PSY Elective
- One Medical Terminology Course
  - Visit Center for Health Sciences & Student Success for more information

Pre-requisites vary from one Physical Therapy program to another. It is the student's responsibility to meet the requirements of a particular Physical Therapy program.

### Affiliated Accelerated Program with Widener University: Doctor of Physical Therapy Degree

The Affiliated Physical Therapy Program provides students the opportunity to move on from Wilkes University to the Doctor of Physical Therapy Program at Widener University to earn a joint 3+3 B.S.-D.P.T. degree. Students must submit an official transcript to Wilkes University after completing their first year in the physical therapy program in order to receive a Wilkes Baccalaureate degree. Selected students able to meet or exceed established criteria will be eligible for a guaranteed place in the Widener Physical Therapy Program. Students will also be given the opportunity to earn a joint 4+3 B.S.-D.P.T. degree.

Students should consult the previous section of this bulletin for prerequisite courses required by Widener University's Doctor of Physical Therapy Program.

- Program Admission:
  - Apply and be accepted to Wilkes University by January of senior year in high school.
  - Students should have a high GPA and high rank in their high school graduating class
- Guaranteed interview will be contingent upon the following:
  - Complete prerequisites and maintain a cumulative grade point average of 3.0 in the undergraduate program and achieve a minimum cumulative grade point average of 3.3 by the end of the fall of the junior year. The student must have at least a 3.3 cumulative grade point average in order to matriculate into graduate courses in the physical therapy program.
  - Computer literacy, either by demonstration or successful completion of a computer course or challenge examination;
  - Graduate Record Exam General Test scores of 50th percentile or better on the combined verbal and quantitative sections.
  - Evidence of volunteer service in Physical Therapy
  - Three favorable letters of recommendation: one from the Wilkes University Health Sciences Committee; one from a licensed physical therapist; and one from an individual chosen by the student;
    - The selection process will include interviews with the Wilkes University Health Sciences Committee and the Widener University Department of Physical Therapy.

The selection process will include interviews with the Wilkes University Health Sciences Committee and the Widener University Department of Physical Therapy.

### Physician Assistant

The average PA program takes 26.5 months to complete. The first year is generally composed of classroom studies – the essential medical sciences such as microbiology, anatomy, and physiology – followed by a year of clinical rotations in private practice and institutional settings.

A candidate must have completed a Bachelor's degree from an accredited undergraduate college or university. Undergraduate credits must include pre-professional courses.

A candidate must have three letters of evaluation. One is from the Health Sciences Committee, one is from a professor and one is from a Physician Assistant.

Minimum 500 hours through work or volunteer experiences in a clinical setting. Students must consult with each school to which they seek admission to ascertain that particular school's prerequisites: American Academy of Physician Assistants: [www.aapa.org](http://www.aapa.org)

### The Wilkes Pre-Physician Assistant Core

The Wilkes Pre-Physician Assistant Core Curriculum requires the following courses:

- Six-seven courses in Biology to include the following:
  - [[BIO-113]] – Microbiology
  - [[BIO-115]] – Anatomy & Physiology I
  - [[BIO-116]] – Anatomy & Physiology II
  - [[BIO-121]] – Principles of Modern Biology I
  - [[BIO-122]] – Principles of Modern Biology II
  - One 300 Level Biology Course (although two 300 level courses are highly recommended)
- Four courses in Chemistry with laboratory
  - [[CHM-113]] / [[CHM-115]] – Elements and Compounds with Lab
  - [[CHM-114]] / [[CHM-116]] – The Chemical Reaction with Lab
  - [[CHM-231]] / [[CHM-233]] – Organic Chemistry I with Lab
  - [[CHM-232]] / [[CHM-234]] – Organic Chemistry II with Lab
- One course in Physics (although both courses are highly recommended)
  - [[PHY-171]] – Principles of Classical and Modern Physics
  - [[PHY-174]] – Applications of Classical and Modern Physics
- Two courses in English
  - [[ENG-101]] – Composition
  - ENG Elective
- Three-four courses in Psychology
  - [[PSY-101]] – General Psychology
  - [[PSY-221]] – Developmental Psychology
- One 300 Level Psychology Course (although both courses are highly recommended)
- One course in Sociology
  - [[SOC-101]] – Intro to Sociology
- Two courses in Mathematics
  - [[MTH-111]] – Calculus 1
  - [[MTH-150]] – Statistics

The Wilkes Pre-Physician Assistant Core Curriculum recommends the following courses (based on the recommendations of a wide variety of Physician Assistant programs):

- Two additional courses in Biology
  - [[BIO-226]] – Cellular & Molecular Biology
  - [[BIO-345]] - Genetics
- One additional course in Mathematics
  - [[MTH-114]] – Biological Calculus
- One Medical Terminology Course
  - Visit Center for Health Sciences & Student Success for more information

Pre-requisites vary from one Physician Assistant program to another. It is the student's responsibility to meet the requirements of a particular Physician Assistant program.

# HISTORY, B.A.

## Requirements

Total minimum number of credits required for a major in History leading to the B.A. degree — 120.

Total minimum number of credits required for a minor in History — 18.

### History Major

Wilkes University offers four separate tracks for students interested in pursuing careers in history. The standard History Major is designed for pre-professional and pre-graduate school students who either intend to further their education at an advanced level (law, medical or graduate school) or wish to combine their major in History with another undergraduate major. The standard History Major can be combined with a minor or a major in secondary education for students interested in teaching careers in public secondary schools. The Public History Concentration prepares students for entry-level work in museums, archives and other locations in which historians work with the public in non-teaching roles. The Digital History Concentration allows students to follow a course of study that combines classes in History, Integrative Media and Communication Studies to learn the skills necessary to present history in a variety of media, from web sites to audio and video documentaries.

Wilkes University requires 120 credit hours for the B.A. degree in History. These include 40 credit hours in distribution courses and 30 credit hours in the discipline. HST (History) 101-102, HST 125-126, HST 297, HST 397, and 15 additional credit hours in history courses numbered 300 and above are required. The 300-level courses must include a minimum of six hours each in American/United States and non-American/world topics. Comparative courses count toward these minimum distribution requirements as either an American or a non-American topic. American/United States topics will contain the designation (A) at the end of their titles, non-American/world topics (N), and comparative topics (C). The Department recommends that students who plan to continue their studies in history at the graduate level take a foreign language.

A variety of career options are open to History majors. Because history is a synthesis of the life experience that examines past economic, social, political, scientific, and religious conditions, a careful selection of history courses and elective credit hours will allow students to pursue career interests in business, government, teaching, communications, law, and social service. The History major includes a considerable number of elective credit hours that students may use to develop career interests. The department strongly recommends that some of these hours be used for internships or field experiences.

### History in Conjunction with the Secondary Education Major or Minor

Students interested in becoming secondary teachers in History should make an appointment with the chairperson of the Education Department or the Coordinator of the Secondary Education Program as early as possible in their course of study to plan their professional studies. These

students will declare a major in History and as well as a major or minor in Secondary Education. The major in Secondary Education must be taken in conjunction with an approved major; it cannot stand alone as a major. Upon successful completion of the secondary education program, students may become certified in Pennsylvania to teach in grades 7-12 in their chosen field.

Students interested in pursuing either the major or the minor in Secondary Education should refer to the Education Department section of this bulletin for complete details of the curriculum and other degree requirements. Students should also consult carefully with their Education program and History program advisors in planning their course of studies.

#### Total credits required for Secondary Education minor - 40

#### Total credits required for Secondary Education major - 47 cr

Required courses for the major(\*) or minor in Secondary Education are as follows:

ED 180 – Educational Psychology - 3 cr.

ED 190 – Effective Teaching with Field Experience - 3 cr.

ED 191 – Integrating Technology into the Classroom - 3 cr.

EDSP 210 – Teaching Students with Special Needs - 3 cr.

ED 220 – Teaching Culturally and Linguistically Diverse Learners - 3 cr.

EDSP 225 – Special Education Methods I with Field Experience - 3 cr.

ED 300 – Teaching of a Foreign Language with Field Experience - 4 cr.

\*ED 345 – Assessment - 3 cr.

\*ED 375 – Middle Level/Secondary School Methods with Field Exp. - 4 cr.

ED 380 – Content Area Literacy - 3 cr.

ED 381 – Teaching Methods in Social Studies (with Field Experience) - 4 cr.

EDSP 388 – Inclusionary Practices (taken concurrently with ED 390) - 3 cr.

ED 390 – Student Teaching with Seminar - 12 cr.

*\* These additional courses required in order to complete the major in Secondary Education.*

- All Teacher Education candidates must apply for admission to the Teacher Education Program in the sophomore or junior year.

- To be admitted into the Teacher Education Program, candidates must
  - Attain a 3.0 GPA
  - Complete 48 credits including six credits in both Mathematics and English
  - Pass a test of basic skills
  - Submit required clearances showing 'no record'
- To remain in the Teacher Education Program, candidates must
  - Maintain a 3.0 GPA
  - Adhere to the Code of Professionalism and Academic Honesty
- To be certified as a teacher in Pennsylvania in grades 7-12, candidates must
  - Successfully complete all required Education courses, including student teaching
  - Graduate with a 3.0 cumulative GPA
  - Pass the appropriate exit test(s) in their content area
  - Apply for certification through the Pennsylvania Teacher Information Management System (TIMS).

## History Major/Digital History Concentration

This program takes an interdisciplinary approach to studying, preserving and sharing the past. It can be combined with the existing Public History concentration for students interested in pursuing careers in museums and historical societies, with the Integrative Media major for those interested in commercial and non-profit applications of design and with the Communication Studies major for those interested in videography. The major involves hands-on work in a variety of fields. All students are required to complete one internship. The senior capstone varies with the student's individual interest; it can be a historic video or web site, an actual or virtual museum display, a video project or a research paper on an appropriate topic.

Anyone who has a Bachelor's degree from an accredited institution can receive a Certificate in Digital History after completing the course work required for the Concentration in Digital History. Please contact the Chair of Global Cultures: History, Languages & Philosophy for more information on this certificate.

Wilkes University requires a minimum of 120 credit hours for the B.A. degree in History/Digital History Concentration. These include 37 credit hours in distribution courses and 55 hours in Art, Communication Studies, Computer Science, History and Integrative Media classes. Required courses include ART 111, COM 102, COM 222, COM 261, COM 322, CS 125, HST 125, HST 126, HST 211, HST 297, HST 311, two 300-level HST electives, IM 201, IM 301, IM 302, HST 397 or IM 391 and HST/IM/COM 399.

### Recommended Course Sequence

First Semester	
Distribution Requirement	6
ENG 101-Composition	4
FYF 101	3
HST 125 US History I	3
<b>Total Credits</b>	<b>16</b>

Second Semester	
Distribution Requirement	3
COM 102 Principles of Comm.	3
CS 125 Computer Science I	4
Art 111 Fund. of Color and Design	3
HST 126 US History II	3
<b>Total Credits</b>	<b>16</b>

Third Semester	
Distribution Requirement	3
COM 221 Audio Production	3
COM 261 Multimedia Communication	3
IM 201 IM Foundations II	3
HST 297 Research & Methods	3
<b>Total Credits</b>	<b>15</b>

Fourth Semester	
Distribution Requirement	6
HST 211 Intro to Public History	3
IM 301 Digital Composition	3
COM 322 Advanced Video Prod.	3
<b>Total Credits</b>	<b>15</b>

Fifth Semester	
Distribution Requirement	9
HST 311 Oral History	3
IM 302 Principles of Interactivity	3
<b>Total Credits</b>	<b>15</b>

Sixth Semester	
History Elective	3
Free Electives	12
<b>Total Credits</b>	<b>15</b>

Seventh Semester	
COM/IM/HST 399 Internship	3

## History, B.A.

History Elective	3
Free Electives	9
<b>Total Credits</b>	<b>15</b>

<b>Eighth Semester</b>	
HST 397 or IM 391 Capstone	3
Free Electives	12
<b>Total Credits</b>	<b>15</b>

## Recommended Course Sequence - History Major

<b>First Semester</b>	
Distribution Requirements	6
ENG 101 Composition or	4
Distribution Requirement	3
FYF 101 First-Year Foundations	3
HST 101 Historical Foundations of the Modern World	3
<b>Total Credits</b>	<b>15-16</b>

<b>Second Semester</b>	
Distribution Requirements	9
ENG 101 Composition or	4
Distribution Requirement	3
HST 102 Europe Before 1600	3
<b>Total Credits</b>	<b>15-16</b>

<b>Third Semester</b>	
Distribution Requirements	6
Free Elective*	3
HST 125 American History I	3
HST 297 Research & Methods Seminar	3
<b>Total Credits</b>	<b>15</b>

<b>Fourth Semester</b>	
Distribution Requirements	9
Free Elective*	3
HST 126 American History II	3
<b>Total Credits</b>	<b>15</b>

<b>Fifth Semester</b>	
Free Electives*	9
Major Electives	6
<b>Total Credits</b>	<b>15</b>

<b>Sixth Semester</b>	
Free Electives*	12
Major Elective	3
<b>Total Credits</b>	<b>15</b>

<b>Seventh Semester</b>	
Free Electives*	9
Major Electives**	6
<b>Total Credits</b>	<b>15</b>

<b>Eighth Semester</b>	
Free Electives*	11
HST 397 Seminar**	3
<b>Total Credits</b>	<b>14</b>

\*Sufficient elective credits are available to allow students to complete a minor in most fields. See the Wilkes Undergraduate Bulletin for minor requirements.

\*\*HST 397 in the seventh semester is for students planning to student teach in the eighth semester.

## Recommended Course Sequence - Digital History Concentration

<b>First Semester</b>	
Distribution Requirement	6
ENG 101-Composition	4
FYF 101	3
HST 125 US History I	3
<b>Total Credits</b>	<b>16</b>

<b>Second Semester</b>	
Distribution Requirement	3
COM 102 Principles of Comm.	3
CS 125 Computer Science I	4
Art 111 Fund. of Color and Design	3
HST 126 US History II	3
<b>Total Credits</b>	<b>16</b>

<b>Third Semester</b>	
Distribution Requirement	3
COM 221 Audio Production	3

COM 261 Multimedia Communication	3
IM 201 IM Foundations II	3
HST 297 Research & Methods	3
<b>Total Credits</b>	<b>15</b>

<b>Fourth Semester</b>	
Distribution Requirement	6
HST 211 Intro to Public History	3
IM 301 Digital Composition	3
COM 322 Advanced Video Prod.	3
<b>Total Credits</b>	<b>15</b>

<b>Fifth Semester</b>	
Distribution Requirement	9
HST 311 Oral History	3
IM 302 Principles of Interactivity	3
<b>Total Credits</b>	<b>15</b>

<b>Sixth Semester</b>	
History Elective	3
Free Electives	12
<b>Total Credits</b>	<b>15</b>

<b>Seventh Semester</b>	
COM/IM/HST 399 Internship	3
History Elective	3
Free Electives	9
<b>Total Credits</b>	<b>15</b>

<b>Eighth Semester</b>	
HST 397 or IM 391 Capstone	3
Free Electives	12
<b>Total Credits</b>	<b>15</b>

# HISTORY, B.A. - PUBLIC HISTORY

## Requirements

### History Major/Public History Concentration

This degree prepares students for entry-level work in museums, historical sites, cultural resource management, archives, historical societies, historic preservation and other areas where historians engage the public. The history department encourages students seeking the Public History BA to choose a cognate major/minor such as English, business, or communications.

Wilkes University requires a minimum of 120 credit hours for the B.A. degree in History/Public History Concentration. These include 40 credit hours in distribution courses and 39 credit hours in the discipline. Required history courses include: HST 101, HST 125-126, HST 211, HST 297, HST 397, HST 399 (6 credits), 12 additional credit hours in history courses numbered 300 and above from an approved list of Public History eligible course, and any two of the following: HST 311, HST 312, and HST 325.

## Recommended Course Sequence

<b>First Semester</b>	
Distribution Requirement	3
ENG 101 Composition	4
FYF 101 First-Year Foundations	3
HST 101 Historical Foundations of the Modern World	3
HST 125 US History I	3
<b>Total Credits</b>	<b>16</b>

<b>Second Semester</b>	
Distribution Requirements	9
HST 126 US History II	3
HST 211 Intro to Public History	3
<b>Total Credits</b>	<b>15</b>

<b>Third Semester</b>	
Distribution Requirements	12
HST 297 Research & Methods Seminar	3
<b>Total Credits</b>	<b>15</b>

<b>Fourth Semester</b>	
Distribution Requirements	6
Major Electives/Requirement	6

Free Elective	3
<b>Total Credits</b>	<b>15</b>

<b>Fifth Semester</b>	
Free Electives	12
Major Elective/Requirement	3
<b>Total Credits</b>	<b>15</b>

<b>Sixth Semester</b>	
Free Electives	9
Major Elective/Requirement	6
<b>Total Credits</b>	<b>15</b>

<b>Seventh Semester</b>	
HST 399 Internship	3
Free Electives	6
HST 397 Capstone/Seminar	3
Major Elective/Requirement	3
<b>Total Credits</b>	<b>15</b>

<b>Eighth Semester</b>	
HST 399 Internship	3
Free Electives	12
<b>Total Credits</b>	<b>15</b>

# HOSPITALITY LEADERSHIP

## Hospitality Leadership Major

**Director:** Dr. HyeRyeon Lee

Total minimum number of credits required for a major in Hospitality Leadership leading to the Bachelor of Science degree – 125

The Hospitality Leadership program will provide students with the opportunity to develop expertise in business management applied to the world of hospitality industry. Students will have a variety of managerial career opportunities in lodging, food and beverage, gaming, tourism, cruises, airlines, managed services for clubs and institutions, and the convention and meeting industry.

The Sidhu undergraduate business program focuses on self-development through three interconnected components: leadership development, a balanced set of foundation courses, and preparation for entry into specific careers and jobs. The Hospitality Leadership program within the Sidhu School will provide core business education and will help students develop the skills for authentic hospitality leadership and ethical business practices.

All Sidhu School students will work to sharpen their critical thinking and economic reasoning skills; for the Hospitality Leadership major, specifically, a student should be relatively outgoing with great communication skills, an understanding of 'People Process Culture,' and the ability to excel at solving problems quickly and keeping track of details. In addition, hospitality leadership students will take opportunities to have the specialized career preparation and leadership development. To prepare their managerial skills, students will take Certification in Hospitality Industry Analytics (CHIA) and Training for Intervention procedures (Tips) Certification. Students will also apply their knowledge to real-world experience through two internships.

The Hospitality Leadership major requires an additional 30 credits, including:

### REQUIREMENTS FOR THE HOSPITALITY LEADERSHIP MAJOR (30 credits)

Each student with a major in Hospitality Leadership must complete the following 24 credits:

- [[HL-201]] – Introduction to Hospitality 3
- [[LDR-201]] – Introduction to Leadership 3
- [[HL-381]] – Hotel Operations Management 3
- [[HL-356]] – Hospitality Law & Leadership Ethics 3
- [[HL-382]] – Food and Beverage Management 3
- [[HL-341]] – Hospitality Finance and Revenue Management 3
- [[HL-353]] – Customer Relations for the Hospitality Industry 3
- [[HL-325]] – Service Marketing 3

Each student with a major in Hospitality Leadership must complete 6 credits from the following list:

- [[HL-355]] – Event Management 3
- [[HL-385]] – Travel and Tourism Management 3
- [[HL-198]] / [[HL-298]] / [[HL-398]] – Topics in Hospitality. 3
- [[SM-201]] – Introduction to Sports Management 3
- [[SM-325]] – Sports Marketing 3
- [[MKT-328]] – Customer Behavior 3
- [[MKT-419]] – Marketing Research and Analytics 3
- [[MGT-356]] – The Social Responsibility of Business 3
- [[SUS-401]] – Introduction to Sustainability 3
- [[BA-419]] – Quantitative Decision Making 3

### Hospitality Leadership Major Required Courses and Recommended Course Sequence

First Semester	Credits	Fifth Semester	Credits
[[BA-151]] – Integrated Management Experience I	3	[[EC-101]] – Principles of Economics	3
[[CS-115]] – Computers and Applications	3	[[MKT-221]] – Marketing	3
[[HST-101]] - Historical Fnds. of the Modern World	3	[[HL-381]] - Hotel Operations Management	3
[[ENG-101]] – Composition	4	[[HL-353]] - Customer Relations for the Hospitality Industry	3
[[FYF-101]] – First-Year Foundations	3	Free Elective	3
[[PPD-101]] – Personal & Professional Development I	1	[[PPD-301]] – Personal & Professional Development V	1
<b>Total Credits</b>	<b>17</b>	<b>Total Credits</b>	<b>16</b>
<b>Second Semester</b>		<b>Sixth Semester</b>	
Arts Distribution Requirement (Area IV)	3	[[EC-102]] - Principles of Economics II	3
[[BA-152]] – Integrated	3	[[HL-382]] – Food and	3

## Hospitality Leadership

Management Exp. II		Beverage Management	
[[COM-101]] – Fundamentals of Public Speaking	3	[[HL-341]] - Hospitality Finance and Revenue Management	3
[[ENG-120]] - Intro. to Literature and Culture	3	Science Distribution Requirement (Area II)	3
Social Science Distribution Requirement (Area III)	3	Humanities Distribution Requirement (Area I)	3
<b>Total Credits</b>	<b>15</b>	Free Elective	3
		<b>Total Credits</b>	<b>18</b>
<b>Third Semester</b>		<b>Seventh Semester</b>	
[[ACC-161]] – Financial Acctg & Decision Making	3	[[MGT-358]] – International Business	3
[[MGT-251]] – Management of Organizations & People	3	[[HL-356]] - Hospitality Law & Leadership Ethics	3
[[FIN-240]] – Introduction to Finance	3	[[HL-325]] - Service Marketing	3
[[MTH-101]] – Solving Problems Using Mathematics	3	HL Major Elective Course	3
[[HL-201]] - Introduction to Hospitality	3	Science Distribution Requirement (Area II)	3
[[PPD-201]] – Personal & Professional Development II	1	[[PPD-401]] – Personal & Professional Development VII	1
<b>Total Credits</b>	<b>16</b>	<b>Total Credits</b>	<b>16</b>
<b>Fourth Semester</b>		<b>Eighth Semester</b>	
[[ACC-162]] – Managerial Acctg &	3	[[HL-461]] or [[LDR-461]] –	3

Decision Making		Capstone in Hospitality	
[[LDR-201]] - Introduction to Leadership	3	[[HL-466]] – Advanced Hospitality Internship	3
[[BA-335]] - Law & Business	3	Free Elective	3
[[BA-319]] - Business Statistics	3	HL Major Elective Course	3
[[HL-462]] – Hospitality Internship	3	<b>Total Credits</b>	<b>12</b>
<b>Total Credits</b>	<b>15</b>		

# INTEGRATIVE MEDIA, B.A. - COGNATE MINOR IN ART

## Recommended Course Sequence

<b>First Semester</b>	
[[BA-153]] Management Foundations	3
[[ART-111]] Fundamentals of Color & Design	3
Distribution Requirements	3
[[ENG-101]] Composition	4
[[FYF-101]] First-Year Foundations	3
<b>Total Credits</b>	<b>16</b>

<b>Second Semester</b>	
[[ART-134]] Computer Graphics I	3
[[CS-125]] Computer Science I	4
Distribution Requirements	6
[[IM-101]] Integrative Media Foundations I	3
<b>Total Credits</b>	<b>16</b>

<b>Third Semester</b>	
[[ART-113]] Drawing	3
[[ART-234]] Computer Graphics II	3
Distribution Requirement	3
[[ENT-203]] Opportunity Identification	3
[[IM-201]] Integrative Media Foundations II	3
<b>Total Credits</b>	<b>15</b>

<b>Fourth Semester</b>	
Electives	3
[[COM-102]] Principles of Communication	3
Distribution Requirement	3
[[ENG-202]] Technical & Professional Writing	3
[[IM-301]] Principles of Motion & Layering	3
<b>Total Credits</b>	<b>15</b>

<b>Fifth Semester</b>	
Distribution Requirement	3
Electives	6

[[IM-302]] Principles of Interactivity	3
[[IM-320]] Concept Development & Processes	3
<b>Total Credits</b>	<b>15</b>

<b>Sixth Semester</b>	
Art Elective	3
Distribution Requirement	3
Electives	6
[[IM-391]] Integrative Media Project I	3
<b>Total Credits</b>	<b>15</b>

<b>Seventh Semester</b>	
Art Elective	3
Electives	6 - 9
[[IM-392]] Integrative Media Project II	3
[[IM-399]] Cooperative Education	0 - 3
<b>Total Credits</b>	<b>12 - 18</b>

<b>Eighth Semester</b>	
Electives	9 - 12
[[IM-399]] Cooperative Education	0 - 3
[[IM-400]] Integrative Media Portfolio Capstone	3
<b>Total Credits</b>	<b>12 - 18</b>

# INTEGRATIVE MEDIA, B.A. - COGNATE MINOR IN BUSINESS ADMINISTRATION

## Recommended Course Sequence

<b>First Semester</b>	
[[BA-153]] Management Foundations	3
[[ART-111]] Fundamentals of Color & Design	3
Distribution Requirements	3
[[ENG-101]] Composition	4
[[FYF-101]] First-Year Foundations	3
<b>Total Credits</b>	<b>16</b>

<b>Second Semester</b>	
[[ACC-161]] Financial Accounting. & Decision-Making	3
[[CS-125]] Computer Science I	4
Distribution Requirements	6
[[IM-101]] Integrative Media Foundations I	3
<b>Total Credits</b>	<b>16</b>

<b>Third Semester</b>	
Distribution Requirements	6
Elective	3
[[ENT-203]] Opportunity Identification	3
[[IM-201]] Integrative Media Foundations II	3
<b>Total Credits</b>	<b>15</b>

<b>Fourth Semester</b>	
[[COM-102]] Principles of Communication	3
Distribution Requirement	3
Elective	3
[[ENG-202]] Technical & Professional Writing	3
[[IM-301]] Principles of Motion & Layering	3
<b>Total Credits</b>	<b>15</b>

<b>Fifth Semester</b>	
[[MKT-221]] Marketing	3
Distribution Requirements	6

[[IM-302]] Principles of Interactivity	3
[[IM-320]] Concept Development & Processes	3
<b>Total Credits</b>	<b>15</b>

<b>Sixth Semester</b>	
[[MKT-322]] Advertising	3
Electives	9
[[IM-391]] Integrative Media Project I	3
<b>Total Credits</b>	<b>15</b>

<b>Seventh Semester</b>	
[[MGT-251]] Management of Organizations & People	3
Electives	9
[[IM-392]] Integrative Media Project II	3
[[IM-399]] Cooperative Education	0 - 3
<b>Total Credits</b>	<b>15 - 18</b>

<b>Eighth Semester</b>	
Electives	9 - 12
[[IM-399]] Cooperative Education	0 - 3
[[IM-400]] Integrative Media Portfolio Capstone	3
<b>Total Credits</b>	<b>12 - 18</b>

# INTEGRATIVE MEDIA, B.A. - COGNATE MINOR IN COMMUNICATION STUDIES

## Recommended Course Sequence

<b>First Semester</b>	
[[BA153]] Management Foundations	3
[[ART-111]] Fundamentals of Color & Design	3
[[COM-101]] Fundamentals of Public Speaking	3
[[ENG-101]] Composition	4
[[FYF-101]] First-Year Foundations	3
<b>Total Credits</b>	<b>16</b>

<b>Second Semester</b>	
[[COM-102]] Principles of Communication	3
[[CS-125]] Computer Science I	4
Distribution Requirements	6
[[IM-101]] Integrative Media Foundations I	3
<b>Total Credits</b>	<b>16</b>

<b>Third Semester</b>	
[[COM-222]] Broadcast Production	3
Distribution Requirements	6
[[ENT-203]] Opportunity Identification	3
[[IM-201]] Integrative Media Foundations II	3
<b>Total Credits</b>	<b>15</b>

<b>Fourth Semester</b>	
Distribution Requirement	3
[[COM-124]] Mass Media Literacy	3
[[COM-203]] Small Group and Team Communications	3
[[ENG-202]] Technical & Professional Writing	3
[[IM-301]] Principles of Motion & Layering	3
<b>Total Credits</b>	<b>15</b>

<b>Fifth Semester</b>	
[[COM-323]] Advanced Audio Production	3
Distribution Requirements	6
[[IM-302]] Principles of Interactivity	3
[[IM-320]] Concept Development & Processes	3
<b>Total Credits</b>	<b>15</b>

<b>Sixth Semester</b>	
[[COM-262]] Visual Communications	3
[[COM-322]] Advanced Video Production	3
Distribution Requirements	6
[[IM-391]] Integrative Media Project I	3
<b>Total Credits</b>	<b>15</b>

<b>Seventh Semester</b>	
Electives	12
[[IM-392]] Integrative Media Project II	3
[[IM-399]] Cooperative Education	0 - 3
<b>Total Credits</b>	<b>15 - 18</b>

<b>Eighth Semester</b>	
Electives	9
[[IM-399]] Cooperative Education	0 - 3
[[IM-400]] Integrative Media Portfolio Capstone	3
<b>Total Credits</b>	<b>12 - 15</b>

# INTEGRATIVE MEDIA, B.A. - COGNATE MINOR IN COMPUTER SCIENCE

## Recommended Course Sequence

First Semester	
[[BA-153]] Management Foundations	3
[[CS-125]] Computer Science I	4
[[ART-111]] Fundamentals of Color & Design	3
Distribution Requirement	3
[[FYF-101]] First-Year Foundations	3
<b>Total Credits</b>	<b>16</b>

Second Semester	
[[CS-126]] Computer Science II	4
Distribution Requirements	6
[[ENG-101]] Composition	4
[[IM-101]] Integrative Media Foundation I	3
<b>Total Credits</b>	<b>17</b>

Third Semester	
[[CS-225]] Computer Science III	3
Distribution Requirement	3
Elective	3
[[ENT-203]] Opportunity Identification	3
[[IM-201]] Integrative Media Foundations II	3
<b>Total Credits</b>	<b>15</b>

Fourth Semester	
[[COM-102]] Principles of Communication	3
[[CS-226]] Computer Science IV	3
Distribution Requirement	3
[[ENG-202]] Technical & Professional Writing	3
[[IM-301]] Principles of Motion & Layering	3
<b>Total Credits</b>	<b>15</b>

Fifth Semester	
[[CS-283]] Web Development I	3
Distribution Requirement	3
Elective	3
[[IM-302]] Principles of Interactivity	3
[[IM-320]] Concept Development & Processes	3
<b>Total Credits</b>	<b>15</b>

Sixth Semester	
[[CS-325]] Database Management	3
Distribution Requirement	3
Electives	6
[[IM-391]] Integrative Media Project I	3
<b>Total Credits</b>	<b>15</b>

Seventh Semester	
[[CS-383]] Web Development II	3
Electives	6 - 9
[[IM-392]] Integrative Media Project II	3
[[IM-399]] Cooperative Education	0 - 3
<b>Total Credits</b>	<b>12 - 18</b>

Eighth Semester	
Electives	9 - 12
[[IM-399]] Cooperative Education	0 - 3
[[IM-400]] Integrative Media Portfolio Capstone	3
<b>Total Credits</b>	<b>12 - 18</b>

# INTEGRATIVE MEDIA, B.A. - COGNATE MINOR IN ENGLISH

## Recommended Course Sequence

<b>First Semester</b>	
[[BA-153]] Management Foundations	3
[[ART-111]] Fundamentals of Color & Design	3
Distribution Requirement	3
[[ENG-101]] Composition	4
[[FYF-101]] First-Year Foundations	3
<b>Total Credits</b>	<b>16</b>

<b>Second Semester</b>	
[[CS-125]] Computer Science I	4
Distribution Requirements	6
[[ENG-120]] Introduction to Literature & Culture	3DDMA
[[IM-101]] Integrative Media Foundations I	3
<b>Total Credits</b>	<b>16</b>

<b>Third Semester</b>	
Distribution Requirements	6
Elective	3
[[ENT-203]] Opportunity Identification	3
[[IM-201]] Integrative Media Foundations II	3
<b>Total Credits</b>	<b>15</b>

<b>Fourth Semester</b>	
[[COM-102]] Principles of Communication	3
Distribution Requirement	3
[[ENG-202]] Technical & Professional Writing	3
[[ENG-203]] Introduction to Creative Writing	3
[[IM-301]] Principles of Motion & Layering	3
<b>Total Credits</b>	<b>15</b>

<b>Fifth Semester</b>	
Distribution Requirement	3
Electives	6

[[IM-302]] Principles of Interactivity	3
[[IM-320]] Concept Development & Processes	3
<b>Total Credits</b>	<b>15</b>

<b>Sixth Semester</b>	
Distribution Requirement	3
Electives	6
[[ENG-308]] Rhetorical Analysis & Non-fiction Prose Writing	3
[[IM-391]] Integrative Media Project I	3
<b>Total Credits</b>	<b>15</b>

<b>Seventh Semester</b>	
Electives	9
ENG Elective	3
[[IM-392]] Integrative Media Project II	3
[[IM-399]] Cooperative Education	0 - 3
<b>Total Credits</b>	<b>15 - 18</b>

<b>Eighth Semester</b>	
Electives	6 - 9
ENG Elective	3
[[IM-399]] Cooperative Education	0 - 3
[[IM-400]] Integrative Media Portfolio Capstone	3
<b>Total Credits</b>	<b>12 - 18</b>

# INTEGRATIVE MEDIA, B.A. - COGNATE MINOR IN ENTREPRENEURSHIP

## Recommended Course Sequence

First Semester	
[[BA-153]] Management Foundations	3
[[ART-111]] Fundamentals of Color & Design	3
Distribution Requirement	3
[[ENG-101]] Composition	4
[[FYF-101]] First-Year Foundations	3
<b>Total Credits</b>	<b>16</b>

Second Semester	
[[ACC-161]] Financial Accounting. & Decision-Making	3
[[CS-125]] Computer Science I	4
Distribution Requirements	6
[[IM-101]] Integrative Media Foundation I	3
<b>Total Credits</b>	<b>16</b>

Third Semester	
Distribution Requirements	6
Elective	3
[[ENT-201]] Nature and Essence of Entrepreneurship	3
[[IM-201]] Integrative Media Foundations II	3
<b>Total Credits</b>	<b>15</b>

Fourth Semester	
[[COM-102]] Principles of Communication	3
Distribution Requirement	3
[[ENG-202]] Technical & Professional Writing	3
[[ENT-203]] Opportunity Identification	3
[[IM-301]] Principles of Motion & Layering	3
<b>Total Credits</b>	<b>15</b>

Fifth Semester	
Distribution Requirements	6

[[ENT-461]] Practicing Entrepreneurship	3
[[IM-302]] Principles of Interactivity	3
[[IM-320]] Concept Development & Processes	3
<b>Total Credits</b>	<b>15</b>

Sixth Semester	
[[MKT-221]] Marketing	3
Distribution Requirement	3
Electives	6
[[IM-391]] Integrative Media Project I	3
<b>Total Credits</b>	<b>15</b>

Seventh Semester	
Electives	9
[[ENT-384]] Small Business Consultancy or	
[[ENT-462]] Internship	3
[[IM-392]] Integrative Media Project II	3
[[IM-399]] Cooperative Education	0 - 3
<b>Total Credits</b>	<b>15 - 18</b>

Eighth Semester	
Electives	9 - 12
[[IM-399]] Cooperative Education	0 - 3
[[IM-400]] Integrative Media Portfolio Capstone	3
<b>Total Credits</b>	<b>12 - 18</b>

# INTEGRATIVE MEDIA, B.A. - COGNATE MINOR IN GAME AND EMERGENT TECHNOLOGY MINOR

## Recommended Course Sequence

<b>First Semester</b>	
[[BA-153]] - Management Foundations	3
[[CS-125]] - Computer Science I	4
[[ART-111]] - Fundamentals of Color & Design	3
[[COM-101]] - Fundamental of Public Speaking	3
[[FYF-101]] - First-Year Foundations	3
<b>Total Credits</b>	<b>16</b>

<b>Second Semester</b>	
[[ENG-101]] - Composition	4
[[COM-102]] - Principles of Communication	3
[[ART-134]] - Computer Graphics I	3
[[MTH-101]] - Solving Problems Using Mathematics	3
[[IM-101]] - Integrative Media Foundations I	3
<b>Total Credits</b>	<b>16</b>

<b>Third Semester</b>	
Electives (Area II, III, IM or Art)	6
[[IM-120]] - Foundations of Game Design	3
[[ENT-203]] - Opportunity Identification	3
[[IM-201]] - Integrative Media Foundations II	3
<b>Total Credits</b>	<b>15</b>

<b>Fourth Semester</b>	
[[IM-350]] - 3-Dimensional Environments and Animation	3
[[IM210]] - Introduction to Game Development	3

Electives (Area II, III, IM or ART)	3
[[ENG-202]] - Technical & Professional Writing	3
[[IM-301]] - Principles of Motion & Layering	3
<b>Total Credits</b>	<b>15</b>

<b>Fifth Semester</b>	
[[IM-302]] - Principles of Interactivity	3
[[IM-368]] - 3-Dimensional Game Development	3
[[IM-320]] - Concept Development & Processes	3
Electives (Area II, III, IM or ART)	6
<b>Total Credits</b>	<b>15</b>

<b>Sixth Semester</b>	
[[IM-310]] - Advanced Game Development	3
IM Elective	3
Electives (Area II, III, IM or ART)	6
[[IM-391]] - Integrative Media Project	3
<b>Total Credits</b>	<b>15</b>

<b>Seventh Semester</b>	
[[IM-330]] - Virtual Environments and Emerging Technology	3
Electives (Area II, III, IM or ART)	6
[[IM-392]] - Integrative Media Project II	3
[[IM-399]] - Cooperative Education	3
<b>Total Credits</b>	<b>15</b>

<b>Eighth Semester</b>	
Electives (Area II, III, IM or ART)	9-12
[[IM-400]] - Integrative Media Portfolio Capstone	3
<b>Total Credits</b>	<b>15</b>

# INTEGRATIVE MEDIA, B.A. - COGNATE MINOR IN MARKETING

## Recommended Course Sequence

<b>First Semester</b>	
[[FYF-101]] First-Year Foundations	3
[[ENG-101]] Composition	4
[[ART-111]] Fundamentals of Color & Design	3
Distribution Requirements	6
<b>Total Credits</b>	<b>16</b>

<b>Second Semester</b>	
[[IM-101]] Integrative Media Foundations I	3
[[BA-153]] Management Foundations	3
[[CS-125]] Computer Science I	4
Distribution Requirements	6
<b>Total Credits</b>	<b>16</b>

<b>Third Semester</b>	
[[IM-201]] Integrative Media Foundations II	3
[[ENT-201]] Nature and Essence of Entrepreneurship	3
Elective	3
Distribution Requirements	6
<b>Total Credits</b>	<b>15</b>

<b>Fourth Semester</b>	
[[IM-301]] Principles of Motion & Layering	3
[[COM-102]] Principles of Communication	3
[[ENG-202]] Technical & Professional Writing	3
[[MKT-221]] Marketing	3
Distribution Requirement	3
<b>Total Credits</b>	<b>15</b>

<b>Fifth Semester</b>	
[[IM-302]] Principles of Interactivity	3
[[IM-320]] Concept Development & Processes	3

[[ENT-203]] Opp. Id.: Innovation & Creativity	3
Distribution Requirement	3
Elective	3
<b>Total Credits</b>	<b>15</b>

<b>Sixth Semester</b>	
[[IM-391]] Integrative Media Project I	3
[[MKT-322]] Advertising	3
Distribution Requirement	3
Elective	6
<b>Total Credits</b>	<b>15</b>

<b>Seventh Semester</b>	
[[IM-392]] IM Project II	3
[[IM-399]] Cooperative Education	0 - 3
[[MKT-327]] Marketing Seminar or	3
[[MKT-328]] Consumer Behavior	
Electives	9 - 6
<b>Total Credits</b>	<b>15</b>

<b>Eighth Semester</b>	
[[IM-400]] Integrative Media Portfolio Capstone	3
[[IM-399]] Cooperative Education	0 - 3
Elective	12 - 9
<b>Total Credits</b>	<b>15</b>

# INTEGRATIVE MEDIA, B.A. - COGNATE MINOR IN THEATRE ARTS AND A CONCENTRATION IN ACTING AND DIRECTING

## Recommended Course Sequence

First Semester	
[[BA-153]] Management Foundations	3
Distribution Requirements	6
[[ENG-101]] Composition	4
[[FYF-101]] First-Year Foundations	3
<b>Total Credits</b>	<b>16</b>

Second Semester	
[[ART-111]] Fundamentals of Color & Design	3
[[CS-125]] Computer Science I	4
Distribution Requirements	6
[[IM-101]] Integrative Media Foundation I	3
<b>Total Credits</b>	<b>16</b>

Third Semester	
Distribution Requirement	3
Elective	3
[[ENT-203]] Opportunity Identification	3
[[IM-201]] Integrative Media Foundations II	3
[[THE-131]] Acting I	3
<b>Total Credits</b>	<b>15</b>

Fourth Semester	
[[COM-102]] Principles of Communication	3
Distribution Requirement	3
[[ENG-202]] Technical & Professional Writing	3
[[IM-301]] Principles of Motion & Layering	3
[[THE-234]] Directing I	3
<b>Total Credits</b>	<b>15</b>

Fifth Semester	
Distribution Requirement	3
Elective	3
[[IM-302]] Principles of Interactivity	3
[[IM-320]] Concept Development & Processes	3
[[THE-334]] Directing II	3
<b>Total Credits</b>	<b>15</b>

Sixth Semester	
Distribution Requirement	3
Electives	6
[[IM-391]] Integrative Media Project I	3
THE Elective	3
<b>Total Credits</b>	<b>15</b>

Seventh Semester	
Electives	6 - 9
[[IM-392]] Integrative Media Project II	3
[[IM-399]] Cooperative Education	0 - 3
THE Elective	3
<b>Total Credits</b>	<b>12 - 18</b>

Eighth Semester	
Electives	9 - 12
[[IM-399]] Cooperative Education	0 - 3
[[IM-400]] Integrative Media Portfolio Capstone	3
<b>Total Credits</b>	<b>12 - 18</b>

# INTEGRATIVE MEDIA, B.A. - COGNATE MINOR IN THEATRE ARTS AND A CONCENTRATION IN THEATRE DESIGN

## Recommended Course Sequence

First Semester	
[[BA-153]] Management Foundations	3
Distribution Requirements	6
[[ENG-101]] Composition	4
[[FYF-101]] First-Year Foundations	3
<b>Total Credits</b>	<b>16</b>

Second Semester	
[[ART-111]] Fundamentals of Color & Design	3
[[CS-125]] Computer Science I	4
Distribution Requirements	6
[[IM-101]] Integrative Media Foundation I	3
<b>Total Credits</b>	<b>16</b>

Third Semester	
Distribution Requirement	3
Elective	3
[[ENT-203]] Opportunity Identification	3
[[IM-201]] Integrative Media Foundations II	3
[[THE-121]] Stagecraft	3
<b>Total Credits</b>	<b>15</b>

Fourth Semester	
[[COM-102]] Principles of Communication	3
Distribution Requirement	3
[[ENG-202]] Technical & Professional Writing	3
[[IM-301]] Principles of Motion & Layering	3
[[THE-321]] Scene Design	3
<b>Total Credits</b>	<b>15</b>

Fifth Semester	
Distribution Requirement	3

Elective	3
[[IM-302]] Principles of Interactivity	3
[[IM-320]] Concept Development & Processes	3
THE-226 Scene Painting	3
<b>Total Credits</b>	<b>15</b>

Sixth Semester	
Distribution Requirement	3
Electives	6
[[IM-350]] 3-Dimensional Environment & Animation	3
[[IM-391]] Integrative Media Project I	3
<b>Total Credits</b>	<b>15</b>

Seventh Semester	
Electives	6 - 9
[[IM-392]] Integrative Media Project II	3
[[IM-399]] Cooperative Education	0 - 3
THE Elective	3
<b>Total Credits</b>	<b>12 - 18</b>

Eighth Semester	
Electives	9 - 12
[[IM-399]] Cooperative Education	0 - 3
[[IM-400]] Integrative Media Portfolio Capstone	3
<b>Total Credits</b>	<b>12 - 18</b>

# INTEGRATIVE MEDIA, B.F.A. - MAJOR IN DIGITAL DESIGN + MEDIA ART

Digital design and media art majors may work toward either a bachelor of fine arts (B.F.A.) or bachelor of arts (B.A.) degree. The B.F.A. degree is the highest standard, professional degree for undergraduate art and design programs, with a curriculum focused more on art and design courses than liberal arts. To earn a B.F.A., DDMA students at Wilkes must pursue a cognate minor in art and enroll in 21 credit-hours of art- or design-based electives, plus two alternate DDMA core courses as defined. A minimum of 2 art history courses are also included in the requirement totaling to 65% of courses taken in the topics of art and design.

In the course sequence below the courses are currently IM, but DDMA may be appropriate as with all cognate minor course sequences as defined by the timing of the registrar changes.

## Recommended Course Sequence

First Semester	
[[BA-153]] Management Foundations	3
[[ART-111]] Fundamentals of Color & Design	3
Distribution Requirement	3
[[ENG-101]] Composition	4
[[FYF-101]] First-Year Foundations	3
<b>Total Credits</b>	<b>16</b>

Second Semester	
[[ART-134]] Computer Graphics I	3
[[CS-125]] Computer Science I	4
Distribution Requirement	6
[[IM-101]] Integrative Media Foundations I	3
<b>Total Credits</b>	<b>16</b>

Third Semester	
[[ART-113]] Drawing	3
[[ART-234]] Computer Graphics II	3
Art History	3
[[ENT-203]] Opportunity Identification	3

[[IM-201]] Integrative Media Foundations II	3
<b>Total Credits</b>	<b>15</b>

Fourth Semester	
Art History	3
[[COM-262]] Digital Storytelling / Design	3
Distribution Requirement	3
[[ENG-222]] Introduction to Digital Humanities	3
[[IM-301]] Principles of Motion & Layering	3
<b>Total Credits</b>	<b>15</b>

Fifth Semester	
Distribution Requirement	6
Art or DDMA Electives	3
[[IM-302]] Principles of Interactivity	3
[[IM-320]] Concept Development & Processes	3
<b>Total Credits</b>	<b>15</b>

Sixth Semester	
Art or DDMA Elective	3
Distribution Requirement	3
Art or DDMA Elective	6
[[IM-391]] Integrative Media Project I	3
<b>Total Credits</b>	<b>15</b>

Seventh Semester	
Art or DDMA Elective	3
Art or DDMA Elective	6 - 9
[[IM-392]] Integrative Media Project II	3
[[IM-399]] Cooperative Education	0 - 3
<b>Total Credits</b>	<b>12 - 18</b>

Eighth Semester	
Art or DDMA Elective	9 - 12
[[IM-399]] Cooperative Education	0 - 3

**Integrative Media, B.F.A. - Major in Digital Design + Media Art**

[[IM-400]] Integrative Media Portfolio Capstone	3
<b>Total Credits</b>	<b>12 - 18</b>

# INTERNATIONAL RELATIONS

## Requirements

### International Relations

**Coordinator:** Dr. Andy Miller

Total minimum number of credits required for a major in International Relations leading to the B.A. degree — 120

Total minimum number of credits required for a minor in International Relations - 18

The interdisciplinary major in International Relations (I.R.) provides an excellent liberal arts preparation for a variety of careers and professions. The major is structured to permit concentration in fields leading to specific careers in business, government, international organizations, the military, or any technical or arts field. It is also structured to permit a period of study abroad with easy transfer of credits to the major.

### International Relations Major

The total number of hours required for graduation with an International Relations major is 120, of which 48 are within the major. For the International Relations major, the following courses are required: History [[HST-101]]; Economics [[EC-101]] or [[EC-102]]; Political Science [[PS-141]], [[PS-151]], [[PS-242]], [[PS-261]], [[PS-265]], [[PS-341]]; Anthropology [[ANT-102]]; International Relations [[IR-380]]; and Foreign Language (FL) at the 203-204 level of competency or equivalent.

Students are also required to take 15 electives hours, 9 of which are at the 300 level, from Political Science, History, or Languages.

International Studies Major: Content Areas and Major Electives:

<b>Content Area I: Political Science Credits</b>		Credits
[[PS-251]]	European Politics	3
[[PS-252]]	Changing Face of Eastern Europe	3
[[PS-255]]	Political Economy of Coffee	3
[[PS-350]]	Comparative Politics	3

<b>Content Area II: History</b>		Credits
[[HST-328]]	History of the Foreign Policy of the U.S.	3
[[HST-341]], [[HST-342]]	History of Great Britain	3

[[HST-342]]	The British Empire and Commonwealth	3
[[HST-345]]	History of Northeastern Europe	3
[[HST-346]]	History of the Balkans	3
[[HST-348]]	History of Russia	3
[[HST-356]]	Europe, 1900–1960	3
[[HST-357]]	The World Since 1945	3
[[HST-376]]	World War II	3

<b>Content Area III: Languages</b>		Credits
[[SP-205]]	Conversation	3
[[SP-206]]	Advanced Grammar, Stylistics, & Composition	3
[[SP-208]]	Culture and Civilization	3
[[SP-209]]	Latin American Culture & Civilization	3
[[SP-210]]	Spanish for Business	3
[[SP-211]]	Conversational Spanish for Health & Social Services	3
[[SP-212]]	Non-Literary Translation	3
[[SP-220]]	Spanish Listening & Comprehension	3
[[SP-301]]	Introduction to Latin American Culture	3
[[SP-307]]	Survey of Spanish Literature I	3
[[SP-308]]	Survey of Spanish Literature II	3

## Recommended Course Sequence

<b>First Semester Credits</b>	
Distribution Requirement*	3
ENG 101 Composition	4
CS 115 Computers and Applications	3

## International Relations

FYF 101 First-Year Foundations	3
PS 151 Introduction to Comparative Politics	3
<b>Total Credits</b>	<b>16</b>

<b>Second Semester</b>	
COM 101 Fundamentals of Public Speaking	3
EC 101 or EC 102 Principles of Economics I or II	3
Distribution Requirement	3
HST 101 Historical Foundations of the Mod. World	3
PS 141 Introduction to International Relations	3
<b>Total Credits</b>	<b>15</b>

<b>Third Semester</b>	
ANT 102 Cultural Anthropology	3
PS 261 Research Methods in Political Science	3
Distribution Requirement	3
PS 242 International Law and Organizations	3
Foreign Language*	3
<b>Total Credits</b>	<b>15</b>

<b>Fourth Semester</b>	
Content Hours	3
PS 265 Quantitative Reasoning in the Social Sciences	3
ENG 120 Intro. to Literature and Culture	3
Foreign Language*	3
Distribution Requirement	3
<b>Total Credits</b>	<b>15</b>

<b>Fifth Semester</b>	
Study Abroad or Free Electives**	15
<b>Total Credits</b>	<b>15</b>

<b>Sixth Semester</b>	
Study Abroad or Free Electives**	15
<b>Total Credits</b>	<b>15</b>

<b>Seventh Semester</b>	
Content Hours	6
PS 341 Model United Nations	3
MTH 101 Solving Problems Using Mathematics	3
Distribution Requirement	3
<b>Total Credits</b>	<b>15</b>

<b>Eighth Semester</b>	
Content Hours	3
Free Electives	3
IR 380 Senior Capstone	3
Distribution Requirements	5
<b>Total Credits</b>	<b>14</b>

*\*These courses are required for all International Relations Majors.*

*\*\*Students may elect to spend their junior year on campus. Courses will be selected in consultation with the International Relations Coordinator.*

## **LPN-BSN PROGRAM**

### **LPN-BSN Program**

Licensed Practical Nurse (LPN) students have the opportunity to challenge five specific courses in Nursing by successfully completing examinations from National League for Nursing (NLN) Mobility Examinations. The NLN Mobility Examinations include: Principles of Nursing, Nutrition, Obstetrics, Pediatrics, and Psychiatric/Mental Health. These examinations are used to facilitate the LPN to RN transition.

For details and enrollment information, contact the Coordinator of the LPN/BSN program.

### **License to Practice**

Candidates for a license to practice in the health field are required to have "good moral character." The Pennsylvania State Board of Nursing takes into consideration, when deciding on the applications for registration and a license to practice under their jurisdiction, whether candidates have been convicted of any felony or misdemeanor. Candidates are referred to the regulations specified in the Professional Nurse Law (P.L. 317, No. 69).

# MANAGEMENT

## Management Major

**Coordinator:** Dr. Ruth Hughes

Total minimum number of credits required for a Major in Management leading to the Bachelor of Business Administration degree — 122.

Sidhu students who major in Management develop the skills and competencies to make a difference in organizations, teams, and communities. The Management courses equip students with essential knowledge and capabilities to excel as leaders in many areas including operations management, human resources, sustainability management, and more. Course experiences help our students to develop their critical thinking, persuasive communication, teamwork, and leadership skills. Sidhu management students are prepared to excel in executive and managerial careers in business, industry, and governmental organizations.

### Requirements (27 credits total)

<b>Each student with a major in Management must complete the following 18 credits:</b>	
[[LDR-201]] – Introduction to Leadership	3
[[MGT-209]] – Business Correspondence and Reports	3
[[MGT-257]] – Management Information Systems	3
[[MGT-352]] – Production and Operations Management	3
[[MGT-353]] – Human Resources	3
[[MGT-356]] – The Social Responsibility of Business	3

<b>Each student with a major in Management must complete 9 of the following credits with 3 credits from each of the following categories:</b>	
<b>Advanced Management</b>	
[[ENT-384]] Small Business Consultancy	3
[[MGT-301]] Project Management	3
[[MGT-198]] / [[MGT-298]] / [[MGT-398]] – Topics in Management	3
[[MKT-357]] Global eBusiness	3

[[SCM-352]] Quality Management	3
<b>Leadership</b>	
[[ENT-252]] The Entrepreneurial Leader	3
[[LDR-202]] - Advanced Leadership Theory and Practice	3
[[LDR-301]] – Group Dynamics	3
[[LDR-198]] / [[LDR-298]] / [[LDR-398]] Topics in Leadership	3
<b>Emerging Management</b>	
[[BA-119]] Data Analysis in Excel	1
[[BA-336]] Advanced Topics in Business Law	3
[[BA-338]] International Business Law	3
[BA-463]] The Business Field and Research Experience	3
[[BA-464]] International Business Experience	3
[[ENT-203]] Opportunity Identification: Innovation and Creativity	3
[[SCM-201]] Introduction to Supply Chain Management	3

### Required Courses and Recommended Course Sequence

First Semester	Credits	Fifth Semester	Credits
[[BA-151]] – Integrated Management Experience I	3	[[BA-319]] – Business Statistics	3
[[CS-115]] – Computers and Applications	3	[[BA-335]] – Law & Business	3
[[ENG-101]] – Composition	4	[[MGT-353]] – Human Resource Management	3
[[FYF-101]] – First-Year Foundations	3	[[HST-101]] – Historical Foundations	3

		of the Modern World	
[[EC-101]] – Principles of Economics	3	Free Elective	3
[[PPD-101]] – Personal & Professional Development I	1	[[PPD-301]] – Personal & Professional Development V	1
<b>Total Credits</b>	<b>17</b>	<b>Total Credits</b>	<b>16</b>
<b>Second Semester</b>		<b>Sixth Semester</b>	
[[EC-102]] Principles of Economics II	3	[[LDR-201]] – Introduction to Leadership	3
[[BA-152]] – Integrated Management Exp. II	3	[[MGT-352]] – Production & Operations Management	3
[[MTH-101]] – Solving Problems Using Mathematics	3	[[MGT-354]] - Organizational Behavior	3
[[ENG-120]] Reading Classical Traditions	3	Free Elective	3
Social Science Distribution Requirement (Area III)	3	Humanities Distribution Requirement (Area I)	3
<b>Total Credits</b>	<b>15</b>	<b>Total Credits</b>	<b>15</b>
<b>Third Semester</b>		<b>Seventh Semester</b>	
[[ACC-161]] – Financial Acctg & Decision Making	3	[[MGT-358]] – International Business	3
[[MGT-251]] – Management of Organizations & People	3	Major Elective	3
[[MKT-221]] – Marketing	3	Major Elective	3
Arts Distribution Requirement (Area IV)	3	[[MGT-356]] – Social Responsibility of Business	3

Science Distribution Requirement (Area II)	3	Science Distribution Requirement (Area II)	3
[[PPD-201]] – Personal & Professional Development III	1	[[PPD-401]] – Personal & Professional Development VII	1
<b>Total Credits</b>	<b>16</b>	<b>Total Credits</b>	<b>16</b>
<b>Fourth Semester</b>		<b>Eighth Semester</b>	
[[ACC-162]] – Managerial Acctg & Decision Making	3	[[BA-461]] – Business Strategy and Decision Making	3
[[MGT-257]] – Management Information Systems	3	[[BA-462]] – Professional Business Experience (or 463 or 464)	3
[[FIN-240]] Introduction to Finance	3	Major Elective	3
[[MGT-209]] – Business Correspondence and Reports	3	Free Elective	3
[[COM-101]] Fundamentals of Public Speaking	3	<b>Total Credits</b>	<b>12</b>
<b>Total Credits</b>	<b>15</b>		

# MARKETING

## Marketing Major

**Coordinator:** Dr. Ge Grace Xiao

Marketing majors choose courses to prepare themselves for careers in marketing fields that range from product management, advertising, sales and account management to retailing, e-business, distribution management, and strategic marketing planning in entrepreneurial, corporate, or not-for-profit organizations. Students can look forward to career opportunities in large and small organizations representing a spectrum of industrial, consumer goods, service, and e-commerce firms in public- and private-sector institutions. Our students are expected to engage with the marketplace. Enhancing corporate competitiveness and delivering customer value is the starting goal for faculty and students in the Marketing Major. Consumer behavior, market segmentation, products as solutions, pricing, and brand strategy are taught with innovation and application. Sidhu Marketing Majors get much more than a classroom education – they partner with area businesses and organizations to deliver value for our community. For example, class projects give students the chance to tackle key marketing issues for many local and regional organizations. Many students participate in consulting projects through the Wilkes Small Business Development Center. Students are also invited to demonstrate their skills by participating in national competitions such as Collegiate Effie Challenges.

Total minimum number of credits required for a Major in Marketing leading to the Bachelor of Business Administration degree – 122.

The Marketing major requires an additional 27 credits, including:

### Requirements for the Marketing Major (27 credits total) Credits

<b>Each student with a major in Marketing must complete 15 of the following credits:</b>	
[[MKT-322]] – Integrated Marketing Communication	3
[[MKT-324]] – Retailing	3
[[MKT-326]] – The Selling Process	3
[[MKT-327]] – Seminar in Social Media Marketing	3
[[MKT-328]] – Consumer Behavior	3
[[MKT-357]] – Digital Marketing	3
[[MKT-419]] – Marketing Research and Analytics	3
[[MKT-198]] / [[MKT-298]] / [[MKT-398]] – Topics in Marketing	3

**Each student with a major in Marketing may also complete up to 12 of the following credits (or additional courses above):**

[[MGT-257]] – Management Information System	3
[[ENT-321]] – Analyzing Markets and Competition	3
[[SM-325]] – Sports Marketing	3
[[HL-325]] – Service Marketing	3
[[HL-355]] – Event Management	3
[[ENT-252]] – The Entrepreneurial Leader	3
[[LDR-201]] – Introduction to Leadership	3
[[MGT-209]] – Business Correspondence and Reports	3
[[MGT-352]] – Production and Operations Management	3

### Marketing Major Required Courses and Recommended Course Sequence

<b>First Semester</b>	Credits	<b>Fifth Semester</b>	Credits
[[BA-151]] – Integrated Management Experience I	3	[[BA-319]] – Business Statistics	3
[[CS-115]] – Computers and Applications	3	[[BA-335]] – Law & Business	3
[[ENG-101]] – Composition	4	Science Distribution Requirement (Area II)	3
[[FYF-101]] – First-Year Foundations	3	Free Elective	3
[[PPD-101]] – Personal & Professional Development I	1	MKT Major Course	3
<b>Total Credits</b>	<b>14</b>	[[PPD-301]] – Personal & Professional Development V	1
		<b>Total Credits</b>	<b>16</b>

<b>Second Semester</b>		<b>Sixth Semester</b>	
Arts Distribution Requirement (Area IV)	3	Humanities Distribution Requirement (Area I)	3
[[BA-152]] – Integrated Management Exp. II	3	[[FIN-240]] – Introduction to Finance	3
[[COM-101]] – Fundamentals of Public Speaking	3	MKT Major Course	3
Humanities Distribution Requirement (Area I)	3	MKT Major Course	3
Social Science Distribution Requirement (Area III)	3	MKT Major Course	3
<b>Total Credits</b>	<b>15</b>	<b>Total Credits</b>	<b>15</b>
<b>Third Semester</b>		<b>Seventh Semester</b>	
[[ACC-161]] – Financial Acctg & Decision Making	3	[[MGT-358]] – International Business	3
[[MGT-251]] – Management of Organizations & People	3	MKT Major Elective Course	3
[[HST-101]] – Historical Foundations of the Modern World	3	MKT Major Course	3
[[MTH-101]] – Solving Problems Using Mathematics	3	MKT Major Course	3
[[EC-101]] - Principles of Economics	3	Science Distribution Requirement (Area II)	3
[[PPD-201]] – Personal & Professional Development III	1	[[PPD-401]] – Personal & Professional Development VII	1
<b>Total Credits</b>	<b>16</b>	<b>Total Credits</b>	<b>16</b>

<b>Fourth Semester</b>		<b>Eighth Semester</b>	
[[ACC-162]] – Managerial Acctg & Decision Making	3	[[BA-461]] – Business Strategy and Decision Making	3
[[MKT-221]] - Marketing	3	[[BA-462]] – Professional Business Experience (or 363 or 364)	3
[[EC-102]] - Principles of Economics II	3	Free Elective	3
MKT Major Elective Course	3	MKT Major Elective Course	6
[[MGT-354]] – Organizational Behavior	3	Total Credits	15
<b>Total Credits</b>	<b>15</b>		

# MATHEMATICS

## Mathematics

Total minimum number of credits required for a major in Mathematics leading to the B.A. degree — 120.

Total minimum number of credits required for a major in Mathematics leading to the B.S. degree — 120.

Total minimum number of credits required for a minor in Mathematics — 20.

Total minimum number of credits required for a minor in Statistics — 21.

The Department of Mathematics, Physics and Computer Science offers programs of study leading to the B.A. and B.S. in Mathematics. In addition, students may pursue a minor area of study in either Mathematics or Statistics.

## Mathematics Major

The Department of Mathematics, Physics and Computer Science offers three tracks leading to the baccalaureate degree in Mathematics: the Standard Mathematics Track; the Computational Mathematics Track; and the Teacher Certification Track. The Teacher Certification Track provides preparation for secondary school teaching. The Standard Mathematics Track prepares students for graduate study and research in Mathematics or for careers in industry or government, depending upon the upper-level electives chosen in consultation with the faculty advisor. The Standard Track, when combined with an appropriate second major or minor area of study, can also provide an excellent foundation for professions in business and management, economics, law, medicine, and actuarial, computing, engineering, environmental, and physical sciences. Computational Mathematics is increasingly important in all fields of sciences, especially such fields as oil and gas exploration. In addition, the Computational Mathematics Track offers students with a strong interest in both mathematics and computer science the opportunity to explore the relationships between the two fields. All three tracks share a common core of study in discrete mathematics, analysis, probability, and statistics.

In the Standard and Teacher Certification Tracks, students may opt for either a Bachelor of Arts or a Bachelor of Science degree. The B.A. degree is intended for those who wish to elect more humanities and social science courses, whereas the B.S. degree requires greater concentration in the natural and physical sciences. The Computational Mathematics Track is offered only as a Bachelor of Science degree.

Students interested in Secondary Education certification should make an appointment with the chairperson of the Education Department as early in their program of study as possible in order to plan their professional studies. The Teacher Certification Track is specifically designed to incorporate requirements necessary for certification in Secondary Education. Upon completion of all requirements, students receiving a degree in mathematics with Secondary Teaching certification will also receive a minor in Secondary Education. Questions regarding the requirements for the minor in Secondary Education should be directed to the Education Department.

## Recommended Course Sequence

### Mathematics Major - Standard Track- Required Courses and Recommended Course Sequence

First Semester Credits	B.A.	B.S.
[[MTH-111]] Calculus I	4	4
[[ENG-101]] Composition or Distribution Requirement	4/3	4/3
[[CS-125]] Computer Science I	4	4
[[FYF-101]] First-Year Foundations	3	3
	<b>14-15</b>	<b>14-15</b>

Second Semester	B.A.	B.S.
[[MTH-112]] Calculus II	4	4
[[ENG-101]] Composition or Distribution Requirement	4/3	4/3
Distribution Requirements	9	6
Science Elective	-	4
	<b>16-17</b>	<b>17-18</b>

Third Semester	B.A.	B.S.
[[MTH-212]] Multivariable Calculus	4	4
[[MTH-211]] Intro. to Ordinary Differential Equations	4	4
[[MTH-231]] - Discrete Mathematics I	3	3
Science Elective	3	4

Distribution Requirements	3	3
	<b>17</b>	<b>18</b>

<b>Fourth Semester</b>	B.A.	B.S.
[[MTH-214]] Linear Algebra	3	3
[[MTH-302]] Intro to Higher Math	3	3
Science Elective	3	4
Distribution Requirement	3	6
Free Elective	3	0
	<b>15</b>	<b>16</b>

<b>Fifth Semester</b>	B.A.	B.S.
[[MTH-311]] Functions of a Real Variable or [[MTH 331]] Intro to Abstract Algebra I	4	4
[[MTH-351]] Probability and Mathematical Statistics I	3	3
Free Electives	9	6
	<b>16</b>	<b>13</b>

<b>Sixth Semester</b>	B.A.	B.S.
Mth/CS Electives	6	6
Free Electives	9	9
	<b>15</b>	<b>15</b>

<b>Seventh Semester</b>	B.A.	B.S.
[[MTH-391]] Senior Seminar	1	1
[[MTH-311]] Functions of a Real Variable or [[MTH-331]] Intro. to Abstract Algebra I	4	4
MTHh/CS Elective	-	3
Free Electives	9	7
	<b>14</b>	<b>15</b>

<b>Eighth Semester</b>	B.A.	B.S.
[[MTH-392]] Senior Seminar	2	2
Mth/CS Elective	3	3
Free Electives	9	9
	<b>14</b>	<b>14</b>

### Mathematics Major - Computational Track- Required Courses and Recommended Course Sequence

<b>First Semester</b>	Credits
[[CS-125]] – Computer Science I	4
[[ENG-101]] – Composition or Distribution Requirement	3-4
[[FYF-101]] – First-Year Foundations	3
[[MTH-111]] – Calculus I	4
<b>Total Credits</b>	<b>14-15</b>

<b>Second Semester</b>	Credits
[[CS-126]] – Computer Science II	4
[[ENG-101]] – Composition or Distribution Requirement	3-4
[[CS-246]] C and Unix	3
[[MTH-112]] – Calculus II	4
Distribution	<b>3</b>
<b>Total Credits</b>	<b>17-18</b>

<b>Third Semester</b>	Credits
[[CS-225]] – Computer Science III	3
Distribution Requirement	3
[[MTH-231]] – Discrete Mathematics I	3
[[MTH-211]] – Differential Equations	4
[[MTH-212]] - <b>Multivariable Calculus</b>	4
<b>Total Credits</b>	<b>17</b>

<b>Fourth Semester</b>	Credits
[[CS-226]] – Computer Science IV	3
[[MTH-214]] – Linear Algebra	3
	3

## Mathematics

[[MTH-302]] - Intro to Higher Math	
Science Requirement	4
<b>Total Credits</b>	<b>13</b>

<b>Fifth Semester</b>	Credits
Distribution Requirements	6
[[MTH-311]] – Real Analysis or	
[[MTH-361]] – Partial Differential Equations	3
[[MTH-351]] – Probability and Statistics or	
[[CS-328]] – Algorithms	3
Science Requirement	4
<b>Total Credits</b>	<b>16-17</b>

<b>Sixth Semester</b>	
Distribution Requirements	3
[[MTH-364]] – Numerical Analysis or	
[[MTH-365]] – Numerical Linear Algebra	3
MTH Elective	3
Science Elective	4
<b>Total Credits</b>	<b>13</b>

<b>Seventh Semester</b>	
Free Electives	4
[[MTH-311]] – Real Analysis or	
[[MTH-361]] – Partial Differential Equations	4/3
[[MTH-351]] – Probability and Statistics or	
[[CS-328]] – Algorithms	3
[[MTH-391]] – Senior Seminar I	1
MTH Elective	3
<b>Total Credits</b>	<b>14-15</b>

<b>Eighth Semester</b>	
Free Electives	6
[[MTH-364]] – Numerical Analysis or	
[[MTH-365]] – Numerical Linear Algebra	3
[[MTH392]] – Senior Seminar II	2
MTH Elective	3
<b>Total Credits</b>	<b>14</b>

## Mathematics Major - Teacher Certification Track- Required Courses and Recommended Course Sequence

<b>First Semester</b>	B.A.	B.S.
[[MTH-111]] Calculus I	4	4
[[ENG-101]] Composition or	4/3	4/3
Distribution Requirement		
[[CS-125]] Computer Science I	4	4
[[FYF-101]] First-Year Foundations	3	3
	<b>14-15</b>	<b>14-15</b>

<b>Second Semester</b>	B.A.	B.S.
[[MTH-112]] Calculus II	4	4
[[ENG-101]] Composition or	4/3	4/3
Distribution Requirement		
[[PSY-101]] General Psychology	3	3
Distribution Requirements	6	3
Lab Science Sequence I	-	4
	<b>16-17</b>	<b>17-18</b>

<b>Third Semester</b>	B.A.	B.S.
[[MTH-212]] Multivariable Calculus	4	4
[[MTH-231]] Discrete Mathematics I	3	3
[[ED-190]] Effective Teaching	3	3
Lab Science Sequence II	3	4
Distribution Requirements	3	3

	16	17
--	----	----

Fourth Semester	B.A.	B.S.
[[MTH-214]] Linear Algebra	3	3
[[MTH-302]] Introduction to Higher Math	3	3
[[ED180]] Educational Psychology	3	3
Science Elective	3	4
Free Elective	3	-
	<b>15</b>	<b>13</b>

Fifth Semester	B.A.	B.S.
[[EDSP-210]] Teach. Students w/ Special Needs	3	3
[[MTH-343]] Intro. to Geometry or [[MTH-303]] Teaching of Mathematics in Secondary School	3/4	3/4
[[MTH-311]] Functions of a Real Variable or [[MTH-331]] Intro. to Abstract Algebra	4	4
Distribution Requirement	0	3
Free Electives	3	0
	<b>13-14</b>	<b>13-14</b>

Sixth Semester	B.A.	B.S.
MTH/CS Elective(s)	3	9
[[ED-220]] Teaching...Diverse Learners	3	3
[[EDSP-225]] Special Education Methodology	3	3
[[ED-380]] Content Area Literacy	3	3
Free Elective	3	0
	<b>15</b>	<b>18</b>

Seventh Semester	B.A.	B.S.
[[MTH-343]] Intro. to Geometry or [[MTH-303]] Teaching Mathematics in Secondary School	3/4	3/4
[[MTH-311]] Functions of a Real Variable or [[MTH-331]] Intro to Abstract Algebra I	4	4
[[MTH-351]] Probability and Mathematical Statistics	3	3
[[MTH-391]] Senior Seminar	1	1
[[ED-191]] Technology in the classroom	3	3
	<b>14-15</b>	<b>14-15</b>

Eighth Semester	B.A.	B.S.
[[EDSP-388]] Inclusionary Practices	3	3
[[ED-390]] Intern Teaching	12	12
	<b>15</b>	<b>15</b>

### Science Electives for Mathematics Majors:

B.A. candidates: See General Education Requirements.  
 B.S. candidates: A laboratory science sequence which must be one of the following:  
 [[BIO-121]]; [[BIO-122]]; [[CHM-113]] & [[CHM-115]]; [[CHM-114]] & [[CHM-116]]; [[EES-211]]; [[EES-230]]; [[PHY-201]] & [[PHY-204]]; [[PHY-202]] & [[PHY-205]]  
**and**  
 one additional 4-credit course in Biology, Chemistry, Earth and Environmental Sciences, Physics, or any Engineering course not cross-listed in Computer Science. The course must be numbered above 200 except that [[BIO-121]], [[BIO-122]], [[CHM-113]] and [[CHM-115]] or [[CHM-114]] and [[CHM-116]] are also acceptable in this requirement.

### Mathematics/Computer Science Electives for Mathematics Majors:

#### Standard Mathematics Track:

Any two MTH courses numbered above 300, and for

## Mathematics

B.A. candidates: Any MTH or CS course numbered above 300, excluding [[MTH-303]]

B.S. candidates: Two of the following: Any MTH or CS course numbered above 300, excluding [[MTH-303]] and [[MTH-399]]

### Computational Mathematics Track:

Three elective courses consisting of 300-level or higher MTH or CS courses **excluding** [[MTH-303]].

**Requirement:** One of the electives must be chosen from among the following: [[MTH-354]], [[MTH-362]], [[MTH-363]], or [[CS-321]], and at least one of the three elective courses must be a MTH course.

### Teacher Certification Mathematics Track:

Any one 3-credit MTH course numbered above 300; and for B.S. candidates:

Two of the following courses:

Any MTH or CS course numbered above 300

### In Conjunction with the Secondary Education Major or Minor

Students interested in becoming secondary teachers in Mathematics should make an appointment with the chairperson of the Education Department or the Coordinator of the Secondary Education Program as early as possible in their course of study to plan their professional studies. These students will declare a major in Mathematics and as well as a major or minor in Secondary Education. The major in Secondary Education must be taken in conjunction with an approved major; it cannot stand alone as a major. Upon successful completion of the secondary education program, students may become certified in Pennsylvania to teach in grades 7-12 in their chosen field.

Students interested in pursuing either the major or the minor in Secondary Education should refer to the Education Department section of this bulletin for complete details of the curriculum and other degree requirements. Students should also consult carefully with their Education program and Mathematics program advisors in planning their course of studies.

### Total credits required for Secondary Education minor - 40 credits

### Total credits required for Secondary Education major - 47 credits

Required courses for the major(\*) or minor in Secondary Education are as follows:

[[ED-180]] – Educational Psychology - 3 cr.  
 [[ED-190]] – Effective Teaching with Field Experience - 3 cr.  
 [[ED-191]] – Integrating Technology into the Classroom - 3 cr.  
 [[EDSP-210]] – Teaching Students with Special Needs - 3 cr.  
 [[ED-220]] – Teaching Culturally and Linguistically Diverse Learners - 3 cr.

[[EDSP-225]] – Special Education Methods I with Field Experience - 3 cr.

[[ED-300]] – Teaching of a Foreign Language with Field Experience - 4 cr.

\*[[ED-345]] – Assessment - 3 cr.

\*[[ED-375]] – Middle Level/Secondary School Methods with Field Experience - 4 cr.

[[MTH-303]] – Teaching of Mathematics in Middle Level/Secondary Schools (with Field Experience) - 4 cr.

[[ED-380]] – Content Area Literacy - 3 cr.

[[EDSP-388]] – Inclusionary Practices (taken concurrently with ED 390) - 3 cr.

[[ED-390]] – Student Teaching with Seminar -12 cr.

### \*These additional courses required in order to complete the major in Secondary Education.

- All Teacher Education candidates must apply for admission to the Teacher Education Program in the sophomore or junior year.
- To be admitted into the Teacher Education Program, candidates must;
  - Attain a 3.0 GPA
  - Complete 48 credits including six credits in both Mathematics and English
  - Pass a test of basic skills
  - Submit required clearances showing ‘no record’
- To remain in the Teacher Education Program, candidates must:
  - Maintain a 3.0 GPA
  - Adhere to the Code of Professionalism and Academic Honesty
- To be certified as a teacher in Pennsylvania in grades 7-12, candidates must:
  - Successfully complete all required Education courses, including student teaching
  - Graduate with a 3.0 cumulative GPA
  - Pass the appropriate exit test(s) in their content area
  - Apply for certification through the Pennsylvania Teacher Information Management System (TIMS).

### Summary of the minimum credit distribution for the major in Mathematics:

Standard Mathematics Track	B.A.	B.S.
[[CS-125]] – Computer Science I	4	4
[[MTH-111]] – Calculus I	4	4
[[MTH-112]] – Calculus II	4	4
[[MTH-211]] – Introduction to Ordinary Differential Equations	4	4
[[MTH-212]] – Multivariable Calculus	4	4

[[MTH-214]] – Linear Algebra	3	3
[[MTH-231]] – Discrete Mathematics I	3	3
[[MTH-302]] - Intro to Higher Mathematics	3	3
[[MTH-311]] – Real Analysis	4	4
[[MTH-331]] – Abstract Algebra I	4	4
[[MTH-351]] – Probability and Statistics I	3	3
[[MTH-391]] – Senior Seminar I	1	1
[[MTH-392]] – Senior Seminar II	2	2
MTH/CS Electives	9	12
[[ENG-101]] – Composition	4	4
[[FYF-101]] – First-Year Foundations	3	3
Science Electives	6	12
Distribution Requirements	18	18
Free Electives	37	28
<b>Total minimum number of credits required for degree completion</b>	<b>120</b>	<b>120</b>

**Summary of the minimum credit distribution for the major in Mathematics:**

Computational Mathematics Track	Credits
[[CS-125]] – Computer Science I	4
[[CS-126]] – Computer Science II	4
[[CS-225]] – Computer Science III	3
[[CS-226]] – Computer Science IV	3
[[CS-246]] – C and Unix	3
[[CS-328]] – Algorithms	3
[[MTH-111]] – Calculus I	4
[[MTH-112]] – Calculus II	4
[[MTH-211]] – Introduction to Ordinary Differential Equations	4

[[MTH-212]] – Multivariable Calculus	4
[[MTH-214]] – Linear Algebra	3
[[MTH-231]] – Discrete Mathematics I	3
[[MTH-232]] - Discrete Mathematics II or [[MTH-302]] - Intro to Higher Mathematics	3
[[MTH-311]] – Real Analysis	4
[[MTH-351]] – Probability and Statistics I	3
[[MTH-361]] - Partial Differential Equations	3
[[MTH-364]] – Numerical Analysis	3
[[MTH-365]] – Numerical Linear Algebra	3
[[MTH-391]] – Senior Seminar I	1
[[MTH-392]] – Senior Seminar II	2
MTH Electives	9
[[ENG-101]] – Composition	4
[[FYF-101]] – First-Year Foundations	3
Area I: The Humanities	9
Area II: The Scientific World	12
Area III: Behavioral and Social Sciences	6
Area IV: Visual and Performing Arts	3
Free Electives	12 or 10
<b>Total minimum number of credits required for degree completion</b>	<b>122 or 120</b>

**Summary of the minimum credit distribution for the major in Mathematics:**

Teacher Certification Track	B.A.	B.S.
[[CS-125]] – Computer Science I	4	4
[[MTH-111]] – Calculus I	4	4
[[MTH-112]] – Calculus II	4	4
[[MTH-212]] – Multivariable Calculus	4	4

## Mathematics

[[MTH-214]] – Linear Algebra	3	3
[[MTH-231]] - Discrete Mathematics I	3	3
[[MTH-302]] - Intro to Higher Mathematics	3	3
[[MTH-303]] – Teaching Mathematics in Secondary Schools	3	3
[[MTH-311]] – Real Analysis	4	4
[[MTH-331]] – Abstract Algebra I	4	4
[[MTH-343]] – Geometry	3	3
[[MTH-351]] – Probability and Statistics I	3	3
[[MTH-391]] – Senior Seminar I	1	1
MTH/CS Electives	3	9
[[ED-180]] – Educational Psychology	3	3
[[ED-190]] – Effective Teaching	3	3
[[ED-191]] – Integrating Technology into the Classroom	3	3
[[ED-220]] – Teaching Culturally and Linguistically Diverse Learners	3	3
[[ED-380]] – Content Area Literacy	3	3
[[ED-390]](A) – Intern Teaching	12	12
[[EDSP-210]] – Teaching Students with Special Needs	3	3
[[EDSP-225]] – Special Education Methodology	3	3
[[EDSP-388]] – Inclusionary Practices	3	3
[[ENG-101]] – Composition	4	4
[[FYF-101]] – First-Year Foundations	3	3

[[PSY-101]] – General Psychology	3	3
Science Electives	6	12
Distribution Requirements	15	15
Free Electives	7	0
<b>Total minimum number of credits required for degree completion</b>	<b>120</b>	<b>125</b>

# MECHANICAL ENGINEERING

## Mechanical Engineering

The Department of Mechanical & Electrical Engineering offers a four-year Bachelor of Science degree program in Mechanical Engineering. The BS ME program prepares its students for industry and graduate study with the expectation of eventual leadership responsibilities. To that end, its faculty and facilities emphasize design and industrial experience, student-faculty-industry cooperative projects, teamwork, the adoption of new technologies, and the hands-on student utilization of laboratories and computing systems. The Mechanical Engineering program maintains professional accreditation by the Engineering Accreditation Commission of ABET (ABET, 415 North Charles Street, Baltimore, MD 21201; Telephone: (410) 347-7700).

The ME program is designed to achieve a balance among the major areas of Machine Design, Electro-Mechanical Systems, and Thermal Systems. Descriptions of program objectives and outcomes are publicly posted in the department and on the department's [webpages](#).

The Master of Science degree in Mechanical Engineering (MSME) is also available, including a BS/MS 4+1 option to achieve the MS in one additional year. The MSME degree program is described in the Graduate Bulletin. The MSME 4+1 option is described in the "Special Programs" sections of the Undergraduate and Graduate Bulletins.

## Mechanical Engineering B.S. Degree - Required Courses and Recommended Course Sequence

### First Semester

[[MTH-111]] Calculus I	4
[[CHM-117]] Chemistry Lab for Engineers	1
[[CHM-118]] Chemistry for Engineers	3
[[ME-180]] CADD Lab	1
[[ENG-101]] Composition	4
[[FYF-101]] First-Year Foundations	3
	<b>16</b>

### Second Semester

[[MTH-112]] Calculus II	4
[[PHY-201]] General Physics I	3
[[PHY-204]] General Physics I Lab	1
[[ME-140]] Scientific Programming	3
[[EGR-200]] Materials Science	3

Distribution Requirement	3
	<b>17</b>

### Third Semester

[[MTH-211]] Introduction to Ordinary Differential Equations	4
[[PHY-202]] General Physics II	3
[[PHY-205]] General Physics II Lab	1
[[EE-211]] Electrical Circuits and Devices	3
[[EE-283]] Electrical Engineering Lab	1
[[ME-231]] Statics	3
Distribution Requirement	3
	<b>18</b>

### Fourth Semester

[[EGR-222]] Mechatronics	3
[[ME-232]] Strength of Materials	3
[[ME-234]] Dynamics	3
[[ME-322]] Thermodynamics	3
[[MTH-212]] Multivariable Calculus	4
[[ME-175]] Machining	1
	<b>17</b>

### Fifth Semester

[[ME-321]] Fluid Mechanics	3
[[ME-215]] Manufacturing Processes	3
[[ME-335]] Finite Element Methods	4
[[ME-333]] Machine Design	3
Distribution Requirement	3
	<b>16</b>

### Sixth Semester

[[ME-399]] Cooperative Education* OR ME Technical Elective**	3
[[EGR-201]] Professionalism and Ethics	1
[[ME-323]] Fluid Mechanics Lab	1
[[ME-324]] Heat Transfer	3
[[ME-332]] Vibrations	3
[[ME-330]] Vibrations Laboratory	1

## Mechanical Engineering

[[EGM-320]] Engineering Project Management	3
Distribution Requirement	3
	<b>18</b>

### Seventh Semester

[[ME-326]] Heat Transfer Laboratory	1
Science Elective***	3
[[ME-384]] Mechanical Design Laboratory	3
[[ME-391]] Senior Projects I	1
[[ME-317]] Robotics	3
Distribution Requirement	3
	<b>14</b>

### Eighth Semester

ME Technical Elective**	3
[[ME-392]] Senior Projects II	2
Technical Elective**	3
Free Elective****	3
Distribution Requirement	3
	<b>14</b>

*\*Consult with the Cooperative Education Coordinator to determine availability and proper scheduling of the Cooperative Education experience.*

*\*\*Technical electives: Two (2) courses must be advisor-approved ME courses at the 200 level or above. One (1) course may be chosen from any advisor-approved math, science, or engineering course numbered 200 or above.*

*\*\*\*Science elective from approved list.*

*\*\*\*\*Free elective may be chosen from any course numbered 101 or above.*

# MIDDLE LEVEL EDUCATION MAJOR LEADING TO CERTIFICATION WITH A CONCENTRATION IN ENGLISH, LANGUAGE ARTS, AND READING WITH DUAL CERTIFICATION IN SPECIAL EDUCATION (PK-12)

## Recommended Course Sequence

132 Credits

First Semester	Credits
ED 180 – Educational Psychology	3
ENG 101 – Composition	4
FYF 101 – First-Year Foundations	3
HST 101 – Historical Foundations of the Modern World	3
PSY 101 – General Psychology	3
<b>Total Credits</b>	<b>16</b>
<b>Second Semester</b>	
CS 115 – Computers & Applications	3
ED 190 – Effective Teaching (40)*	3
ED 191 – Integrating Technology into the Classroom	3
ENG 120 – Introduction to Literature & Culture	3
BIO/CHM/EES/PHY 105	3
MTH 101 – Solving Problems Using Math	3
<b>Total Credits</b>	<b>18</b>
<b>Third Semester</b>	
HST 125 - American History I	3
EDSP 210 – Teaching Students with Spec. Needs	3
ENG 201 – Writing About Literature & Culture	4
FL or PHL 101	3

MTH 103 – Mathematics for Elem. School Teachers I	3
<b>Total Credits</b>	<b>16</b>
<b>Fourth Semester</b>	
BIO/CHM/EES/PHY 105	3
ED 220 – Teaching ... Diverse Learners	3
EDSP 225 – Teaching Students with High Incidence Disabilities with field experience ( <i>Cross List</i> with <b>EDSP 501</b> )	3
ENG 233/234/281/282 - Literature Survey	3
ENG 225 – Comparative Grammar	3
MTH 104 – Math for Elem. School Teachers II	3
<b>Total Credits</b>	<b>18</b>
<b>Fifth Semester</b>	
EDSP 226 – Teaching Students with Low Incidence Disabilities w/ field experience ( <i>Cross List</i> with <b>EDSP 502</b> )	3
ENG 233/234/281/282 - Literature Survey	3
PS 111 - Introduction to American Politics	3
ENG 324 – History of the English Language	3
Visual/Performing Arts	3
BIO/CHM/EES/PHY 105	3
<b>Total Credits</b>	<b>18</b>
<b>Sixth Semester</b>	
BIO/CHM/EES/PHY 105	3
ED 375 – Middle-Level & Secondary Ed. Methods (40)*	4
EDSP 227 - : Behavior Intervention and Support w/ field experience ( <i>Cross List</i> with <b>EDSP 503</b> )	3
EDSP 300 - Special Education Assessment & Evaluation	3
ED 326 - Adolescent Literature	3
<b>Total Credits</b>	<b>16</b>

**Middle Level Education Major leading to Certification with a Concentration in English, Language Arts, and Reading with Dual Certification in Special Education (PK-12)**

<b>Seventh Semester</b>	
EDSP 302 - Secondary Transition in Special Education ( <i>Cross List</i> with <b>EDSP 505</b> )	3
ED 380 - Content Area Literacy	3
ENG 393 - Teaching English in ML/Sec. Schools (40)*	4
ENG 233/234/281/282	3
MTH 150 – Elementary Statistics	3
<b>Total Credits</b>	<b>16</b>
<b>Eighth Semester</b>	
ED 390 – Student Teaching (40)**	12
EDSP 388 – Inclusionary Practices	3
<b>Total Credits</b>	<b>15</b>
<p><i>*Denotes field experience hours</i>  <i>**Denotes pre-student teaching hours completed during the first two weeks of the eighth semester.</i></p>	

# MIDDLE LEVEL EDUCATION MAJOR LEADING TO CERTIFICATION WITH A CONCENTRATION IN ENGLISH, LANGUAGE ARTS, AND READING

## Recommended Course Sequence

124 Credits

First Semester	Credits
CS 115 – Computers and Applications	3
ED 180 – Educational Psychology	3
ENG 101 – Composition	4
FYF 101 – First-Year Foundations	3
HST 125 – American History I	3
<b>Total Credits</b>	<b>16</b>
<b>Second Semester</b>	
ED 190 – Effective Teaching (40)*	3
ED 191 – Integrating Technology into the Classroom	3
ENG 120 – Introduction to Literature & Culture	3
HST 101 – Historical Foundations of the Modern World	3
MTH 101 – Solving Problems Using Math	3
<b>Total Credits</b>	<b>15</b>
<b>Third Semester</b>	
EDSP 210 – Teaching Students with Spec. Needs	3
ENG 201 – Writing About Literature & Culture	4
FL or PHL 101	3
MTH 103 – Mathematics for Elem. School Teachers I	3
PSY 101 – General Psychology	3
<b>Total Credits</b>	<b>16</b>

<b>Fourth Semester</b>	
BIO/CHM/EES/PHY 105	3
ED 220 – Teaching ... Diverse Learners	3
EDSP 225 – Teaching Students with High Incidence Disabilities with field experience ( <i>Cross List</i> with EDSP 501)	3
ENG 225 – Comparative Grammar	3
MTH 104 – Math for Elem. School Teachers II	3
<b>Total Credits</b>	<b>15</b>
<b>Fifth Semester</b>	
BIO/CHM/EES/PHY 105	3
MTH 150 - Elementary Statistics	3
ENG 233/234/281/282 – Literature Survey	3
ENG 324 – History of the English Lang.	3
Visual/Performing Arts	3
<b>Total Credits</b>	<b>15</b>
<b>Sixth Semester</b>	
ED 326 - Adolescent Literature	3
BIO/CHM/EES/PHY 105	3
ED 345 – Assessment in Education	3
ED 375 – Middle School Methods (40)*	4
ENG 233/234/281/282	3
<b>Total Credits</b>	<b>16</b>
<b>Seventh Semester</b>	
PS 111	3
BIO/CHM/EES/PHY 105	3
ENG 393 - Teaching English in ML/Sec. Schools (40)*	4
ENG 233/234/281/282	3
ED 380 - Content Area Literacy	3
<b>Total Credits</b>	<b>16</b>
<b>Eighth Semester</b>	
ED 390 – Student Teaching (40)**	12

**Middle Level Education Major leading to Certification with a Concentration in English, Language Arts, and Reading**

EDSP 388 – Inclusionary Practices	3
<b>Total Credits</b>	<b>15</b>
<i>*Denotes field experience hours</i> <i>**Denotes pre-student teaching hours completed during the first two weeks of the eighth semester.</i>	

# MIDDLE LEVEL EDUCATION MAJOR LEADING TO CERTIFICATION WITH A CONCENTRATION IN MATHEMATICS

## Recommended Course Sequence

127 Credits

<b>First Semester</b>	Credits
CS 115 – Computers and Applications	3
ED 180 – Educational Psychology	3
FYF 101 – First-Year Foundations	3
HST 125 – American History I	3
MTH 101 – Solving Problems Using Math	3
<b>Total Credits</b>	<b>15</b>
<b>Second Semester</b>	
BIO/CHM/EES/PHY 105	3
ED 190 – Effective Teaching (40)*	3
ED 191 – Integrating Technology into the Classroom	3
ENG 101 – Composition	4
HST 101 – Historical Foundations of the Modern World	3
<b>Total Credits</b>	<b>16</b>
<b>Third Semester</b>	
BIO/CHM/EES/PHY 105	3
EDSP 210 – Teaching Students with Spec. Needs	3
ENG 120 – Introduction to Literature & Culture	3
MTH 103 – Mathematics for Elem. School Teachers I	3
PSY 101 – General Psychology	3
<b>Total Credits</b>	<b>15</b>
<b>Fourth Semester</b>	
BIO/CHM/EES/PHY 105	3
ED 220 – Teaching ... Diverse Learners	3

EDSP 225 – Spec. Ed. Methodology I (30)*	3
MTH 104 – Math for Elem. School Teachers II	3
MTH 150 – Elementary Statistics	3
<b>Total Credits</b>	<b>15</b>
<b>Fifth Semester</b>	
BIO/CHM/EES/PHY 105	3
ED 380 – Content Area Literacy	3
ENG 201 – Writing About Literature & Culture	4
MTH 111 – Calculus I	4
MTH 303 – Teaching Math in ML/Sec. Schools (40)*	4
<b>Total Credits</b>	<b>18</b>
<b>Sixth Semester</b>	
ED 345 – Assessment in Education	3
ED 375 – Middle Level & Secondary Ed. Methods (40)*	4
ENG 225 – Comparative Grammar	3
FL or PHL 101	3
MTH 114 – Calculus and Modeling...	4
<b>Total Credits</b>	<b>17</b>
<b>Seventh Semester</b>	
PS 111 - Introduction to American Politics	3
Visual/Performing Arts	3
Elective	4
MTH 231 - Discrete Mathematics	3
MTH 343 - Introduction to Geometry	3
<b>Total Credits</b>	<b>16</b>
<b>Eighth Semester</b>	
ED 390 – Student Teaching (40)**	12
EDSP 388 – Inclusionary Practices	3
<b>Total Credits</b>	<b>15</b>
*Denotes field experience hours	
**Denotes pre-student teaching hours completed	

**Middle Level Education Major leading to Certification with a Concentration in Mathematics**

during the first two weeks of the eighth semester.	
--	--

# MIDDLE LEVEL EDUCATION MAJOR LEADING TO CERTIFICATION WITH A CONCENTRATION IN MATHEMATICS AND SCIENCE

## Recommended Course Sequence

130 Credits

<b>First Semester</b>	Credits
CS 115 – Computers and Applications	3
ED 180 – Educational Psychology	3
ENG 101 – Composition	4
FYF 101 – First-Year Foundations	3
MTH 103 – Mathematics for Elem. School Teachers I	3
<b>Total Credits</b>	<b>16</b>
<b>Second Semester</b>	
EES 105 – Planet Earth	3
ED 190 – Effective Teaching (40)*	3
ED 191 – Integrating Technology into the Classroom	3
HST 101 – Historical Foundations of the Modern World	3
MTH 104 – Math for Elem. School Teachers II	3
<b>Total Credits</b>	<b>15</b>
<b>Third Semester</b>	
Visual/Performing Arts	3
BIO 105 – The Biological World	3
EDSP 210 – Teaching Students with Spec. Needs	3
ENG 120 – Introduction to Literature & Culture	3
HST 125 – American History I	3
PSY 101 – General Psychology	3
<b>Total Credits</b>	<b>18</b>

<b>Fourth Semester</b>	Credits
CHM 105 – Chemistry & Modern Society	3
EES 211/251/280	4
ED 220 – Teaching ... Diverse Learners	3
EDSP 225 – Teaching Students with High Incidence Disabilities with field experience ( <i>Cross List</i> with <b>EDSP 501</b> )	3
MTH 150 – Elementary Statistics	3
<b>Total Credits</b>	<b>16</b>
<b>Fifth Semester</b>	
BIO 121 – Principles of Modern Biology I	4
ENG 202 – Technical Writing	3
MTH 111 – Calculus I	4
MTH 303 – Teaching Math in ML & SS (40)*	4
<b>Total Credits</b>	<b>15</b>
<b>Sixth Semester</b>	
BIO 122 – Principles of Modern Biology II	4
ED 375 – Middle Level & Secondary Ed. Methods (40)*	4
ENG 225 - Comparative Grammar	3
MTH 114 – Calculus and Modeling...a	4
ED 345 - Assessment in Education	3
<b>Total Credits</b>	<b>18</b>
<b>Seventh Semester</b>	
ANT 101/EC 102/PS 111/ SOC 101	3
PHY 105 - Concepts in Physics	3
ED 371 – Teaching Methods in Science	4
ED 380 - Content Area Literacy	3
FL or PHL 101	3
<b>Total Credits</b>	<b>16</b>

**Middle Level Education Major leading to Certification with a Concentration in Mathematics and Science**

<b>Eighth Semester</b>	
ED 390 – Student Teaching (40)**	12
EDSP 388 – Inclusionary Practices	3
<b>Total Credits</b>	<b>15</b>
<i>*Denotes field experience hours</i>	
<i>**Denotes pre-student teaching hours completed during the first two weeks of the eighth semester.</i>	

# MIDDLE LEVEL EDUCATION MAJOR LEADING TO CERTIFICATION WITH A CONCENTRATION IN MATHEMATICS WITH DUAL CERTIFICATION IN SPECIAL EDUCATION (PK-12))

## Recommended Course Sequence

132 Credits

First Semester	Credits
BIO/CHM/EES/PHY 105	3
ED 180 – Educational Psychology	3
FYF 101 – First-Year Foundations	3
HST 101 – Historical Foundations of the Modern World	3
MTH 101 – Solving Probs. Using Math	3
PSY 101 – General Psychology	3
<b>Total Credits</b>	<b>18</b>
<b>Second Semester</b>	
CS 115 – Computers & Applications	3
ED 190 – Effective Teaching (40)*	3
ED 191 – Integrating Technology into the Classroom	3
ENG 101 – Composition	4
BIO/CHM/EES/PHY 105	3
<b>Total Credits</b>	<b>16</b>
<b>Third Semester</b>	
HST 125 - American History I	3
EDSP 210 – Teaching Students with Spec. Needs	3
ED 220 – Teaching . . . Diverse Learners	3
ENG 120 – Introduction to Literature & Culture	3
MTH 103 – Mathematics for Elem. School Teachers I	3

MTH 150 – Elementary Statistics	3
<b>Total Credits</b>	<b>18</b>
<b>Fourth Semester</b>	
BIO/CHM/EES/PHY 105	3
EDSP 225 – Spec. Ed. Methodology I (30)*	3
ENG 225 - Comparative Grammar	3
ENG 202 – Technical Writing	3
MTH 104 – Math for Elem. School Teachers II	3
<b>Total Credits</b>	<b>15</b>
<b>Fifth Semester</b>	
BIO/CHM/EES/PHY 105	3
EDSP 226 – Teaching Students with Low Incidence Disabilities w/ field experience ( <i>Cross List with EDSP 502</i> )	3
EDSP 300 – Spec. Ed. Assessment & Evaluation	3
MTH 111 – Calculus I	4
Visual/Performing Arts	3
<b>Total Credits</b>	<b>16</b>
<b>Sixth Semester</b>	
ED 375 – Middle-Level & Secondary Ed. Methods (40)*	4
EDSP 302 – Secondary Transition in Special Education ( <i>Cross List with EDSP 505</i> )	3
EDSP 227 - Behavior Intervention and Support w/ field experience ( <i>Cross List with EDSP 503</i> )	3
MTH 114 – Calculus and Modeling...	4
PHL 101 or FL	3
<b>Total Credits</b>	<b>17</b>
<b>Seventh Semester</b>	
PS 111 - Introduction to American Politics	3
MTH 303 – Teaching Math in ML & SS (40)*	4
ED 380 - Content Area Literacy	3

**Middle Level Education Major leading to Certification with a Concentration in Mathematics with Dual Certification in Special Education (PK-12)**

MTH 231 – Discrete Mathematics	3
MTH 343 – Introduction to Geometry	3
<b>Total Credits</b>	<b>16</b>
<b>Eighth Semester</b>	
ED 390 – Student Teaching (40)**	12
EDSP 388 - Inclusionary Practices	3
<b>Total Credits</b>	<b>16</b>
<p><i>*Denotes field experience hours</i>  <i>**Denotes pre-student teaching hours completed during the first two weeks of the eighth semester.</i></p>	

# MIDDLE LEVEL EDUCATION MAJOR LEADING TO CERTIFICATION WITH A CONCENTRATION IN SCIENCE

## Recommended Course Sequence

130 Credits

Visual/Performing Arts	3
BIO 121 – Principles of Modern Biology I	4
ENG 202 - Technical Writing	3
Elective	3
MTH 150 – Elementary Statistics	3
<b>Total Credits</b>	<b>16</b>
<b>Sixth Semester</b>	
BIO 122 – Principles of Modern Biology II	4
ED 345 – Assessment in Education	3
PS 111 - Introduction to American Politics	3
ED 375 - Middle Level & Secondary Ed. Methods (40)*	4
PHY 105 – Concepts in Physics	3
<b>Total Credits</b>	<b>17</b>
<b>Seventh Semester</b>	
ED 371 - Teaching Methods in Science (40)*	4
BIO 225 – Population & Evolutionary Biology	4
EES 280 – Principles of Astronomy	4
ENG 225 – Comparative Grammar	3
ED 380 - Content Area Literacy	3
<b>Total Credits</b>	<b>18</b>
<b>Eighth Semester</b>	
ED 390 – Student Teaching (40)**	12
EDSP 388 – Inclusionary Practices	3
<b>Total Credits</b>	<b>15</b>
*Denotes field experience hours	

\*\*Denotes pre-student teaching hours completed during the first two weeks of the eighth semester.

# MIDDLE LEVEL EDUCATION MAJOR LEADING TO CERTIFICATION WITH A CONCENTRATION IN SOCIAL STUDIES

## Recommended Course Sequence

124 Credits

<b>First Semester</b>	Credits
CS 115 – Computers and Applications	3
ED 180 – Educational Psychology	3
ENG 101 – Composition	4
FYF 101 – First-Year Foundations	3
HST 101 – Historical Foundations of the Modern World	3
<b>Total Credits</b>	<b>16</b>
<b>Second Semester</b>	
BIO/CHM/EES/PHY 105	3
ED 190 – Effective Teaching (40)*	3
ED 191 – Integrating Technology into the Classroom	3
HST 102 – Europe Before 1600	3
MTH 101 – Solving Problems Using Math	3
<b>Total Credits</b>	<b>15</b>
<b>Third Semester</b>	
BIO/CHM/EES/PHY 105	3
EDSP 210 – Teaching Students with Spec. Needs	3
ENG 120 – Introduction to Literature & Culture	3
MTH 103 – Mathematics for Elem. School Teachers I	3
PSY 101 – General Psychology	3
HST 125 - American History I	3
<b>Total Credits</b>	<b>18</b>
<b>Fourth Semester</b>	
EC 102 or ANT 101/102	3

ED 220 – Teaching ... Diverse Learners	3
EDSP 225 – Spec. Ed. Methodology I (30)*	3
HST 126 – American History II	3
MTH 104 – Math for Elem. School Teachers II	3
<b>Total Credits</b>	<b>15</b>
<b>Fifth Semester</b>	
	Credits
BIO/CHM/EES/PHY 105	3
Visual/Performing Arts	3
ENG 225 - Comparative Grammar	3
MTH 150 – Elementary Statistics	3
PS 111 – Introduction to American Politics	3
<b>Total Credits</b>	<b>15</b>
<b>Sixth Semester</b>	
BIO/CHM/EES/PHY 105	3
ED 345 – Assessment in Education	3
ED 375 – Middle Level & Secondary Ed. Methods (40)*	4
ENG 202 - Technical Writing	3
SOC 101 or ANT 101	3
<b>Total Credits</b>	<b>16</b>
<b>Seventh Semester</b>	
ED 380 - Content Area Literacy	3
ED 381 - Teaching Methods in Social Studies (40)*	3
FL or PHL 101	3
HST 300 Level	3
PS 141/PS 151	3
<b>Total Credits</b>	<b>16</b>
<b>Eighth Semester</b>	
ED 390 – Student Teaching (40)**	12
EDSP 388 – Inclusionary Practices	3
<b>Total Credits</b>	<b>15</b>
<i>*Denotes field experience hours</i>	
<i>**Denotes pre-student teaching hours completed during the first two weeks of the eighth semester.</i>	

# MIDDLE LEVEL EDUCATION MAJOR LEADING TO CERTIFICATION WITH A CONCENTRATION IN SOCIAL STUDIES AND DUAL CERTIFICATION IN SPECIAL EDUCATION (PK-8)

## Recommended Course Sequence

132 Credits

First Semester	Credits
ED 180 – Educational Psychology	3
ENG 101 – Composition	4
FYF 101 – First-Year Foundations	3
HST 101 – Historical Foundations of the Modern World	3
PSY 101 – General Psychology	3
<b>Total Credits</b>	<b>16</b>
Second Semester	
BIO/CHM/EES/PHY 105	3
CS 115 – Computers and Applications	3
ED 190 – Effective Teaching (40)*	3
ED 191 – Integrating Technology into the Classroom	3
HST 102 – Europe Before 1600	3
MTH 101 – Solving Problems Using Math	3
<b>Total Credits</b>	<b>18</b>
Third Semester	
BIO/CHM/EES/PHY 105	3
EDSP 210 – Teaching Students with Spec. Needs	3
ANT 101/102	3
ENG 120 – Introduction to Literature & Culture	3
HST 125 – American History I	3
MTH 103 – Mathematics for Elem. School Teachers I	3

<b>Total Credits</b>	<b>18</b>
Fourth Semester	
ED 220 – Teaching ... Diverse Learners	3
EDSP 225 – Spec. Ed. Methodology I (30)*	3
ENG 202 - Technical Writing	3
HST 126 – American History II	3
MTH 104 – Math for Elem. School Teachers II	3
PS 111 – Introduction to American Politics	3
<b>Total Credits</b>	<b>18</b>
Fifth Semester	Credits
BIO/CHM/EES/PHY 105	3
Visual/Performing Arts	3
ENG 225 - Comparative Grammar	3
EDSP 226 – Special Ed. Methodology (20)*	3
FL or PHL 101	3
MTH 150 – Elementary Statistics	3
<b>Total Credits</b>	<b>18</b>
Sixth Semester	
BIO/CHM/EES/PHY 105	3
ED 375 - Middle Level Methods	4
EDSP 302 – Special Ed. Methods	3
EDSP 227 – Behavior Management in Special Ed. (20)*	3
SOC 101 or ANT 101	3
<b>Total Credits</b>	<b>16</b>
Seventh Semester	
ED 381 - Teaching Methods in Social Studies (40)*	4
ED 380 - Content Area Literacy	3
EDSP 300 - Special Ed. Assessment & Evaluation	3
HST 300 Level	3
PS 141/PS 151	3
<b>Total Credits</b>	<b>16</b>
Eighth Semester	
ED 390 – Student Teaching (40)**	12

**Middle Level Education Major leading to Certification with a Concentration in Social Studies and Dual Certification in Special Education (PK-8)**

EDSP 388 – Inclusionary Practices	3
<b>Total Credits</b>	<b>15</b>

\*Denotes field experience hours

\*\*Denotes pre-student teaching hours completed during the first two weeks of the eighth semester.

# MUSICAL THEATRE, B.F.A.

## Requirements

The B.F.A. in Musical Theatre provides pre-professional training in voice, acting, dance, and music theory as a foundation to a career in musical theatre. The program also offers opportunities for advanced study in each area. Students majoring in Musical Theatre are required to take the following:

Theatre, Music, and Dance courses	70 credits
Electives	18 credits
General Education courses	34 credits
Total required for graduation	<b>122 credits</b>

## Recommended Course Sequence

First Semester Credits	
[[FYF-101]] First-Year Foundations	3
[[ENG-101]] Composition	4
[[THE-121]] Stagecraft I	3
[[THE-132]] Voice & Diction I	3
[[MUS-100]] Voice	1
[[MUS-119]] Studio Class	0
[[MUS-102]] Music Fundamentals (can be waived with permission of the instructor)	3
[[MUS-125]] University Chorus	1
[[THE-190]] Theatre Laboratory	1
<b>Total Credits</b>	<b>19</b>

Second Semester	
[[ENG-120]] Intro to Literature and Culture	3
[[MUS-100]] Voice	1
[[MUS-119]] Studio Class	0
[[MUS-103]] Music Theory I	3
[[MUS-125]] University Chorus	1
[[THE-100]] Approach To Theatre	3
[[THE-233]] Voice & Diction II	3
[[THE-131]] Acting 1	3
[[THE-190]] Theatre Laboratory	1
<b>Total Credits</b>	<b>18</b>

Third Semester	
Distribution Requirements	9
[[MUS-200]] Voice	1
[[MUS-219]] Studio Class	0
[[THE-190]] Theatre Laboratory	1
[[THE-232]] Acting II	3
<b>Total Credits</b>	<b>14</b>

Fourth Semester	
Distribution Requirements	6
[[THE-214]] Script Analysis	3
[[THE-216]] Design for the Theatre	3
[[MUS-200]] Voice	1
[[MUS-219]] Studio Class	0
[[THE-190]] Theatre Laboratory	1
<b>Total Credits</b>	<b>14</b>

Fifth Semester	
Distribution Requirement	6
[[MUS-300]] Voice	1
[[MUS-319]] Studio Class	0
[[THE-211]] Theatre History I	3
[[THE-190]] Theatre Laboratory	1
[[THE-331]] Acting III	3
[[DAN-250]] Classical Ballet	3
<b>Total Credits</b>	<b>17</b>

Sixth Semester	
Electives	3
[[DAN-230]] Jazz Dance I	3
[[MUS-300]] Voice	1
[[MUS-319]] Studio Class	0
[[THE-311]] Theatre History II	3
[[THE-234]] Directing I	3
[[THE-190]] Theatre Laboratory	1
<b>Total Credits</b>	<b>14</b>

Seventh Semester	
Electives	9
Distribution Requirement	3
[[MUS-400]] Voice	1
[[MUS-419]] Studio Class	0
[[THE-190]] Theatre Laboratory	1
[[THE-493]] Senior Capstone	1

**Musical Theatre, B.F.A.**

<b>Total Credits</b>	<b>15</b>
<b>Eighth Semester</b>	
Electives	9
[[THE-394]] The Business of Theatre/Auditions	3
[[THE-190]] Theatre Laboratory	1
[[MUS-400]] Voice	1
[[MUS-419]] Studio Class	0
<b>Total Credits</b>	<b>14</b>

# NEUROSCIENCE, B.S..

## Requirements

Total minimum of credits required for a major in Neuroscience leading to the B.S. degree - 120

Total minimum of credits required for a minor – 28

## Neuroscience Major

**Coordinator:** Dr. Edward Schicatano

The Neuroscience major must complete a minimum of 120 credit hours. In addition to satisfying the University's General Education requirements, the student majoring in Neuroscience completes a minimum of 73 credits in Neuroscience and other required courses (please see the course listings for the specific course requirements).

Students are encouraged to consult the Undergraduate Bulletin for all information regarding the degree requirements.

Each student should also meet and work closely with their faculty advisor in order to make the optimal course selections based upon the student's interests and future goals.

## Required Courses (73 credits)

Psychology majors must take all of the following courses:

[[BIO-121]]	Principles of Modern Biology I	4 credits
[[BIO-226]]	Cellular & Molecular Biology	4 credits
[[BIO-321]] or [[BIO-398]]	Mammalian Physiology or Neurophysiology	4 credits
[[BIO-398]]	Molecular Neurobiology	4 credits
[[CHM-115]]	Elements and Compounds	4 credits
[[CHM-116]]	The Chemical Reaction	4 credits
[[CHM-231]]	Organic Chemistry	4 credits
[[PHY-171]]	Principles of Classical & Modern Physics	4 credits
[[PHY-174]]	Application of Classical & Modern Physics	4 credits
[[MTH-111]]	Calculus	4 credits
[[PSY-101]]	General Psychology	3 credits
[[PSY-200]]	Statistics	4 credits
[[PSY-300]]	Research Methods	4 credits
[[PSY-398]]	Topics in Neuroscience	3 credits
[[PSY-400]]	Capstone	3 credits
[[PSY-257]]	Neuropsychology	3 credits

[[PSY-311]]	Behavioral Neuroscience	4 credits
[[PSY-359]]	Psychopharmacology	3 credits
[[PSY-398]]	Social Neuroscience	3 credits
	One 300 level PSY class	3 credits
	BIO, CHM or PSY elective	3 or 4 credits

## Recommended Course Sequence

### First Semester Credits

[[BIO-121]] – Principles of Modern Biology I

[[CHM-113]] – Elements & Compounds Lab

[[CHM-115]] – Elements & Compounds

[[FYF-101]] – First Year Foundations

[[PSY-101]] – General Psychology

### Second Semester Credits

[[CHM-114]] – The Chemical Reaction Lab

[[CHM-116]] – The Chemical Reaction

[[ENG-101]] – Composition

[[MTH-111]] – Calculus

Distribution Requirement

### Third Semester Credits

[[CHM-231]] – Organic Chemistry I

[[CHM-233]] – Organic Chemistry Lab

[[PSY-257]] – Neuropsychology

3 Distribution Requirements

### Fourth Semester Credits

[[PSY-200]] – Statistics

[[BIO-226]] – Cellular & Molecular Biology

3 Distribution Requirements

### Fifth Semester Credits

[[PHY-171]] – Principles of Classical & Modern Physics

[[BIO-321]] – Mammalian Physiology or Neurophysiology

PSY elective (required) or [[PSY-311]]

Free elective

### Sixth Semester Credits

[[PHY-174]] – App. Of Class & Mod Physics

## **Neuroscience, B.S..**

[[PSY-300]] – Research Methods

[[PSY-359]] – Psychopharmacology

[[PSY-398]] – Social Neuroscience

### **Seventh Semester Credits**

[[PSY-311]] – Behavioral Neuroscience or PSY elective

[[BIO-398]] – Molecular Neurobiology

2 Free electives

[[PSY-400]] – Capstone or Free elective

### **Eighth Semester Credits**

Free electives or [[PSY-400]] Capstone

Or [[PSY-398]] - Social Neuroscience

BIO, PSY or CHM elective

# NURSING

## Nursing

**Total minimum number of credits required for a major in Nursing leading to the BSN degree — 120.**

### Accreditation

The baccalaureate degree in nursing/master's degree in nursing/Doctor of Nursing Practice/, and post graduate APRN certificate programs at Wilkes University are accredited by the Commission on Collegiate Nursing Education ([www.ccnaccreditation.org](http://www.ccnaccreditation.org)).

### Philosophy and Curriculum

The practice of professional nursing is a deliberative process of assessing, analyzing, planning, implementing, and evaluating care with clients that promotes and restores health and prevents illness. The baccalaureate program prepares a beginning, self-directed practitioner who is capable of initiating, implementing, and revising nursing care.

Professional nursing is based upon the integration of knowledge from the humanities, the physical and social sciences, and nursing theories and research. The curriculum is based on the development of the individual and the family within a community. The curriculum flows from the philosophy and covers a four-year academic period. It includes integrated nursing courses, electives, and the General Education Curriculum requirements. Due to the cultural diversity of clients, it is suggested that students consider taking a foreign language. Written agreements with the cooperating hospitals and agencies in Northeastern Pennsylvania ensure clinical facilities for the student's practice, which is concurrent with the classroom theory. NOTE: Students are responsible for their own transportation to assigned clinical areas.

In addition, opportunities for learning are provided in the Clinical Nursing Simulation Center, which is equipped with computer-assisted instructional materials and with low fidelity and high fidelity manikins. A simulated clinical environment allows the student to practice the psychomotor skills necessary in nursing practice. A faculty member is available to assist the students.

### Undergraduate Nursing Programs

Students majoring in Nursing are required to have completed courses in English (4 units), Social Studies (3 units), Mathematics (2 units, including algebra), and Science (two units, including Biology and Chemistry) during their secondary school program. The preferred criteria for admission are a high school GPA of 3.3 or numeric grade of 87, SAT scores of 510 in both Math and Reading (1020) or an ACT score of 21 for those students who do not take the SAT's. Students who have graduated from an accredited institution and meet all other admission requirements will be evaluated on a case-by-case basis. Admission is not guaranteed. Transfer students or change of major students must meet the required score on the nursing entrance examination prior to admission into the nursing program.

The student of nursing assumes all of the financial obligations listed in the section on fees in this bulletin. Additional expenses incurred in the Nursing Program are listed in the [Undergraduate Nursing Student Handbook](#). A price list for these items follows.

Students must complete the required health and clearance documents and submit all requirements as directed by Castlebranch by June 30th every year of enrollment in clinical nursing courses for the fall semester and by January 5 for the spring semester. Failure to complete requirements by June 30th or January 5 will result in the loss of a clinical seat. Students must contact Lori Drozdis, Student Affairs Coordinator (at [lori.drozdis@wilkes.edu](mailto:lori.drozdis@wilkes.edu) or (570) 408-4092) for the required code.

In addition to the required health and clearance documents noted above, any student transferring into the nursing program from another school or from another program or from an undeclared status at Wilkes University must be in good academic standing and must successfully complete the nurse entrance examination before July 1st preceding the start of the entry level clinical nursing course (NSG 210). Students must also meet the technical standards essential to the practice of nursing, as defined in the [Undergraduate Nursing Student Handbook](#) to progress into clinical nursing courses.

Satisfactory clinical performance is an essential component of the Wilkes Nursing program. Students become eligible to progress into clinical nursing courses when they have met the following prerequisite course requirements: nursing majors must earn a 2.5 or better in the required prerequisite sciences (BIO 113, 115-116, CHM 111) and a 2.0 in ENG 101. In order to remain in clinical courses and progress in the nursing curriculum, students must earn a 2.5 or higher in the required co-requisite science (EES 242). Students will be allowed to repeat a science course one time for a grade less than 2.5. A student who achieves less than a 2.5 in two science courses **will not be** able to progress into the nursing program. Students must obtain a cumulative GPA of 2.5 at all times.

**In order to progress THROUGH the nursing program, all nursing students must:**

- Follow the admission and progression policy of the Passan School of Nursing.

In addition to fulfilling the academic requirements of the University, students majoring in Nursing are required to successfully complete comprehensive examinations and required studies as assigned by the School of Nursing before being eligible to graduate

## Nursing Major- Required Courses and Recommended Course Sequence

### First Semester

[[BIO-115]] Human Anatomy and Physiology I	4
[[CHM-111]] Fundamentals of Chemistry	4

## Nursing

[[ENG-101]] Composition* or	4
[[FYF-101]] First-Year Foundations	3
[[NSG-117]] Basic Life Support elective	1
<b>Total Credits</b>	<b>16</b>

### Second Semester

[[BIO-113]] Microbiology	4
[[BIO-116]] Human Anatomy and Physiology II	4
[[PSY-101]] General Psychology* or	3
[[SOC-101]] Intro. to Sociology* or	3
[[ANT-101]] Intro. to Anthropology*	
[[ART-101]], [[MUS-101]], or [[DAN-101]]	3
<b>Total Credits</b>	<b>17</b>

### Third Semester

[[NSG-200]] Principles of Normal Nutrition	3
[[MTH-150]] Elementary Statistics**	3
[[NSG-214]] Pathophysiology for Professional Nurses	3
[[CS-115]] Computers & Applications	3
[[ENG-120]] Introduction to Literature & Culture	3
<b>Total Credits</b>	<b>15</b>

### Fourth Semester

[[NSG-210]] Principles of Nursing	6
[[NSG-211]] Physical Assessment	3
[[NSG-215]] Pharmacotherapeutics I	
[[HIS-101]] Historical Foundations of the Modern World	3
PSY Elective	3
<b>Total Credits</b>	<b>16</b>

### Fifth Semester

[[NSG-213]] Nursing Care of the Psychiatric Mental Health Client	4
[[NSG-235]] Medical Surgical Nursing I	6

[[NSG-236]] Pharmacotherapeutics II	1
[[NSG-342]] Introduction to Nursing Research	3
<b>Total Credits</b>	<b>14</b>

### Sixth Semester

[[EES-242]] Environmental Health	3
[[NSG-237]] Medical Surgical Nursing II	6
[[NSG-238]] Pharmacotherapeutics III	1
[[NSG-241]] Nursing Care of Child Bearing Family	4
[[NSG-217]] Basic Life Support elective	1
<b>Total Credits</b>	<b>15</b>

### Seventh Semester

[[NSG-340]] Advanced Care Concepts	5
[[NSG-242]] Nursing Care of the Child Rearing Family	4
[[NSG-321]] Population Health	3
[[PHL-101]] or Foreign Language	3
<b>Total Credits</b>	<b>15</b>

### Eighth Semester

[[NSG-345]] Senior Practicum	5
[[NSG-239]] Nursing Care Older Adult	2
[[NSG-325]] NCLEX Preparation for Professional Practice	2
[[NSG-341]] Nursing Informatics	3
<b>Total Credits</b>	<b>12</b>

\* Please note: Students must take [[ENG-101]] and both [[PSY-101]] and [[SOC-101]] or [[ANT-101]] during their freshman year.

\*\*Please note: [[MTH-150]] is required and prerequisite to [[NSG-342]].

## Additional Nursing Expenses and Fees for Traditional Baccalaureate Students

Item	Freshman	Sophomore	Junior	Senior
Capstone Project				
National Student	\$45	\$45	\$45	\$45

Nurses Association (NSNA)				
Uniform Scrub Top		\$30 - \$35		
Uniform Scrub Pants		\$25		
Uniform Shoes		\$40 and up		
Stethoscope, penlight, bandage scissors		\$55 - \$85		
Hemostats		\$6		
BP Cuff		\$40		
AHA CPR Certification for Health Care Providers		\$35 and up		\$35 and up
Castle Branch Profile		\$175 and up	\$175 and up	\$175 and up
Criminal Record Check		\$40 and up	\$40 and up	\$40 and up
PA Child-Abuse-History Clearance		\$10		
Physical, Immunizations, and PPD		\$100 and up*	\$100 and up*	\$100 and up*
Urine for Drug Screen		\$50 and up	\$50 and up	\$50 and up
<i>*May be covered by the student's medical insurance</i>				
<i>**Will be billed by the Financial Management Office.</i>				

The School of Nursing Faculty reserves the right to revise the Nursing Major requirements as deemed necessary at any time to prepare students for new and emerging roles in nursing.

## License to Practice

Candidates for a license to practice in the health field are required to have "good moral character." The Pennsylvania State Board of Nursing takes into consideration, when deciding on the applications for registration and a license to practice under their jurisdiction, whether candidates have been convicted of any felony or misdemeanor. Candidates are referred to the regulations specified in the Professional Nurse Law (P.L. 317, No. 69).

# PHARMACY

## Pharmacy

The School of Pharmacy offers a program of professional study leading to the Doctor of Pharmacy (Pharm.D.) degree. The purpose of the program is to prepare graduates for successful pharmacy practice in the health care environment of the twenty-first century. The U.S. health care system has been undergoing rapid, even dramatic, change. This transformation is expected by most observers to continue for some time. Those individuals and organizations responsible for the delivery of pharmaceutical care have not been and will not be sheltered from the forces of change. It becomes necessary, therefore, to provide new practitioners with the necessary knowledge base and skills required in a transformed health care system.

With the rapid transformation of health care delivery, a strong foundation in the basic sciences (e.g., pharmaceuticals, pharmacology, medicinal chemistry, anatomy and physiology) remains essential while clinical knowledge (e.g., therapeutics, pharmacokinetics, and pathophysiology) and skills (e.g. physical assessment, patient counseling, clinical decision-making) become even more important. Successful practice will demand an improved understanding of the social sciences (e.g., psychology, sociology, economics, health policy, management). Most importantly, the future pharmacy practitioner must have outstanding interpersonal skills. Among these are the abilities to communicate effectively and to function in a team environment.

Our vision is to develop meaningful interprofessional education (IPE) activities where all students participate in both experiential and didactic settings. Through IPE, students understand the roles and responsibilities of health care professionals that are essential to patient care, gain first-hand experience in interdisciplinary collaboration, and develop their own individual professional identity as part of a larger team. These competencies are designed so that graduating students are trained to work as a team in optimizing patient health and outcomes. The goal of the IPE curriculum is to provide students with a set of skills and attitudes necessary to practice in an interprofessional environment.

While knowledge and skills are essential, we also ensure that our students develop as responsible citizens with highly professional demeanors who advocate, serve, care, and lead.

## Our Mission

Our mission is to develop pharmacists who will provide high quality health care and to make meaningful contributions to the science and practice of pharmacy.

## Our Vision

We will be recognized as an exceptional pharmacy program through innovative education, contemporary practice, and valuable scientific contributions.

## Our Values

Teamwork. Professionalism. Lifelong Learning. Cultural Competency. Personalized Attention. Community Engagement.

## Accreditation

Wilkes University's Doctor of Pharmacy program is accredited by the Accreditation Council for Pharmacy Education, 190 South LaSalle Street, Suite 2850, Chicago, IL 60603-3410, (312) 664-3575, FAX (866) 228-2631, web site: [www.acpe-accredit.org](http://www.acpe-accredit.org).

## The Doctor of Pharmacy Program

The six-year Pharmacy Program at Wilkes University consists of two components. The first is the two-year Pre-Pharmacy Program, and the second is the Professional Program.

## Pre-Pharmacy Guaranteed Seat Program

Admission to the Pre-Pharmacy Guaranteed Seat Program is limited to 80 students. Students typically enter the Pre-Pharmacy Guaranteed Seat Program as freshmen from high school.

Non-PPGS Wilkes students interested in transferring into PPGS during the freshman year should consult the Associate Dean of Admissions and Student Affairs. Non-Wilkes students interested in transferring into the PPGS during the freshman year should consult Office of Admissions transfer coordinator for assistance.

It is the policy of the Nesbitt School of Pharmacy (NSoP) to set admission standards, to evaluate the academic records, to interview if appropriate, and to reject/admit students into the PPGS program.

Minimum criteria for consideration for admission are listed below.

A student is not required to be in the Pre-Pharmacy Guaranteed Seat Program to be eligible to apply to the School of Pharmacy. Students may apply directly to the professional program during, or after, their sophomore year.

Applicants for the PPGS Program must complete the online Wilkes University Application or the Common Application. If a student indicates pharmacy, additional instructions to complete the pharmacy application requirements will become available to the applicant. Minimum requirements to apply are described below. The School of Pharmacy will review these applications, and top applicants will be invited for a personal interview. Final admission into the program will be based on a thorough evaluation of students based on high school performance (e.g. class rank, GPA, or class percentile), the Letter of Intent essay, and the results of the personal interview. Interviewed applicants not selected for immediate admission will be placed on a wait list. Qualified wait-listed students will be offered seats in the Pre-Pharmacy Guaranteed Seat Program as seats become available. In some instances, students may not be notified of an available seat in the Pre-Pharmacy Guaranteed Seat Program until the summer.

School of Pharmacy applications for the Pre-Pharmacy Guaranteed Seat Program are suggested to be completed by February 1. As applicants are admitted on a rolling basis, all seats may be awarded before the suggested deadline. Applicants are encouraged to complete the application process as early as possible.

Applicants should review the [Technical Standards](#) set forth by the School of Pharmacy.

These [Technical Standards](#) describe non-academic abilities that are required for admission to, continuation in, and graduation from the School of Pharmacy to obtain a Pharm.D. degree.

Minimally, each applicant to the Pre-Pharmacy Guaranteed Seat program must:

- be a graduate of, or near graduation from, an accredited high school or academy;
- rank in the upper half of his or her class or overall GPA of 3.0 or higher OR an overall grade percentile 80%;
- complete the School of Pharmacy supplemental application materials, including the Letter of Intent;
- submit three recommendation letters from teachers, employers, pharmacists, or other individuals who can provide an objective appraisal of the student's ability;
- be prepared to discuss their knowledge of the pharmacy profession through individual research, optional shadowing experiences, or discussions with pharmacists; and
- successfully complete an interview with the School of Pharmacy.
- The SAT requirement is waived for pre-pharm application cycle in the 22-23 academic year in accordance with the Wilkes University freshman admission policy due to continued limited testing availability.

PLEASE NOTE: Attaining minimum academic requirements does not infer or promise either an interview or admission into the Pre-Pharmacy Guaranteed Seat Program!

## Pre-Pharmacy Program - Required Courses and Recommended Course Sequence\*\*

First Semester	Credits
*[[BIO-121]] – Principles of Modern Biology I	4
*[[CHM-113]] – Elements & Compounds Lab	1
*[[CHM-115]] – Elements & Compounds	3
[[ENG-101]] – Composition or	
*[[MTH-111]] – Calculus I	4
[[FYF-101]] – First-Year Foundations	3
<b>Total Credits</b>	<b>15</b>

Second Semester	
*[[BIO-122]] – Principles of Modern Biology II	4
*[[CHM-114]] – The Chemical Reaction Lab	1
*[[CHM-116]] – The Chemical Reaction	3
Distribution Requirements	6
[[ENG-101]] – Composition or	
*[[MTH-111]] – Calculus I	4
<b>Total Credits</b>	<b>18</b>

Third Semester	Credits
*[[CHM-235]]: Essentials of Organic Chemistry and Essentials of Organic Chemistry lab *[[CHM-237]]***	4
*[[COM-101]] – Fundamentals of Public Speaking	3
Distribution Requirements	6
*[[EC-102]] – Principles of Economics II	3
<b>Total Credits</b>	<b>16</b>

Fourth Semester	
*[[CHM-365]] Medical Biochemistry or elective	2-4
Distribution Requirements	6
*[[MTH-150]] – Elementary Statistics	3
*#[[PHY-174]] – Appls. of Classical & Modern Physics	4
<b>Total Credits</b>	<b>15-17</b>

\*Denotes prerequisite course.

\*\*Some requirements may be fulfilled via satisfactory achievement on advanced placement tests or Wilkes' challenge examinations.

\*\*\*Eight credits of Organic I/II lecture and Organic I/II labs [[CHM-231]] / [[CHM-233]] / [[CHM-232]] / [[CHM-234]] may be taken instead of four credits of [[CHM-237]] / [[CHM-235]]

# Any college level physics course may be taken instead of [[PHY-174]]

## Pharmacy Professional Program

The Professional Program is four years and leads to the Doctor of Pharmacy (Pharm.D.) degree. Graduates of the program are eligible for state examination to become licensed pharmacists after completing appropriate internship hours. The four years of education consist of three years of in-class (i.e., lecture, laboratory, discussion group) introductory pharmacy experiences and one final year of advanced experiential education.

### Admission to the Professional Program (Enrollment limit: 62)

To be admitted into the Professional Program of the School of Pharmacy, a student must have either enrolled in and successfully completed the Pre-Pharmacy Guaranteed Seat Program at Wilkes University as outlined above or have submitted a successful application to the School of Pharmacy.

#### I. Admission through the Pre-Pharmacy Guaranteed Seat Program

Students enrolled in the Wilkes University Pre-Pharmacy Guaranteed Seat Program who meet **all** of the following conditions are directly admitted to the Professional Program.

- You must complete four semesters as a full-time pre-pharmacy student and complete all prerequisite courses within 2 years. All prerequisites must be completed by the end of the spring semester prior to admission.
- A maximum of 8 credits for prerequisite courses may be transferred to Wilkes University while enrolled in the Pre-Pharmacy Program. The Registrar Office will determine course equivalency for transferred courses. The remaining prerequisite courses must be completed at Wilkes University. Prerequisite courses taken must include 8 credits of general chemistry, 8 credits of organic chemistry OR 4 credits of Essentials of Organic Chemistry at Wilkes University, 4 credits of general physics, 8 credits of general biology, 4 credits of calculus, 3 credits of elementary statistics, 3 credits of microeconomics and 3 credits of oral communications. High school advanced placement test scores or dual enrollment courses may be accepted in fulfillment of some of these requirements. These courses will not be counted in the 8 credit transfer maximum for prerequisite courses. The Admissions Office can provide the list of eligibility requirements for AP credit.
- You must achieve a prerequisite cumulative GPA of 3.0 or better in the prerequisite courses listed above by the end of spring in your fourth semester (sophomore year). Grades for the prerequisite courses transferred to Wilkes University will be included in the School of Pharmacy prerequisite cumulative GPA but only course credit will appear on the Wilkes transcript.
- Failure to achieve your prerequisite cumulative GPA of 3.0 or better in the prerequisite courses listed above by the end the spring in your fourth semester (sophomore year) will result in forfeiting your guaranteed seat.
- You must earn grades of 2.0 or greater in all prerequisite courses. One prerequisite course grade of less than 2.0 may be repeated. If the course is repeated at Wilkes the new grade will be used to calculate your overall and prerequisite GPA. If the course is repeated at another approved institution the new grade will only be used in your prerequisite GPA calculation by the School of Pharmacy, but only credits will appear on your official University transcript. Your original grade will remain on your transcript for University purposes including overall GPA calculation. Prerequisite courses must be recorded with a grade of 2.0 or greater by the end of the spring semester prior to admission. Earning a grade of less than 2.0 in a prerequisite course that cannot be repeated

by the end of the spring semester prior to admission will result in forfeiture of the guaranteed seat.

Earning two or more prerequisite course grades less than 2.0, even if one is successfully repeated, will result in forfeiting your guaranteed seat.

- You must maintain a cumulative overall GPA of 3.0 or better in all courses taken. Although non-prerequisite course credit hours may be transferred to Wilkes from other colleges, you should be aware that grades do not transfer for these courses. Grades for the General Education courses transferred to Wilkes University will not be included in the School of Pharmacy overall cumulative GPA and only course credit will appear on the Wilkes transcript.
- Failure to achieve a cumulative overall GPA of 3.0 or better in all courses taken through the spring of your fourth semester (sophomore year) will result in forfeiting your guaranteed seat.
- If you feel you can complete ALL prerequisite courses and all except two General Education courses by the end of your spring freshman semester, or you have extenuating, non-academic, circumstances that will prevent you from completing the program within two years, you should contact your advisor and the Assistant Dean of Student Affairs to discuss the appeal process and possibly obtain a modified Pre-Pharmacy Guaranteed Seat contract detailing the conditions for admission.
- You must maintain the highest levels of academic and personal honesty and be free from criminal or drug/alcohol related offenses throughout the pre-pharmacy and pharmacy program.

Students caught in the act of cheating, collusion, plagiarism or other and all acts in violation of the Wilkes University policy on Intellectual Responsibility and Plagiarism or the Student Code of Conduct may be subject to dismissal from the Pre-pharmacy Guaranteed Seat Program.

- You must receive a favorable recommendation from your pre-pharmacy advisor at the end of your Spring sophomore semester.

Failure to receive a favorable recommendation from your pre-pharmacy advisor will result in forfeiting your guaranteed seat.

- You must meet all the criteria set forth in the Technical Standards Document.

Failure to meet the criteria set forth in the Technical Standards Document may delay or prevent graduation from the Nesbitt School of Pharmacy.

A maximum of two uncompleted General Education Curriculum requirements will be considered for admission into the Professional Program in Pharmacy. Pre-Pharmacy Guaranteed Seat students with more than two uncompleted General Education courses may appeal to the Student Affairs Committee of the School of Pharmacy for consideration. There is no room in the Pharmacy Curriculum to complete General Education requirements. General Education Curriculum requirements may be completed at other accredited colleges or universities and transferred into Wilkes University with proper approval.

**Students in the Wilkes University Pre-Pharmacy Guaranteed Seat Program who do not meet these conditions must compete for available seats in the Professional Program through the application process.**

## II. Admission through the Application Process

Faculty reserve the right to select from among the applicants who will have the best opportunity to complete the curriculum within four years and have productive professional lives. Admission is based upon the student's academic ability as reflected in pre-requisite and overall GPA, grades from Pre-Pharmacy courses, number of courses repeated, typical course loads, total academic career, references and results from the interview. If applicable, the committee will also consider the most recent academic performance for those non-traditional students returning to college life after a hiatus. Each spring, a select group of applicants is invited for an interview based upon a complete evaluation of all submitted application materials. Any missing documentation will compromise the application.

The number of seats in the professional program available through the application process is dependent on the number of Pre-Pharmacy Guaranteed Seat students able to claim a seat. A portion of remaining seats is available on an academically competitive basis to Wilkes Students with overall and prerequisite GPAs above a 2.5, and a portion of seats is available to direct professional applicants that are non-Wilkes transfer students with overall and prerequisite GPAs above a 2.5 on a competitive basis. To be classified as a Wilkes student, the student 1) must complete and be enrolled at Wilkes University for two full-time consecutive semesters before enrollment in the Professional Program AND 2) must complete 18 credits of prerequisite courses at Wilkes University by the end of the spring semester prior to enrollment in the Professional Program. Failure to meet both of these criteria will result in classification as a "transfer student."

*Applicant should review the Technical Standards set forth by the School of Pharmacy, which are available [here](#).*

These Technical Standards describe non-academic abilities that are required for admission to, continuation in, and graduation from the School of Pharmacy to obtain a Pharm.D degree.

## Pharmacy Professional Program – Minimum Admission Requirements

To be considered for admission to the Professional Program of the School of Pharmacy, the applicant

- should complete the Wilkes University General Education course requirements or have completed a baccalaureate degree. A maximum of two deficient General Education courses will be considered for admission into the pharmacy program. Students with more than two deficient General Education courses may appeal to the Student Affairs Committee of the School of Pharmacy for consideration.

- By the end of the spring semester prior to admission, Professional Program applicants must earn:
    - a grade of C (2.0) or better in each of the Pharmacy Prerequisite Courses listed below. Prerequisite grades of less than 2.0 may be repeated and the higher grade will factor into the GPA.
    - cumulative GPA of 2.5 or better for Pharmacy Prerequisite Courses listed below
    - an overall GPA of 2.5 or better for all courses (Pharmacy Prerequisite, General Education, etc.)
      - preferential consideration will be given to non-Wilkes professional applicant students with GPAs of 3.0 or higher;
      - We will evaluate the grades of higher-level courses to include in the GPA calculations.
      - Applications will be placed at a lower priority if grades less than 2.0 in prerequisite courses are remediated and recorded.
  - Students repeating fewer than 4 or more prerequisite courses will be given preference during the application process.
  - Repeating courses in which a grade above a 2.0 was earned will not factor into the GPA.
  - However, exceptions to the above rules will be considered on an individual basis and only if students can provide written explanation of extenuating circumstances;
    - must maintain the highest levels of academic and personal honesty and be free from criminal/drug-related offenses throughout the pharmacy program.
    - Students caught in the act of cheating, collusion, plagiarism, or other and all acts in violation of the Wilkes University policy on Intellectual Responsibility and Plagiarism or the Student Code of Conduct may be subject to dismissal from the Pharmacy program;
    - Students will be required to submit, and clear per site requirements, various types of criminal background checks annually as specified by external practice sites. Violations may result in prevention or delays in graduation;
  - must meet all the criteria set forth in the Technical Standards Document. Failure to meet the criteria set forth in the Technical Standards Document may delay or prevent graduation from the Nesbitt School of Pharmacy;
  - must provide three completed recommendation forms;
  - must successfully complete the interview process;
  - must demonstrate acceptable written communication skills
- NOTE:** Admission into the Professional Program in Pharmacy is extremely competitive. Earning the minimum academic criteria necessary to submit an application does not in any way infer or promise an interview or admission into the program.

## Pharmacy Professional Program – Prerequisite Courses

- Two semesters (8 credits) of General Chemistry with labs
- 4 credits of [[CHM-235]] Essentials of Organic Chemistry, and [[CHM-237]] Essentials of Organic Chemistry lab, at Wilkes University OR Two semesters (8 credits) of Organic Chemistry I/II with Organic Chemistry I/II labs
- Two semesters (8 credits) of General Biology with labs
- One semester (3-4 credits) of General Physics with lab
- One semester (4 credits) of Calculus
- One semester (3 credits) of Statistics

## Pharmacy

- One semester (3 credits) of Microeconomics
- One semester (3 credits) of Oral Communications

### III. Pharmacy Organization

#### Professional Standards

Students enrolled in the program of the School of Pharmacy are expected to endorse professional standards by subscribing to the Oath of the Pharmacist. Students are also expected to abide by the American Pharmacists Association's Code of Ethics of the Profession.

#### Technical Standards

Students applying to and enrolling in the School of Pharmacy are expected to read, acknowledge, and understand the Technical Standards. These Technical Standards describe non-academic abilities that are required for admission to, continuation in, and graduation from the School of Pharmacy to obtain a Pharm.D. degree.

A candidate must have abilities and skills in the following five areas: 1) observational skills; 2) communication skills; 3) motor skills; 4) intellectual, conceptual, integrative, and quantitative skills; and 5) behavioral and social skills. Detailed descriptions of the Technical Standards are provided in the School of Pharmacy Application or by contacting the School of Pharmacy Dean's office.

#### Progression Requirements

All students in the Professional Program of the School of Pharmacy are required to meet minimum standards for progression. Academic progression requirements include a minimum semester and cumulative pharmacy GPA of 2.0. In addition, no student shall be allowed more than three courses with less than 2.0 grades in required professional courses both inside and outside of the school. Any course with a grade of 0.0 must be repeated. At the end of each semester the progress of each student in the Professional Program will be reviewed. Students failing to meet minimal academic standards at the end of any semester must petition the Student Review Subcommittee through the Associate Dean of Student Affairs to progress further in the School. More inclusive policies, including, but not limited to, Technical Standards, acceptable classroom and experiential site behavior, alcohol and substance abuse, and other issues impacting the image of the professional program and the student, adopted within these guidelines are distributed annually to all students in the Nesbitt School of Pharmacy Student Handbook. Advanced Pharmacy Practice Experiences (APPE) progression is described in the APPE Course Manual.

The Nesbitt School of Pharmacy (NSoP) does not replace grades for courses in which a 2.0 or higher passing grade has been earned. If the first time taking a course results in a passing grade of 2.0 or higher, this grade will be used to calculate prerequisite and overall GPA for all purposes in the NSoP. This policy applies to the pre-professional and professional programs.

#### Experiential Curriculum Component

Experiential learning is a critical component of the curriculum at Wilkes. Before being placed in an experiential setting, all students are required to:

- possess an active Pennsylvania Pharmacy Intern License;
- possess professional liability insurance,
- have documentation of immunizations,
- pass a physical examination,
- be certified in Basic Cardiac Life Support (healthcare provider with live component) and Basic First Aid,
- have criminal background checks complete and clear, per site requirements, by an approved provider; and
- complete and clear other site-specific requirements, such as FBI fingerprint check, PA child abuse background check, drug screen, TB testing, etc.
- complete HIPAA and OSHA training
- maintain personal health insurance

These criteria are fully described throughout the curriculum, including deadlines and ramifications of non-compliance.

#### The Introductory Pharmacy Practice Experience (IPPE)

The Introductory Pharmacy Practice Experience (IPPE) consists of a number of different experiences. During the summer following successful completion of the P-1 year, students will complete a 2-week (80-hour) IPPE I. The second professional year, the P-2 year, includes 40 hours of IPPE II during the fall and/or spring semesters. In addition, students will complete a 2-week (80-hour) IPPE III during the summer following the P-2 year. In the third year of the Professional Program, the P-3 year, the curriculum includes IPPE IV (80 hours). IPPE V is a self-directed IPPE and consists of 20 hours of independent pharmacy-related, service-oriented learning earned during the P1 through P3 years. Other discreet introductory experiences, including Interprofessional Education (IPE) simulations, will be dispersed throughout the P1-P3 years. IPPE's occur at practice sites and in the community in the Wilkes-Barre/Scranton area, not on campus.

#### The Advanced Pharmacy Practice Experience (APPE)

The fourth year of the Professional Program, the P-4 year, is devoted to Advanced Pharmacy Practice Experience (APPE). Each student will be assigned to one six-week rotation, plus six five-week rotations, some of which may be at some distance from Wilkes-Barre. To the extent possible, the School of Pharmacy will assist in locating safe, affordable housing for APPE's. Since patient care is a continuous activity, some experiences may be conducted outside of regular school and business hours. Note also that the APPE rotation dates do not adhere to the regular University calendar.

NOTE: The student is responsible for paying all transportation and housing costs associated with all experiential components of the curriculum, except where noted.

#### Graduation, Degree, and Licensure Requirements

It is the student's responsibility to comply with all graduation requirements, and it is expected that all students accepted into the Pharm.D. Program will meet regularly and frequently with their advisors to ensure timely progress toward their Doctor of Pharmacy degree. Graduation is dependent on successful completion of all required and elective course requirements in the School of Pharmacy (see Progression Requirements) AND completion of all General Education Requirements mandated by Wilkes University.

A student entering the Professional Program with a bachelor's degree from a four-year accredited U.S. college or university is exempt from the University's General Education

Requirements, but is not exempt from the prerequisite entry requirements prescribed by the School of Pharmacy for entry into the Professional Program. Students applying with degrees or courses from foreign Colleges or Universities will be evaluated to ensure significant portions of the General Education Requirements are satisfied.

All non-degreed students entering the Professional Programs are encouraged to complete the General Education Requirements prior to beginning the Professional Curriculum. As mentioned, a student may be deficient in two General Education Requirements and be granted admission into the program. Students will receive consultation and documentation from their advisor that these courses must be completed prior to graduation. Students with more than two deficient General Education courses may appeal to the Student Affairs Committee of the School of Pharmacy for consideration. This requirement is in place since there is limited room within the professional curriculum, including summers, to complete the courses.

As a matter of record, non-degreed students who have successfully completed the second professional year (P-2) in the School of Pharmacy AND completed all General Education Requirements will be awarded a Bachelor of Science degree. The pass-through B.S. degree does not meet eligibility requirements for licensure as a pharmacist; it is only intended to acknowledge the academic achievement of students completing four years of university-level education.

Pharmacy licensure is governed by state law. All states require graduation from an accredited School or College of Pharmacy. Additional requirements for licensure should be requested from the state in which licensure is sought. **It is the student's responsibility to fulfill all requirements for the state in which they seek licensure.** Students must contact that State Board of Pharmacy for all appropriate paperwork. For further information, please contact the Dean's Office in the School of Pharmacy.

The School of Pharmacy reserves the right to revise the Pharmacy Curriculum at any time in order to prepare students for future practice roles, meet new accreditation requirements and to incorporate innovations in instruction.

## Doctor of Pharmacy Program - Required Courses and Recommended Course Sequence for the Professional Program

### P-1 Fall Semester

[[PHA-301]] Found. of Pharm. Practice I	2
[[PHA-308]] Pharm. and Health Care Delivery	3
[[PHA-311]] Pharmaceutics I	4
[[PHA-313]] Pharm. Calculations	1
[[PHA-327]] Medical Microbiology	3
[[PHA-331]] Anatomy & Physiology I	4

Total Credits	17
---------------	----

### P-1 Spring Semester

[[PHA-302]] Pharmacy Care Lab I	1
[[PHA-304]] Found. of Pharm. Practice II	2
[[PHA-310]] Clinical Research Design	3
[[PHA-312]] Pharmaceutics II	4
[[PHA-332]] Anatomy & Physiology II	4
[[PHA-365]] Medical Biochemistry*** or Elective	2-4
[[PHA-360]] Self-Directed Introductory Pharmacy Practice Experience I	0
Total Credits	16-18

### P-1 Summer

[[PHA-335]]* IPPE I*	2
----------------------	---

### P-2 Fall Semester

[[PHA-401]] Pharmacy Care Lab II	1
[[PHA-405]] Pharmaceutical Care Systems	2
[[PHA-411]] Biopharm. & Clinical Kinetics	3
[[PHA-421]]** Pharmacotherapeutics I	2
[[PHA-423]]** Pharmacotherapeutics II	2
[[PHA-425]]** Pharmacotherapeutics III	3
Elective	2-3
Total Credits	15-16

### P-2 Spring Semester

[[PHA-402]] Pharmacy Care Lab III	1
[[PHA-410]] Biotechnology/ Immunology	3
[[PHA-412]] Mgt. of Pharm. Operations	3
[[PHA-426]]** Pharmacotherapeutics IV	2
[[PHA-428]]** Pharmacotherapeutics V	4
[[PHA-430]]** Pharmacotherapeutics VI	2
[[PHA-440]]* IPPE II	1
Elective	2-3

## Pharmacy

[[PHA-460]] Self-Directed Introductory Pharmacy Practice Experience II	0
Total Credits	18-19

### P-2 Summer

[[PHA-445]]* IPPE III	2
-----------------------	---

### P-3 Fall Semester

[[PHA-501]] Pharmacy Care Lab IV	1
[[PHA-505]] Pharmacy Law	2
[[PHA-509]] Economic Evaluation of Pharm.	3
[[PHA-521]]** Pharmacotherapeutics VII	2
[[PHA-523]]** Pharmacotherapeutics VIII	4
[[PHA-525]]** Pharmacotherapeutics IX	2
Elective	2-3
Total Credits	16-17

### P-3 Spring Semester

[[PHA-502]] Pharmacy Care Lab V	1
[[PHA-526]]** Pharmacotherapeutics X	3
[[PHA-528]]** Pharmacotherapeutics XI	2
[[PHA-530]]** Pharmacotherapeutics XII	3
[[PHA-532]] Integrative Medicine/Nutrition	2
[[PHA-555]]* IPPE IV	2
[[PHA-560]]* IPPE V	.5
Elective	2-3
	15.5-16.5

\*Introduction to Pharmacy Practice Experience

\*\*Sequential Courses

\*\*\*Elective may be taken if [[CHM-365]] taken prior to P1 year

P-4 Advanced Pharmacy Practice Experiential Year

## APPE Rotations

The APPE portion of the curriculum consists of 7 rotations in various settings. One rotation is 6 weeks in duration, and the others are 5 weeks each in duration for a total of 35

credits over 36 weeks. Entry into APPEs requires successful completion of the P1-P3 curriculum in full.

There are four required APPE rotations:

[[PHA-510]] Internal Medicine

[[PHA-511]] Ambulatory Care

[[PHA-512]] Community Practice

[[PHA-513]] Health System

In addition, there are three elective APPE rotations.

Information will be provided during the P-3 year.

# PHILOSOPHY, B.A.

## Requirements

Total minimum number of credits required for a major in Philosophy leading to the B.A. degree — 120 credits, 30 of them in Philosophy

Total minimum number of credits required for a minor in Philosophy — 18

The Philosophy program focuses on philosophical issues relevant to "the art of living." These are questions of life and death, questions about how to live, about whether life has meaning, about what kinds of beings we are and the responsibilities we have to ourselves and others, about the significance of death in our lives, and so on. These questions represent the core of philosophical exploration. They are not simply theoretical exercises, but rather questions of embodiment; we must consider how to put the answers into practice in our lives. Addressing these questions in the disciplined way that the study of philosophy teaches contributes to the well being of those engaged in the study and those with whom they interact, at present and in the future.

In addition, the study of philosophy, whether one pursues a major in Philosophy or chooses a few courses of particular interest, contributes to the development of the skills and habits of mind essential to educated men and women: clarity of thought; precision in the analysis of conflicting claims; the power to render sound judgments based upon an appreciation of differing perspectives; and the ability to express and to defend one's views using well-reasoned arguments. Philosophy students find themselves well prepared for careers in professional areas such as law, medicine, and teaching, as well as in areas such as journalism, government, and business. The skills that are honed in the study of philosophy are of value in virtually any career path.

## Philosophy Major

The major in Philosophy requires a minimum of 30 credit hours, including three credits at the 100-level, [[PHL-203]] (Introduction to Symbolic Logic), at least nine credits at the 300-level, and a one-credit capstone experience ([[PHL-390]]).

### Recommended Course Sequence

First Semester	Credits
Distribution Requirements	6
[[ENG-101]] Composition or	4
Distribution Requirement	3
[[FYF-101]] First-Year Foundations	3
100-level PHL course	
<b>Total Credits</b>	<b>15-16</b>

Second Semester	Credits
Distribution Requirements	9
[[ENG-101]] Composition or	4

Distribution Requirement	3
[[PHL-203]] Introduction to Symbolic Logic	3
<b>Total Credits</b>	<b>15-16</b>

Third Semester	Credits
Distribution Requirements	12
Major Elective	3
<b>Total Credits</b>	<b>15</b>

Fourth Semester	Credits
Free Electives	12
Major Elective	3
<b>Total Credits</b>	<b>15</b>

Fift Semester	Credits
Free Electives	9
Major Electives	6
<b>Total Credits</b>	<b>15</b>

Sixth Semester	Credits
Free Electives	9
Major Electives	6
<b>Total Credits</b>	<b>15</b>

Seventh Semester	Credits
Free Electives	12
Major Elective	3
<b>Total Credits</b>	<b>15</b>

Eighth Semester	Credits
Free Electives	10
Major Elective	3
[[PHL-390]] Capstone	1
<b>Total Credits</b>	<b>14</b>

## Recommended Course Sequence

First Semester Credits

## Philosophy, B.A.

Distribution Requirements	6
[[ENG-101]] Composition or Distribution Requirement	4
[[FYF-101]] First-Year Foundations	3
Philosophy course numbered 120 or lower	3
Total Credits.	15-16

### Second Semester

Distribution Requirements	9
[[ENG-101]] Composition or Distribution Requirement	4
[[PHL-122]] Introduction to Symbolic Logic	3
Total Credits	15-16

### Third Semester

Distribution Requirements	12
Major Elective	3
Total Credits	15

### Fourth Semester

Free Electives	12
[[PHL-301]] Origins of Western Thought	3
Total Credits	15

### Fifth Semester

Free Electives	9
Major Elective	3
[[PHL-310]] Ethical Theory	3
Total Credits	15

### Sixth Semester

Free Electives	9
Major Electives	6
Total Credits	15

### Seventh Semester

Free Electives	12
Major Elective	3
Total Credits	15

### Eighth Semester

Free Electives	10
Major Elective	3
[[PHL-390]] Capstone	1
Total Credits	14

# PHYSICS

## Physics

Total minimum number of credits required for a Baccalaureate of Arts Degree in Physics – 123.

Total minimum number of credits required for a Baccalaureate of Arts Degree in Physics with a minor in Secondary Education – 124

Baccalaureate of Arts degree in Physics (BA in Physics) is designed to offer a track for all students who wish to combine a major in Physics with other career goals. Primary among them are those students who wish to become certified in Physics by the PA Department of Education to teach high school physics and other science courses. In addition, the program will support students who may wish to concentrate on careers in medicine, dentistry, or law.

## Physics B.A. Degree- Required Courses and Recommended Course Sequence

### First Semester

[[MTH-111]] Calculus I*	4
[[CHM-115]] Elements and Compounds* OR [[CHM-118]] Chemistry for Engineers*	3
[[CHM-113]] Elements and Compounds Lab* OR [[CHM-117]] Intro Chemistry Lab for Engineers*	1
[[ENG-101]] Composition	4
[[FYF-101]] First-Year Foundations	3
	<b>15</b>

### Second Semester

[[MTH-112]] Calculus II*	4
[[PHY-201]] General Physics I*	3
[[PHY-204]] General Physics I Lab*	1
[[EE-140]] Scientific Programming*^	3
Physics Elective @	3
Distribution Requirement	3
	<b>17</b>

### Third Semester

[[MTH-211]] Intro. to Differential Equations*	4
[[PHY-202]] General Physics II*	3
[[PHY-205]] General Physics II Lab*	1
Physics Elective @	3

Distribution Requirement	6
	<b>17</b>

### Fourth Semester

[[MTH-212]] Multivariable Calculus*	4
[[PHY-203]] Modern Physics*	3
[[PHY-206]] Modern Physics Lab*	1
Physics Elective@	6
Distribution Requirement	3
	<b>17</b>

### Fifth Semester

[[PHY-311]] Thermodynamics*	3
[[PHY-312]] Analytical Mechanics*	3
[[EE-337]] Electromagnetics I*	3
Physics Electives@	3
Distribution Requirement	3
	<b>15</b>

### Sixth Semester

[[PHY-314]] Quantum Mechanics*	3
Physics Electives@	9
Distribution Requirement	3
	<b>15</b>

### Seventh Semester

[[PHY-391]] Senior Project I*	1
Physics Electives@	6
Free Electives	6
	<b>13</b>

### Eighth Semester

[[PHY-392]] Senior Projects II*	2
Physics Electives@	6
Free Electives	6
	<b>14</b>

\*Required Core Course for BA in Physics Major.

^Can be substituted with CS 125.

@Physics electives may be chosen from any advisor-approved mathematics, biology, chemistry, computer science, environmental science/engineering, electrical engineering, or mechanical engineering course numbered 200 or above.

### Physics Major In Conjunction with the Secondary Education Major or Minor

Students interested in becoming secondary teachers in Physics should make an appointment with the chairperson of the Education Department or the Coordinator of the Secondary Education Program as early as possible in their course of study to plan their professional studies. These students will declare a major in Physics and as well as a major or minor in Secondary Education. The major in Secondary Education must be taken in conjunction with an approved major; it cannot stand alone as a major. Upon successful completion of the secondary education program, students may become certified in Pennsylvania to teach in grades 7-12 in their chosen field.

Students interested in pursuing either the major or the minor in Secondary Education should refer to the Education Department section of this bulletin for complete details of the curriculum and other degree requirements. Students should also consult carefully with their Education program and Physics program advisors in planning their course of studies.

Total credits required for **Secondary Education minor - 40 cr.**

Total credits required for **Secondary Education major - 47 cr.**

Required courses for the major(\*) or minor in Secondary Education are as follows:

[[ED-180]] – Educational Psychology - 3 cr.

[[ED-190]] – Effective Teaching with Field Experience - 3 cr.

[[ED-191]] – Integrating Technology into the Classroom - 3 cr.

[[EDSP-210]] – Teaching Students with Special Needs - 3 cr.

[[ED-220]] – Teaching Culturally and Linguistically Diverse Learners - 3 cr.

[[EDSP-225]] – Special Education Methods I with Field Experience - 3 cr.

[[ED-300]] – Teaching of a Foreign Language with Field Experience - 4 cr.

\*[[ED-345]] – Assessment - 3 cr.

\*[[ED-375]] – Middle Level/Secondary School Methods with Field Exp. - 4 cr.

[[ED-371]] – Teaching Methods in Science with Field Experience - 4 cr.

[[ED-380]] – Content Area Literacy - 3 cr.

[[EDSP-388]] – Inclusionary Practices (taken concurrently with ED 390) - 3 cr.

[[ED-390]] – Student Teaching with Seminar - 12 cr.

*\*These additional courses required in order to complete the major in Secondary Education.*

- All Teacher Education candidates must apply for admission to the Teacher Education Program in the sophomore or junior year.
- To be admitted into the Teacher Education Program, candidates must
  - o Attain a 3.0 GPA
  - o Complete 48 credits including six credits in both Mathematics and English
  - o Pass a test of basic skills
  - o Submit required clearances showing 'no record'
- To remain in the Teacher Education Program, candidates must
  - o Maintain a 3.0 GPA
  - o Adhere to the Code of Professionalism and Academic Honesty
- To be certified as a teacher in Pennsylvania in grades 7-12, candidates must
  - o Successfully complete all required Education courses, including student teaching
  - o Graduate with a 3.0 cumulative GPA
  - o Pass the appropriate exit test(s) in their content area
  - o Apply for certification through the Pennsylvania Teacher Information Management System (TIMS).

# **POLITICAL SCIENCE, B.A.**

## **Requirements**

### **Political Science**

Total minimum number of credits for a major in Political Science leading to the B.A. degree — 120

Total minimum number of credits for a minor in Political Science — 18

Total minimum number of credits for a minor in Policy Studies — 18

As a traditional liberal arts discipline, students who choose to major in Political Science are broadly trained and so have a wide variety of career options available. Among the most common fields of employment are government, law, education, social services, media, business, and foreign or international service. See the Pre-Law section of this bulletin for information on law school advising and admissions.

### **Political Science Major**

A major in Political Science requires a minimum of 120 hours. These include 43 hours in the University's General Education Requirements and 44 hours in Political Science. All majors must take the following courses that comprise the Core in Political Science: [[PS-111]], [[PS-141]], [[PS-151]], [[PS-260]], [[PS-261]], [[PS-265]], [[PS-309]] (2 credits), and [[PS-380]], a total of 23 credit hours. Students must then choose an additional 21 credits in Political Science with at least 3 courses (9 credits) at the 300-level or higher.

### **In Conjunction with the Secondary Education Major or Minor**

Students interested in becoming secondary teachers in Political Science should make an appointment with the chairperson of the Education Department or the Coordinator of the Secondary Education Program as early as possible in their course of study to plan their professional studies. These students will declare a major in Political Science and as well as a major or minor in Secondary Education. The major in Secondary Education must be taken in conjunction with an approved major; it cannot stand alone as a major. Upon successful completion of the secondary education program, students may become certified in Pennsylvania to teach in grades 7-12 Social Studies.

Students interested in pursuing either the major or the minor in Secondary Education should refer to the Education Department section of this bulletin for complete details of the curriculum and other degree requirements. Students should also consult carefully with their Education program and Political Science program advisors in planning their course of studies.

**Total credits required for Secondary Education minor - 40**

**Total credits required for Secondary Education major - 47**

Required courses for the major(\*) or minor in Secondary Education are as follows:

[[ED-180]] – Educational Psychology - 3 cr.  
[[ED-190]] – Effective Teaching with Field Experience - 3 cr.  
[[ED-191]] – Integrating Technology into the Classroom - 3 cr.  
[[EDSP-210]] – Teaching Students with Special Needs - 3 cr.  
[[ED-220]] – Teaching Culturally and Linguistically Diverse Learners - 3 cr.

[[EDSP-225]] – High Incidence Disabilities with Field Experience - 3 cr.

\*[[ED-345]] – Assessment - 3 cr.

\*[[ED-375]] – Middle Level/Secondary School Methods with Field Experience - 4 cr.

[[ED-380]] – Content Area Literacy - 3 cr.

[[ED-381]] – Teaching Methods in Social Studies (with Field Experience) - 4 cr.

[[EDSP-388]] – Inclusionary Practices (taken concurrently with ED 390) - 3 cr.

[[ED-390]] – Student Teaching with Seminar - 12 cr.

To be certified in Social Studies, students also need to take  
[[ANT-101]] or [[ANT-102]]  
[[EC-101]] or [[EC-102]]  
[[PSY-221]] or [[PSY-222]]  
[[HST-125]]  
[[HST-126]]

- All Teacher Education candidates must apply for admission to the Teacher Education Program in the sophomore or junior year.
- To be admitted to the Teacher Education Program, candidates must:
  - Attain a 3.0 GPA
  - Complete 48 credits including six credits in both Mathematics and English
  - Pass a test of basic skills
  - Submit required clearances showing 'no record'
- To remain in the Teacher Education Program, candidates must:
  - Maintain a 3.0 GPA
  - Adhere to the Code of Professionalism and Academic Honesty
- To be certified as a teacher in Pennsylvania in grades 7-12, candidates must:
  - Successfully complete all required Education courses, including student teaching
  - Graduate with a 3.0 cumulative GPA
  - Pass the appropriate exit test(s) in their content area
  - Apply for certification through the Pennsylvania Teacher Information Management System (TIMS).

# PSYCHOLOGY, B.A.

## Requirements

Total minimum number of credits required for a major in Psychology leading to the B.A. degree — 120.

Total minimum number of credits for a minor in psychology — 18.

The Psychology major at Wilkes University emphasizes a scientific approach to the content, methods, and theories of human and nonhuman behavior. Wilkes students are prepared to pursue professional careers in psychology or related fields such as medicine or law, obtain employment immediately upon graduation, or attend graduate school in psychology.

## Psychology Major

**Coordinator:** Dr. Jennifer Thomas

The Psychology major must complete a minimum of 120 credit hours. In addition to satisfying the University's General Education requirements, the student majoring in Psychology completes a minimum of 41 credits in psychology, including PSY 101 (General Psychology), five breadth area courses, two applied psychology courses, a four-course capstone sequence, and a career mentoring course. (Please see the course listings for the specific course requirements.) PSY 101 is a prerequisite to all other psychology courses. The Psychology major must take either BIO 105 (Human Biology) or another biology course approved by the department in partial fulfillment of their Area II General Education requirement. It is also strongly recommended that the student take a foreign language.

Students are encouraged to consult the Undergraduate Bulletin for all information regarding degree requirements. Each student should also meet frequently and work closely with the faculty advisor in order to make the optimal course selections based upon the student's interests and career goals. With numerous free elective credits, many Psychology majors choose to major or minor in a second discipline.

There are two different options for satisfying the capstone requirement in psychology. For students who are interested in pursuing graduate studies in psychology or psychology research in their career, the research-based capstone will provide an excellent opportunity for hands-on research experience. For those who are more interested in pursuing a career immediately after graduation, or are pursuing non-research based careers, or graduate school in an applied area, the applied option will provide valuable experience in real-world settings, and with additional guidance and structure, will enhance the student's applied skills. The courses for the two options are detailed below.

All students majoring in psychology must complete a common set of courses in the major.

## Breadth Area Courses (21 cr.)

Psychology majors must take all of the following courses:

PSY101	General Psychology	3
--------	--------------------	---

PSY 221	Developmental Psychology	3
PSY 242	Personality	3
PSY 341	Social Psychology	3
PSY 331	Cognition	3
PSY 311	Behavioral Neuroscience	4
PSY 309	Career Mentoring for the Social Sciences	2

## Applied Topic Area Courses (minimum 6 cr.)

Psychology majors will also choose at least two psychology courses from the following list of applied topics.

PSY 250	Applied Behavior Analysis	3
PSY 257	Neuropsychology	3
PSY 264	Positive Psychology	3
PSY 266	Peak Performance Coaching	3
PSY 351	Behavioral Medicine	3
PSY 352	Abnormal Behavior**	3
PSY 353	Clinical Methods in Psychology	3
PSY 354	Exceptional Individual	3
PSY 355	Forensic Psychology	3
PSY 356	Industrial/Organizational Psychology	3
PSY 358	Psychological Tests and Measurements	3
PSY 359	Psychopharmacology <sup>§</sup>	

\*\*Course was formerly called "Psychopathology"

## Capstone Sequence (14 cr.)

Majors must choose one of the following capstone options:

Option #1 - Research-Based Capstone		
PSY 200	Statistics	4
PSY 300	Research Methods	4
PSY 400	Research Capstone	3
	PSY Elective	3
Note: The courses for this option must be completed in sequence and may not be taken concurrently. It is recommended that students complete most of the required		

psychology courses before taking PSY 300, which should not be taken prior to the junior year.

### Option #2 - Applied Capstone

PSY 200	Statistics	4
PSY 301	Psychological Research	3
PSY 399	Internship Experience	3
PSY 401	Applied Capstone	4

Note: PSY 301 and 399 may be taken in any order and may be taken concurrently, but both must be successfully completed prior to enrolling in PSY 401. Students taking PSY 401 will need a second internship as part of the requirement for this course. The second internship should be arranged prior to enrolling in PSY 401.

## Recommended Course Sequence

### First Semester Credits

BIO 105 Human Biology	3
Distribution Requirement	3
ENG 101 Composition or Distribution Requirement	3-4
FYF 101 First-Year Foundations	3
PSY 101 General Psychology	3
<b>Total Credits</b>	<b>15-16</b>

### Second Semester

Distribution Requirements	9
ENG 101 Composition or Distribution Requirement	3-4
PSY 242 Personality	3
<b>Total Credits</b>	<b>15-16</b>

### Third Semester

Distribution Requirements	6
Free Electives	6
PSY 221 Developmental Psychology	3
<b>Total Credits</b>	<b>15</b>

### Fourth Semester

Distribution Requirements	6
Free Elective	3
PSY 331 Cognition or PSY 341 Introduction to Social Psychology	3

PSY 200 Statistics or Major Elective	3-4
<b>Total Credits</b>	<b>15-16</b>

### Fifth Semester

Free Electives	9
PSY 331 Cognition or PSY 341 Introduction to Social Psychology	3
PSY 200 Statistics or Major Elective	3-4
<b>Total Credits</b>	<b>15-16</b>

### Sixth Semester

PSY 309 Career Mentoring	2
PSY 311 Behavioral Neuroscience or Major Elective	3-4
Free Electives	6
PSY 300 Research Methods or PSY 301 Psychological Research	3-4
<b>Total Credits</b>	<b>14-16</b>

### Seventh Semester

PSY 311 Behavioral Neuroscience or Major Elective	3-4
PSY 400 or PSY 401 Senior Capstone*	3
or PSY 300 Research Methods	3-4
or PSY 301 Psychological Research	
or Free Electives	6-9
<b>Total Credits</b>	<b>15-16</b>

### Eighth Semester

Major Elective or PSY 400 or PSY 401 Senior Capstone*	3
Free Electives	9
<b>Total Credits</b>	<b>12</b>

\*Students can choose to take the capstone course in either the fall or spring of their senior year.

# SOCIOLOGY, B.A.

## Requirements

### Sociology

Total minimum number of credits required for a major in Sociology leading to the B.A. degree - 120

Total minimum number of credits required for a minor in Sociology - 18

A unique feature of the program in Sociology is its flexibility. Students have the opportunity to pursue a full range of academic options beyond the major. For example, utilizing existing programs and courses, it is possible for students to achieve a dual major in Sociology and Psychology, Sociology and Criminology, or to finish an M.B.A. in slightly more than one calendar year after completion of their B.A. degree.

### Sociology Major

A major in Sociology prepares students for a variety of careers. Students who graduate with a major in Sociology find jobs in social services, criminal justice, business, and education. Students who decide to pursue a graduate education can do so in a variety of fields including sociology, law, social work, business, and psychology, among others.

A major in Sociology consists of 38 hours, including [[SOC-101]], either [[ANT-101]] or [[ANT-102]], [[SOC-352]], [[SOC-370]], [[SOC-371]], [[SOC-381]], [[SOC-309]] (2 credits), [[SOC-390]], and 15 credits of electives. All anthropology courses may be taken for credit toward the major or minor in Sociology. Courses required in the major, such as [[SOC-101]] and [[ANT-101]], may also be used to fulfill distribution requirements in the General Education Curriculum.

The department emphasizes internships in professional settings, which integrate academic studies with work experiences such as [[SOC-393]] (Practicum) and [[SOC-399]] (Cooperative Education). The credit hours earned in [[SOC-393]] and [[SOC-399]] may not, however, be applied toward the 38 hours of course work required for the major.

## Recommended Course Sequence

First Semester	
Distribution Requirements	6
[[ENG-101]] Composition or	4
Distribution Requirement	3
[[FYF-101]] First-Year Foundations	3
[[SOC-101]] Introduction to Sociology	3
<b>Total Credits</b>	<b>15-16</b>

Second Semester	
[[ANT-101]] Introduction to Anthropology	3

Distribution Requirements	9
[[ENG-101]] Composition or	4
Distribution Requirement	3
<b>Total Credits</b>	<b>15-16</b>

Third Semester	
Free Electives	12
Major Elective	3
<b>Total Credits</b>	<b>15</b>

Fourth Semester	
Free Electives	12
Major Elective	3
<b>Total Credits</b>	<b>15</b>

Fifth Semester	
Free Electives	9
Major Elective	3
[[SOC-381]] Social Theory	3
[[SOC-309]] Career Mentoring for the Social Sciences	2
<b>Total Credits</b>	<b>17</b>

Sixth Semester	
Free Electives	6
[[SOC-352]] Social Stratification	3
Major Electives	3
[[SOC-370]] Methods of Research	3
<b>Total Credits</b>	<b>15</b>

Seventh Semester	
Free Electives	9
Major Elective	3
[[SOC-371]] Quantitative Reasoning in the Social Sciences	3
<b>Total Credits</b>	<b>15</b>

Eighth Semester	
Free Electives	11
[[SOC-390]] Senior Capstone	3
<b>Total Credits</b>	<b>14</b>

## **SPANISH, B.A.**

### **Foreign Languages at Wilkes University**

Wilkes University offers a major and minor in Spanish (along with a program leading to secondary education certification for Spanish majors) and introductory-level courses in French on a regular basis. In addition, other introductory-level foreign language courses are offered based on student demand and the availability of qualified faculty. For more information on these classes, please contact the chair of Global Cultures: History, Languages & Philosophy.

### **Requirements**

Total minimum number of credits required for a major in Spanish leading to the B.A. degree — 120

Total minimum number of credits required for a minor in Spanish — 18

Study of foreign languages and literatures develops competence in another language, leads to a better understanding of international issues, and cultivates an appreciation of the differences among diverse cultures. Command of a foreign language enables students to advance their foreign language studies at the graduate level or pursue a broad range of career opportunities in the fields of education, domestic and international commerce, government service, industry, and many others.

Students who plan to major or minor in Spanish are particularly encouraged to consider completing a portion of their program overseas. Wilkes offers Study Abroad opportunities in Spain and Latin America. Students have the opportunity to spend a summer or a semester in Spain.

### **Spanish Major**

Spanish is offered as a major field of study. A major in Spanish consists of 25 credit hours beyond SP (Spanish) 204 (Intermediate Spanish II), including at least one 300-level course.

In the interest of broadening career options, all Spanish majors are advised to combine their language studies with another discipline. All majors are strongly urged to spend at least a summer or one semester abroad, as arranged in consultation with their Spanish advisor.

### **Spanish in conjunction with the Secondary Education major or minor**

Students interested in becoming PK-12 teachers in Spanish should make an appointment with the chairperson of the Education Department or the Coordinator of the Secondary Education Program as early as possible in their course of study to plan their professional studies. These students will declare a major in Spanish and as well as a major or minor in Secondary Education. The major in Secondary Education must be taken in conjunction with an approved major; it cannot stand alone as a major. Upon successful completion of the secondary education program, students may become certified in Pennsylvania to teach in grades PK-12 in their chosen field.

Students interested in pursuing either the major or the minor in Secondary Education should refer to the Education Department section of this bulletin for complete details of the curriculum and other degree requirements. Students should also consult carefully with their Education program and Spanish program advisors in planning their course of studies.

#### **Total credits required for PK-12 Education minor - 40**

#### **Total credits required for PK-12 Education major - 47**

Required courses for the major(\*) or minor in Secondary Education are as follows:

ED 180 – Educational Psychology - 3 cr.

ED 190 – Effective Teaching with Field Experience - 3 cr.

ED 191 – Integrating Technology into the Classroom - 3 cr.

EDSP 210 – Teaching Students with Special Needs - 3 cr.

ED 220 – Teaching Culturally and Linguistically Diverse Learners - 3 cr.

EDSP 225 – Special Education Methods I with Field Experience - 3 cr.

ED 300 – Teaching of a Foreign Language with Field Experience - 4 cr.

\*ED 345 – Assessment - 3 cr.

\*ED 375 – Middle Level/Secondary School Methods with Field Exp. - 4 cr.

ED 380 – Content Area Literacy - 3 cr.

EDSP 388 – Inclusionary Practices (taken concurrently with ED 390) - 3 cr.

ED 390 – Student Teaching with Seminar - 12 cr.

\* These additional courses required in order to complete the major in Secondary Education.

- All Teacher Education candidates must apply for admission to the Teacher Education Program in the sophomore or junior year.
- To be admitted into the Teacher Education Program, candidates must
  - Attain a 3.0 GPA
  - Complete 48 credits including six credits in both Mathematics and English
  - Pass a test of basic skills
  - Submit required clearances showing 'no record'
- To remain in the Teacher Education Program, candidates must
  - Maintain a 3.0 GPA
  - Adhere to the Code of Professionalism and Academic Honesty

## Spanish, B.A.

- To be certified as a teacher in Pennsylvania in grades 7-12, candidates must
  - Successfully complete all required Education courses, including student teaching
  - Graduate with a 3.0 cumulative GPA
  - Pass the appropriate exit test(s) in their content area
  - Apply for certification through the Pennsylvania Teacher Information Management System (TIMS).

## Recommended Course Sequence

<b>First Semester</b>	
Distribution Requirements	6
Eng 101 Composition or	4
Distribution Requirement	3
FYF 101 First-Year Foundations	3
SP 101 Elementary Spanish I (or level of competency)	3
<b>Total Credits</b>	<b>15-16</b>

<b>Second Semester</b>	
Distribution Requirements	9
Eng 101 Composition or	4
Distribution Requirement	3
SP 102 Elementary Spanish II (or level of competency)	3
<b>Total Credits</b>	<b>15-16</b>

<b>Third Semester</b>	
Distribution Requirement	3
Free Electives	9
SP 203 Intermediate Spanish I	3
<b>Total Credits</b>	<b>15</b>

<b>Fourth Semester</b>	
Free Electives	9
SP 204 Intermediate Spanish II	3
SP 205 Conversation	3
<b>Total Credits</b>	<b>15</b>

<b>Fifth Semester*</b>	
Free Electives	9
SP 198 Topics in Spanish	3
SP 206 Adv. Grammar, Stylistics, & Comp.	3
<b>Total Credits</b>	<b>15</b>

<b>Sixth Semester</b>	
Free Electives	9

SP 208 Culture and Civilization	3
SP 301 Intro. to Latin American Lit.	3
<b>Total Credits</b>	<b>15</b>

<b>Seventh Semester</b>	
Free Electives	9
SP 298 Topics in Spanish	3
SP 307 or 308 Survey of Spanish Lit. I or II	3
<b>Total Credits</b>	<b>15</b>

<b>Eighth Semester</b>	
Free Electives	11
SP 397 Seminar	3
SP 390 Capstone	1
<b>Total Credits</b>	<b>15</b>

*\*Study Abroad is strongly recommended for students in the sophomore or junior years. Students may spend a summer, semester, or an academic year in a Study Abroad program.*

# SPECIAL EDUCATION PK-12 MAJOR WITH READING MINOR

## Recommended Course Sequence

**Special Education Major**—this major will prepare you to teach students with special needs from Birth-21 years of age

### Mission

The mission of the Special Education Major is to develop competent, caring, and ethical educators who are able to meet the diverse learning needs of all students across a variety of age, grade, and ability levels. The preparation program will facilitate competence in areas of academic, social, and emotional growth, and methods of maximizing a student's capabilities through diagnostic and instructionally adaptive practices.

A Special Education major leads to certification in Special Education (PK-12) with an embedded minor in Reading Education. Special Education majors will have experiences working with students with a variety of learning differences and ages and in a variety of settings.

Total minimum number of credits required for a major in Special Education degree – 124.

### PK-12 Special Education Major

*Four-Year, semester-by-semester suggested course sequence*

#### First Semester

FYF 101 First-Year Foundations	3
PSY 101 General Psychology	3
HST 101 Historical Foundations of the Modern World	3
ENG 101 Composition	4
ED 180 Educational Psychology	3
	<b>16</b>

#### Second Semester

Area II (no lab)	3
ED 190 Effective Teaching *40	3
ED 191 Integrating Technology into the Classroom	3
PS 111 Introduction to American Politics	3
Area IV	3
Area III	3

	<b>15</b>
--	-----------

#### Third Semester

MTH 103 Mathematics for Elementary School Teachers I	3
ENG 120 Introduction to Literature and Culture	3
AREA II w/Lab	3
EDSP 210 Intro. to Special Needs	3
ED/EDSP 263 Child Development and Cognition I *15	3
	<b>15</b>

#### Fourth Semester

HST 125 American History I	3
MTH 104 Mathematics for Elementary School Teachers II	3
ED 220 Teaching Culturally and Linguistically Diverse Learners	3
CS 115 Computers and Applications	3
*EDSP 225/501 High Incidence Dis	3
Area I	3
	<b>18</b>

#### Fifth Semester

**EDSP 301 Infants, Todd, Child. w/sp needs	3
ED 310 Health, Physical Education, and Safety	3
ED 321 Literacy Foundations I *30	3
ED 324 Children's & Adol. Literature	3
ED 325 Reading Strategies	3
	<b>15</b>

#### Sixth Semester

EDSP 300 Sp.Ed Assess and Eval	3
ED 322 Literacy Foundations II	3
ED 341 Language Arts in EL and EC Ed	3
ED 323 Diff. Read. Methods	3
ED 363 Fam., School & Comm	3
	<b>15</b>

### Seventh Semester

*EDSP 226/502 Low Incidence Dis	3
*EDSP 302/505 Sec. Sp. Ed Transition	3
*EDSP 319 Principles of Law/Sp. Ed. Law/519	3
ED 380 Content Area Literacy	3
*EDSP 227/503 Beh Inter. & Supp	3
	<b>15</b>

### Eighth Semester

ED 390 Student Teaching with Seminar **40	12
EDSP 388 Inclusionary Practices	3
	<b>15</b>
<p><b>*=cross listed classes</b></p> <p><b>**=new course</b></p> <p><b>124 credits total (38 courses)</b></p>	

# SPORTS MANAGEMENT

## Sports Management Major

**Coordinator:** Dr. Woojun Lee

Total minimum number of credits required for a Major in Sports Management leading to the Bachelor of Business Administration degree — 125.

The Sports Management major provides students with the opportunity to develop expertise in business management applied to the world of sport and recreation. As sports have evolved into an integral part of the American culture, the operations of sport programs have become more sophisticated and complex. Managers of sport programs and sport/recreational facilities must become familiar with the intricacies of sport/recreational activities and be effective as business professionals.

### Requirements for the Sports Management Major (36 credits total)

<b>Each student with a major in Sports Management must complete the following 27 credits:</b>	
[[SM-201]] – Introduction to Sports Management	3
[[SM-261]] - Sport Psychology Or [[SOC-261]] – Sociology of Sport	3
[[SM-325]] – Sport Marketing	3
[[SM-341]] - Sport Finance and Economics	3
[[SM-355]] – Facility Management	3
[[BA-337]] – Legal Aspects of Sports/Event Management	3
[[SM-461]] - Capstone in Sport Management	3
[[SM-462]] - Sports Management Internship	3
[[SM-466]] - Advanced Sports Management Internship	3

<b>Each student with a major in Sports Management must complete 9 credits from the following list:</b>	
[[SM-198]] / [[SM-298]] / [[SM-398]] - Topics in Sports Management	3
[[COM-302]] – Fundamentals of Public Relations	3

[[COM-303]] – Organizational Communication	3
[[HL-201]] – Introduction to Hospitality	3
[[HL-353]] – Human Resource Management in the Service Industry	3
[[LDR-201]] – Introduction to Leadership	3
[[MKT-322]] – Advertising	3
[[MKT-328]] – Consumer Behavior	3
[[MKT-352]] – Production and Operations Management	3

### Sports Management Major- Required Courses and Recommended Course Sequence

<b>First Semester</b>	Credits	<b>Fifth Semester</b>	Credits
[[BA-151]] – Integrated Management Experience I	3	[[SM-325]] – Sport Marketing	3
[[CS-115]] – Computers and Applications	3	[[BA-335]] – Law and Business	3
[[HST-101]] – Historical Foundations of the Modern World	3	[[FIN-240]] - Introduction to Finance	3
[[ENG-101]] – Composition	4	[[BA-319]] Business Statistics	3
[[FYF-101]] – First-Year Foundations	3	Science Distribution Requirement	3
[[PPD-101]] – Personal & Professional Development I	1	[[PPD-301]] – Personal & Professional Development V	1
<b>Total Credits</b>	<b>17</b>	<b>Total Credits</b>	<b>16</b>
<b>Second Semester</b>		<b>Sixth Semester</b>	
[[BA-152]] – Integrated	3	Major Elective # 1	3

## Sports Management

Management Experience II			
[[COM-101]] – Fundamentals of Public Speaking	3	Free Elective	3
[[MTH-101]] – Solving Problems Using Math  Or Higher level Mathematics	3	[[BA-354]] - Organizational Behavior	3
Arts Distribution Requirement	3	[[BA-337]] – Legal Aspects of Sport Management	3
Humanities Distribution Requirement	3	[[SM-341]] - Sport Finance and Economics	3
<b>Total Credits</b>	<b>15</b>	<b>Total Credits</b>	<b>15</b>
<b>Third Semester</b>		<b>Seventh Semester</b>	
[[ACC-161]] – Financial Accounting & Decision Making	3	Major Elective #2	3
[[EC-101]] – Principles of Economics I	3	Free Elective	3
[[SM-201]] – Introduction to Sports Management	3	[[SM-355]] - Facility Management	3
[[MGT-251]] – Management of Organizations and People	3	[[MGT-358]] - International Business	3
Science Distribution Requirement	3	[[SM-462]] – Sports Management Internship	3
[[PPD-201]] – <i>Personal &amp; Professional Development III</i>	1	[[PPD-401]] – <i>Personal &amp; Professional Development VII</i>	1
<b>Total Credits</b>	<b>16</b>	<b>Total Credits</b>	<b>16</b>

<b>Fourth Semester</b>		<b>Eighth Semester</b>	
[[ACC-162]] – Managerial Accounting & Decision Making	3	Major Elective # 3	3
[[EC-102]] – Principles of Economics II	3	Free Elective	3
[[MKT-221]] – Marketing	3	[[SM-461]] – Capstone in Sports Management	3
[[SM-261]] – Sport Psychology	3	[[SM-466]] – Advanced Sports Management Internship	3
Social Science Distribution Requirement	3		
<b>Total Credits</b>	<b>15</b>	<b>Total Credits</b>	<b>12</b>

# THEATRE ARTS, B.A.

## Requirements

The Theatre Arts major is a diverse and balanced program that encourages many kind of theatre artists: dancers who act, directors who design, actors who play music, and stage technicians who sing. The program combines the liberal arts core curriculum with the required 45 credits of Theatre Arts classes and 39 credits of electives. Theatre Arts majors may opt to use their electives to double major in another field or follow a course sequence in the following concentrations: Acting & Directing, Design & Technology, and Dance.

## Recommended Course Sequence

<b>First Semester</b>	
[[ENG-101]] Composition	4
[[FYF-101]] First-Year Foundations	3
[[THE-121]] Stagecraft	3
[[THE-132]] Voice & Diction I (OPO)	3
[[THE-190]] Theatre Laboratory	1
<b>Total Credits</b>	<b>14</b>

<b>Second Semester</b>	
Distribution Requirement	3
[[THE-100]] Approach To Theatre	3
[[THE-216]] Design for the Theatre	3
[[ENG-120]] Intro to Literature and Culture	3
[[THE-131]] Acting I	3
[[THE-190]] Theatre Laboratory	1
<b>Total Credits</b>	<b>16</b>

<b>Third Semester</b>	
Distribution Requirements	6
Elective	3
[[THE-190]] Theatre Laboratory	1
[[THE-232]] Acting II	3
<b>Total Credits</b>	<b>13</b>

<b>Fourth Semester</b>	
Distribution Requirements	9
Elective	3
[[THE-214]] Script Analysis	3

[[THE-190]] Theatre Laboratory	1
<b>Total Credits</b>	<b>16</b>

<b>Fifth Semester</b>	
Distribution Requirement	3
Electives	9
[[THE-190]] Theatre Laboratory	1
[[THE-211]] Theatre History I	3
<b>Total Credits</b>	<b>16</b>

<b>Sixth Semester</b>	
Distribution Requirement	3
Electives	6
[[THE-190]] Theatre Laboratory	1
[[THE-311]] Theatre History II	3
[[THE-234]] Directing I	3
<b>Total Credits</b>	<b>16</b>

<b>Seventh Semester</b>	
Electives	9
[[THE-190]] Theatre Laboratory	1
Theatre Elective	3
[[THE-393]] Senior Capstone	1
<b>Total Credits</b>	<b>14</b>

<b>Eighth Semester</b>	
Electives	9
Theatre Elective	3
[[THE-190]] Theatre Laboratory	1
[[THE-331]] Acting III or	
[[THE-226]] Scenic Painting	3
<b>Total Credits</b>	<b>16</b>

Theatre Arts majors may use their elective credits to earn a concentration in Acting & Directing, Design & Tech, or Dance.

# THEATRE ARTS, B.A. WITH A CONCENTRATION IN ACTING AND DIRECTING

## Requirements

The Theatre Arts major is a diverse and balanced program that encourages many kinds of theatre artists: dancers who act, directors who design, actors who play music, and stage technicians who sing. The program combines the liberal arts core curriculum with the required 45 credits of Theatre Arts classes and 39 credits of electives. Theatre Arts majors may opt to use their electives to double major in another field or follow a course sequence in the following concentrations: Acting & Directing, Design & Tech, and Dance.

### Acting & Directing Concentration

- [[THE-233]] Voice & Diction II (3)
- [[THE-331]] Acting III (3)
- [[THE-334]] Directing II (3)
- [[THE-431]] Acting IV (3)
- ENG/Dramatic Lit (6) - Choose two of the following
- [[ENG-342]] Studies in Shakespeare (3)
- [[ENG-365]] Studies in Modern Drama (3)
- [[ENG-366]] Studies in American or British Drama (3)

## Recommended Course Sequence

First Semester	
[[ENG-101]] Composition	4
[[FYF-101]] First-Year Foundations	3
[[THE-121]] Stagecraft I	3
[[THE-132]] Voice & Diction I (OPO)	3
[[THE-190]] Theatre Laboratory	1
<b>Total Credits</b>	<b>14</b>

Second Semester	
Distribution Requirements	3
[[THE-100]] Approach To Theatre	3
[[ENG-120]] Intro to Literature and Culture	3
[[THE-131]] Acting I	3
[[THE-190]] Theatre Laboratory	1
[[THE-216]] Design for the Theatre	3
<b>Total Credits</b>	<b>16</b>

Third Semester	
Distribution Requirements	6
Elective	3

ENG/Dramatic Lit	3
[[THE-190]] Theatre Laboratory	1
[[THE-232]] Acting II	3
<b>Total Credits</b>	<b>16</b>

Fourth Semester	
Distribution Requirements	9
Elective	3
[[THE-214]] Script Analysis	3
[[THE-190]] Theatre Laboratory	1
<b>Total Credits</b>	<b>16</b>

Fifth Semester	
Distribution Requirement	3
ENG/Dramatic Lit	3
[[THE-211]] Theatre History I	3
[[THE-234]] Directing I	3
[[THE-331]] Acting III	3
[[THE-190]] Theatre Laboratory	1
<b>Total Credits</b>	<b>16</b>

Sixth Semester	
Distribution Requirement	3
Elective	3
Theatre Elective	3
[[THE-311]] Theatre History II	3
[[THE-334]] Directing II	3
[[THE-190]] Theatre Laboratory	1
<b>Total Credits</b>	<b>16</b>

Seventh Semester	
Electives	6
[[THE-232]] Voice & Diction II	3
[[THE-431]] Acting IV	3
[[THE-190]] Theatre Laboratory	1
[[THE-493]] Senior Capstone	1
<b>Total Credits</b>	<b>14</b>

Eighth Semester	
Electives	9
Theatre Elective	3
[[THE-190]] Theatre Laboratory	1
<b>Total Credits</b>	<b>13</b>

# THEATRE ARTS, B.A. WITH A CONCENTRATION IN DANCE

## Requirements

The Theatre Arts major is a diverse and balanced program that encourages many kinds of theatre artists: dancers who act, directors who design, actors who play music, and stage technicians who sing. The program combines the liberal arts core curriculum with the required 45 credits of Theatre Arts classes and 39 credits of electives. Theatre Arts majors may opt to use their electives to double major in another field or follow a course sequence in the following concentrations: Acting & Directing, Design & Technology, and Dance.

### Dance Concentration

[[DAN-120]] Tap Dance (3)  
 [[DAN-210]] Modern Dance I (3)  
 [[DAN-230]] Jazz Dance I (3)  
 [[DAN-250]] Classical Ballet I (3)  
 [[DAN-320]] Dance Composition (3)  
 Dance Elective (3)

## Recommended Course Sequence

First Semester	
[[ENG-101]] Composition	4
[[FYF-101]] First-Year Foundations	3
[[THE-121]] Stagecraft I	3
[[THE-132]] Voice & Diction I	3
[[THE-190]] Theatre Laboratory	1
<b>Total Credits</b>	<b>14</b>

Second Semester	
Distribution Requirements	3
[[THE-100]] Approach To Theatre	3
[[DAN-250]] Classical Ballet	3
[[ENG-120]] Intro to Literature and Culture	3
[[THE-131]] Acting I	3
[[THE-190]] Theatre Laboratory	1
<b>Total Credits</b>	<b>16</b>

Third Semester	
Distribution Requirements	6
[[DAN-230]] Jazz Dance I	3
Elective	3
[[THE-190]] Theatre Laboratory	1
[[THE-232]] Acting II	3

<b>Total Credits</b>	<b>16</b>
----------------------	-----------

Fourth Semester	
Distribution Requirements	6
[[DAN-210]] Modern Dance I	3
[[THE-214]] Script Analysis	3
[[THE-216]] Design for the Theatre	3
[[THE-190]] Theatre Laboratory	1
<b>Total Credits</b>	<b>16</b>

Fifth Semester	
[[DAN-120]] Tap Dance	3
[[THE-211]] Theatre History I	3
[[THE-331]] Acting III <i>or</i> [[THE-226]] Scenic Painting I	3
[[THE-234]] Directing I	3
[[THE-190]] Theatre Laboratory	1
Elective	3
<b>Total Credits</b>	<b>16</b>

Sixth Semester	
Distribution Requirement	9
[[DAN-320]] Dance Composition	3
[[THE-311]] Theatre History II	3
[[THE-190]] Theatre Laboratory	1
<b>Total Credits</b>	<b>16</b>

Seventh Semester	
Electives	9
Dance Elective	3
Theatre Elective	3
[[THE-190]] Theatre Laboratory	1
[[THE-493]] Senior Capstone	1
<b>Total Credits</b>	<b>14</b>

Eighth Semester	
Electives	9
Theatre Elective	3
[[THE-190]] Theatre Laboratory	1
<b>Total Credits</b>	<b>13</b>

# THEATRE ARTS, B.A. WITH A CONCENTRATION IN THEATRE DESIGN AND TECHNOLOGY

## Requirements

The Theatre Arts major is a diverse and balanced program that encourages many kinds of theatre artists: dancers who act, directors who design, actors who play music, and stage technicians who sing. The program combines the liberal arts core curriculum with the required 45 credits of Theatre Arts classes and 39 credits of electives. Theatre Arts majors may opt to use their electives to double major in another field or follow a course sequence in the following concentrations: Acting & Directing, Design & Technology, and Dance.

### Design & Technology Concentration

[[THE-111]] Fundamentals of Color & Design (3) *or* [[THE-224]] Rendering for the Theatre (3)  
 [[THE-220]] Stagecraft II (3)  
 [[THE-225]] Historic Scenic Styles (3)  
 [[THE-226]] Scenic Painting I (3)  
 [[THE-321]] Scenic Design (3)  
 Design Elective (3) - Choose from:  
     THE 191/291/391/491 Practicum (1-3)  
     [[THE-222]] Lighting Design (3)  
     [[THE-326]] Scenic Painting II (3)

## Recommended Course Sequence

First Semester	
[[ENG-101]] Composition	4
[[FYF-101]] First-Year Foundations	3
[[THE-121]] Stagecraft I	3
[[THE-132]] Voice & Diction I (OPO)	3
[[THE-190]] Theatre Laboratory	1
<b>Total Credits</b>	<b>14</b>

Second Semester	
Distribution Requirements	3
[[THE-100]] Approach To Theatre	3
[[ENG-120]] Intro to Literature and Culture	3
[[THE-131]] Acting I	3
[[THE-190]] Theatre Laboratory	1
[[THE-216]] Design for the Theatre	3
<b>Total Credits</b>	<b>16</b>

Third Semester	
Distribution Requirements	6
[[THE-190]] Theatre Laboratory	1
[[THE-224]] Rendering for the Theatre or [[ART-111]] Fund. of Color & Design	3
[[THE-232]] Acting II	3
Elective	3
<b>Total Credits</b>	<b>16</b>

Fourth Semester	
Distribution Requirements	9
[[THE-190]] Theatre Laboratory	1
[[THE-214]] Script Analysis	3
[[THE-321]] Scenic Design	3
<b>Total Credits</b>	<b>16</b>

Fifth Semester	
Distribution Requirement	3
Electives	6
[[THE-190]] Theatre Laboratory	1
[[THE-211]] Theatre History I	3
[[THE-226]] Scenic Painting I	3
<b>Total Credits</b>	<b>16</b>

Sixth Semester	
Distribution Requirements	3
Electives	6
[[THE-190]] Theatre Laboratory	1
[[THE-234]] Directing I	3
[[THE-311]] Theatre History II	3
<b>Total Credits</b>	<b>16</b>

Seventh Semester	
Electives	6
[[THE-190]] Theatre Laboratory	1
[[THE-220]] Stagecraft II	3
[[THE-225]] Historic Scenic Styles	3
[[THE-493]] Senior Capstone	1
<b>Total Credits</b>	<b>14</b>

Eighth Semester	
Electives	9
Theatre Electives	6

## Theatre Arts, B.A. with a concentration in Theatre Design and Technology

[[THE-190]] Theatre Laboratory	1
<b>Total Credits</b>	<b>16</b>

# THEATRE DESIGN AND TECHNOLOGY, B.A.

## Requirements

The Theatre Design and Technology major provides a balanced training program for students interested in a career in theatre design and technology. The program combines the liberal arts core curriculum with the required 60 credits of Theatre classes and 24 credits of electives.

## Recommended Course Sequence

<b>First Semester</b>	
[[ENG-101]] Composition	4
[[FYF-101]] First-Year Foundations	3
[[THE-121]] Stagecraft I	3
[[THE-131]] Acting I	3
[[THE-190]] Theatre Laboratory	1
<b>Total Credits</b>	<b>14</b>

<b>Second Semester</b>	
Distribution Requirements	3
[[THE-100]] Approach To Theatre	3
[[ENG-120]] Intro to Literature and Culture	3
[[THE-190]] Theatre Laboratory	1
[[THE-216]] Design for the Theatre	3
[[THE-321]] Scenic Design	3
<b>Total Credits</b>	<b>16</b>

<b>Third Semester</b>	
Distribution Requirements	6
Elective	3
[[THE-190]] Theatre Laboratory	1
[[THE-222]] Lighting Design	3
[[THE-225]] Historic Scenic Styles	3
<b>Total Credits</b>	<b>16</b>

<b>Fourth Semester</b>	
Distribution Requirements	6

Elective	3
[[THE-190]] Theatre Laboratory	1
[[THE-217]] AutoCAD for the Stage	3
[[THE-230]] Stage Management	3
<b>Total Credits</b>	<b>16</b>

<b>Fifth Semester</b>	
Distribution Requirement	6
Electives	3
[[THE-190]] Theatre Laboratory	1
[[THE-211]] Theatre History I	3
[[THE-226]] Scenic Painting I	3
<b>Total Credits</b>	<b>16</b>

<b>Sixth Semester</b>	
Distribution Requirements	3
Elective	3
[[THE-190]] Theatre Laboratory	1
[[THE-234]] Directing I	3
[[THE-311]] Theatre History II	3
<b>Total Credits</b>	<b>16</b>

<b>Seventh Semester</b>	
Electives	6
Theatre Design Elective	3
[[THE-190]] Theatre Laboratory	1
[[THE-227]] Costume Design	3
[[THE-493]] Senior Capstone	1
<b>Total Credits</b>	<b>14</b>

<b>Eighth Semester</b>	
Electives	6
Theatre Design Elective	3
[[THE-190]] Theatre Laboratory	1
[[THE-214]] Script Analysis	3
<b>Total Credits</b>	<b>16</b>

# MINOR

## ACCOUNTING MINOR

### Accounting Minor

**Coordinator:** Prof. Cynthia Chisarick

Total number of credits required for a minor in Accounting - 18

For majors in other disciplines, The Jay S. Sidhu School of Business and Leadership offers an 18-credit minor in Accounting. Courses required to complete the Accounting Minor are:

Requirements for the Accounting Minor Credits

[[ACC-161]] – Financial Accounting and Decision Making	3
[[ACC-162]] – Managerial Accounting and Decision Making	3
[[ACC-201]] – Intermediate Accounting I	3
[[ACC-202]] – Intermediate Accounting II	3
plus 6 credits of ACC courses	6

Students in Sidhu School majors and minors must complete all required ACC courses at Wilkes University, except ACC 161 and ACC 162 which may be transferred from accredited institutions if they are determined to be the academic equivalent of the course offered at Wilkes University. Any other course that a student seeks to transfer as an ACC course would only be eligible to transfer as ACC 198, ACC 298 or ACC 398, depending on the rigor of the course.

# **ACTUARIAL SCIENCE MINOR**

## **Requirements**

### **Actuarial Science Minor**

Actuarial science is the discipline that applies mathematics and statistical methods to assess risk in the insurance and finance industries. Actuarial science includes a number of interrelating subjects, including probability and statistics, finance, and economics. Actuaries are professionals who are qualified in this field through education and experience. To become an actuary, candidates have to pass the actuarial exams administered by professional organizations.

### **Credits**

[[EC-102]] – Principles of Economics II 3

[[MTH-111]] – Calculus I 4

[[MTH-112]] – Calculus II 4

[[MTH-234]] – Financial Mathematics 3

[[MTH-351]] – Probability and Mathematical Statistics I 3

[[MTH-353]] – Actuarial Mathematics 3

[[MTH-356]] – Actuarial Exam P Preparation 1

**Minimum total credits required for a minor in Actuarial Science: 21**

# **AEROSPACE STUDIES**

## **Aerospace Studies (Air Force ROTC)**

### **Total minimum number of credits required for a minor in Aerospace Studies – 22.**

The Air Force Reserve Officer Training Corps (AFROTC) program at Wilkes University permits students to earn commissions as officers in the U.S. Air Force while pursuing a university degree. Students enroll in either the four-year or three-year program. Students with three years remaining until graduation may enroll concurrently in the freshman and sophomore Aerospace Studies courses and can complete the four-year program in three years; moreover, any interested student may call the detachment and query staff regarding additional programs available (570-408-4860).

A minor in Aerospace Studies is available to students who complete a minimum of 22 semester hours including the following: up to 16 hours of Aerospace Studies courses (AS 101, 102, 201, 202, 301, 302, 401, 402) and 3 hours for AFROTC Field Training (4-week AFROTC Field Training AS 240), and a minimum of 3 credit hours within one area listed below. This area should explore a discipline other than the student's major.

#### **Additional Courses Required in the Minor (By Concentration)**

##### **Business Administration Credits**

- [[BA-151]] – Integrated Management Experience 3
- [[BA-233]] – The Legal Environment of Business 3
- [[BA-234]] – Business Law 3
- [[BA-321]] – Marketing 3
- [[BA-326]] – The Selling Process 3
- [[BA-327]] – Marketing Seminar 3
- [[BA-341]] – Managerial Finance 3
- [[BA-351]] – Management of Organizations and People 3
- [[BA-352]] – Production and Operations Management 3
- [[BA-354]] – Organizational Behavior 3
- [[BA-356]] – The Social Responsibility of Business 3

##### **Communication Studies Credits**

- [[COM-101]] – Fundamentals of Public Speaking 3
- [[COM-102]] – Principles of Communication 3
- [[COM-201]] – Advanced Public Speaking 3
- [[COM-202]] – Interpersonal Communication 3
- [[COM-206]] – Business and Professional Communication 3
- [[COM-220]] – Introduction to Telecommunications 3
- [[COM-303]] – Organizational Communication 3
- [[COM-352]] – Advanced Public Relations Campaigns 3
- [[COM-361]] – Feature Writing 3
- [[COM-399]] – Cooperative Education 1-6

##### **History Credits**

- [[HST-101]] – Historical Foundations of the World 3
- [[HST-102]] – Europe Before 1600 3
- [[HST-125]] – American History I 3
- [[HST-126]] – American History II 3
- [[HST-328]] – History of the Foreign Policy of the United States 3
- [[HST-334]] – The United States, 1900-1945 3

[[HST-335]] – The United States Since 1945 3

[[HST-376]] – World War II 3

##### **Political Science Credits**

- [[PS-111]] – Introduction to American Politics 3
- [[PS-141]] – Introduction to International Politics 3
- [[PS-151]] – Governments of the World 3
- [[PS-212]] – Urban Government and Politics 3
- [[PS-213]] – Political Parties and Political Participation 3
- [[PS-221]] – Introduction to Public Administration 3
- [[PS-261]] – Concepts and Methods in Political Science 3
- [[PS-331]] – The Constitution and the Federal System 3
- [[PS-332]] – Civil Rights and Liberties 3

# **ART HISTORY MINOR**

## **Requirements**

The minor in Art History requires that students complete [[ART-140]] (Art History I), [[ART-141]] (History of Art II) and 6 credits of art history topics courses. A total of 18 credit hours is required for the minor in Art History.

# BIOLOGY MINOR

## Biology Minor

Total minimum number of credits required for a minor in Biology – 22

Students in majors other than Biology may wish to elect a minor in Biology.

Required courses are as follows:

[[BIO-121]] - Principles of Modern Biology I  
[[BIO-122]] - Principles of Modern Biology II  
[[BIO-225]] - Population and Evolutionary Biology  
[[BIO-226]] - Cellular and Molecular Biology

Two 300-level, Biology electives. These upper-level electives, exclusive of BIO-395-396 (Independent Research), will be selected after consultation with the department chairperson.

## Biology in Conjunction with the Secondary Education Minor

Students interested in pursuing either the major or the minor in Secondary Education should refer to the Education Department section of this bulletin for complete details of the curriculum and other degree requirements. Students should also consult carefully with their Education program and Biology program advisors in planning their course of studies.

Total credits required for **Secondary Education minor - 40**

Required courses for the minor in Secondary Education are as follows:

ED 180 – Educational Psychology - 3 cr.

ED 190 – Effective Teaching with Field Experience - 3 cr.

ED 191 – Integrating Technology into the Classroom - 3 cr.

EDSP 210 – Teaching Students with Special Needs - 3 cr.

ED 220 – Teaching Culturally and Linguistically Diverse Learners - 3 cr.

EDSP 225 – Special Education Methods I with Field Experience - 3 cr.

ED 371 – Teaching Methods in Science with Field Experience - 4 cr.

ED 380 – Content Area Literacy - 3 cr.

EDSP 388 – Inclusionary Practices (taken concurrently with ED 390) - 3 cr.

ED 390 – Student Teaching with Seminar - 12 cr.

- All Teacher Education candidates must apply for admission to the Teacher Education Program in the sophomore or junior year.

- To be admitted into the Teacher Education Program, candidates must
  - Attain a 3.0 GPA
  - Complete 48 credits including six credits in both Mathematics and English
  - Pass a test of basic skills
  - Submit required clearances showing 'no record'
- To remain in the Teacher Education Program, candidates must
  - Maintain a 3.0 GPA
  - Adhere to the Code of Professionalism and Academic Honesty
- To be certified as a teacher in Pennsylvania in grades 7-12, candidates must
  - Successfully complete all required Education courses, including student teaching
  - Graduate with a 3.0 cumulative GPA
  - Pass the appropriate exit test(s) in their content area
  - Apply for certification through the Pennsylvania Teacher Information Management System (TIMS).

# **BUSINESS ADMINISTRATION MINOR**

## **Business Administration Minor**

**Coordinator:** Dr. Ruth Hughes

Total number of credits required for a minor in Business Administration – 18

The Jay S. Sidhu School of Business and Leadership offers a 18-credit minor in Business Administration to students not majoring in one of the Business majors offered by the Sidhu School . NOTE: This minor is not available for current business majors.

### **The following 18 credits are required of all students taking the Business Administration minor:**

[[ACC-161]] Financial Accounting and Decision Making	3
[[BA-153]] Management Foundations	3
[[BA-335]] Law & Business	3
[[FIN-240]] Introduction to Finance	3
[[MGT-251]] Management of Organizations and People	3
[[MKT-221]] Marketing	3

# BUSINESS ANALYTICS MINOR

## Requirements

### Business Analytics Minor

**Coordinator:** Dr. Ruth Hughes

Total number of credits required for a minor in Business Analytics – 16

With a minor in Business Analytics, students will achieve the following collective outcomes: demonstrate knowledge of statistical data analysis techniques utilized in business decision-making; demonstrate use of teamwork, leadership skills, decision-making and organization theory; integrate information technologies with data science methods to extract value from data sets; apply quantitative modeling and data analysis techniques to the solution of real world business problems, communicate findings, and effectively present results using data visualization techniques; and think critically about the business implications, meaningfulness and applicability of observed data patterns and analytical inferences.

The Jay S. Sidhu School of Business and Leadership offers a **16-credit minor** in Business Analytics.

**The following 7 credits are required of all students taking the Business Analytics minor:**

[[BA-119]] Data Analysis in Excel	1
[[BA-319]] Business Statistics	3
either [[ACC-341]] Accounting Information Systems or [[MGT-257]] Management Information Systems	3

**Plus 9 credits from the following elective course list:**

[[ACC-219]] Financial Statement Analysis	3
[[BA-419]] Quantitative Decision Making	3
[[FIN-219]] Financial Analysis	3
[[FIN-319]] Financial Derivatives	3
[[MGT-357]] Business Transformations in the Digital Economy	3

# **CHEMISTRY MINOR**

## **Chemistry Minor**

Students in majors other than Chemistry may wish to elect a minor in Chemistry. The minor shall consist of a minimum of 22 credits and can be reached by one of the two paths listed below.

### **PATH ONE**

#### **Required courses:**

CHM 113/115 - Elements and Compounds with lab.

CHM 114/116 - The Chemical Reaction with lab.

CHM 231/233 - Organic Chemistry 1 with lab.

CHM 232/234 - Organic Chemistry 2 with lab.

Six (6), or more, credit hours of electives – All electives must be listed or cross-listed as a chemistry course, 200 level or higher, and in keeping with the existing prerequisites as listed in the Bulletin.

### **PATH TWO**

#### **REQUIRED COURSES:**

CHM 113/115 - Elements and Compounds with lab.

CHM 114/116 - The Chemical Reaction with lab.

CHM 235/237 – Essentials of Organic Chemistry with lab.

Ten (10), or more, credit hours of electives – All electives must be listed or cross-listed as a chemistry course, 200 level or higher, and in keeping with the existing prerequisites as listed in the Bulletin.

# COMMUNICATION STUDIES, MINOR

## Requirements

### Communication Studies Minor

Students who wish to minor in Communication Studies must meet the following requirements (18 credits):

[[COM-101]]: Fundamentals of Public Speaking

[[COM-102]]: Principles of Communication

[[COM-260]]: Basic Newswriting

And any three additional courses with a "COM" prefix.

Title	Link
Request Info	<a href="#">LINK</a>
Apply	<a href="#">LINK</a>

# **COMPUTER ENGINEERING MINOR**

## **Computer Engineering Minor**

A 19 to 21-credit Computer Engineering minor is a special and highly focused option for students majoring in Engineering and other related disciplines. The minor consists of the following course requirements:

[[EE-140]] - Scientific Programming or [[CS-125]] – Computer Science I

[[EE-247]] - Programming for Embedded Applications  
or [[CS-126]] – Computer Science II

[[EE-241]] – Digital Design

[[EE-345]] – Computer Organization

[[EE-342]] – Microcontroller Based System Design

One elective course from an Application Area

(e.g., [[EE-314]] – Control Systems; [[CS-355]] – Computer Networks; or [[ME-317]] – Robotics)

# COMPUTER INFORMATION SYSTEMS MINOR

## Requirements

### Computer Information Systems Minor

A minor in Computer Information Systems requires the completion of 17 credits, consisting of the following courses:

#### Required Courses (14 credits) Credits

- [[CS-125]] – Computer Science I 4
- [[CS-126]] – Computer Science II 4
- [[CS-225]] – Computer Science III 3
- [[CS-324]] – Systems Analysis 3

#### One additional course (3 credits) selected from the following Credits

- [[CS-226]] – Computer Science IV 3
- [[CS-317]] – Software Integration 3
- [[CS-321]] – Simulation and Data Analysis 3
- [[CS-325]] – Database Management 3
- [[CS-334]] – Software Engineering 3
- [[CS-335]] – Advanced Database Concepts 3
- [[CS-340]] – Artificial Intelligence 3
- [[CS-350]] – Object-Oriented Programming 3
- [[CS-355]] – Computer Networks 3
- [[CS-360]] – Linear Programming 3
- [[CS-363]] – Operations Research 3
- [[CS-366]] – 3- Dimensional Environments and Animation 3
- [[CS-367]] – Computer Graphics 3
- [[CS-383]] – Web Development II 3
- [[MTH-354]] – Statistical Methodology 3

Because certain required and elective courses are offered in either alternative semesters, or alternative years, or when demand warrants, degree candidates are strongly encouraged to meet with their advisors on a regular basis to discuss their academic schedule to ensure satisfactory and timely degree progress.

# **COMPUTER SCIENCE MINOR**

## **Computer Science Minor**

A minor in Computer Science requires the completion of 17 credits, consisting of the following courses:

### **Required Courses (14 credits) Credits**

[[CS-125]] – Computer Science I 4

[[CS-126]] – Computer Science II 4

[[CS-225]] – Computer Science III 3

[[CS-226]] – Computer Science IV 3

**and**

one additional 300-level course, excluding [[CS-321]],

[[CS-324]], [[CS-360]], [[CS-363]], and [[CS-364]]. 3

Total Credits 17

# CRIMINOLOGY MINOR

## Requirements

A minor in Criminology consists of 18 hours, including SOC 222 (Criminology), a course that all students must complete. In addition, the Criminology minor must complete at least one course from each of the content areas listed below:

<b>Content area I: Economics (3 Hours)</b>	
[[EC-320]]	Economics of Crime* 3 cr.

<b>Content area II: Political Science (3 Hours)</b>	
[[PS-232]]	Criminal Law* 3 cr.
[[PS-233]]	Law & Society* 3 cr.
[[PS-332]]	Civil Rights & Liberties* 3 cr.

<b>Content area III: Psychology (3 Hours)</b>	
[[PSY-352]]	Abnormal Behavior* 3 cr.
[[PSY-355]]	Forensic Psychology* 3 cr.

<b>Content area IV: Sociology (3 Hours)</b>	
[[SOC-201]]	Introduction to Criminal Justice* 3 cr.
[[SOC-215]]	Family Violence* 3 cr.
[[SOC-220]]	Violence in Society* 3 cr.
[[SOC-223]]	Drugs & Alcohol in American Society* 3 cr.
[[SOC-226]]	Corrections, Probation, and Parole* 3 cr.
[[SOC-228]]	Deviance & Social Control* 3 cr.
[[SOC-235]]	Corrections Counseling* 3 cr.
[[SOC-252]]	Race, Class, Gender, and Crime* 3 cr.
[[SOC-325]]	Juvenile Delinquency* 3 cr.
[[SOC-360]]	White Collar Crime* 3 cr.
[[SOC-375]]	Advanced Criminological Theory* 3 cr.

\* Students must complete all course prerequisites.

# **DANCE MINOR**

## **Requirements**

**Director:** Ms. Kristin Degnan-Boonin

**Faculty of Practice:** Mariani

Total minimum number of credits required for a minor in dance  
— 18

Wilkes University provides a comprehensive minor program in the field of dance, with classes in Classical Ballet, Modern, Jazz and Tap Dance. In order to satisfy the requirements for the Minor in Dance, students must take 18 credits of dance at a level above DAN 100, at least 3 of which must be DAN 320 Dance Composition.

# DIGITAL DESIGN + MEDIA ART - COGNATE MINORS

## Requirements

### Cognate Minor in Art - 18 credits

The following courses are required for a cognate minor in Art:

[[ART-111]] Fundamentals of Color and Design 3 cr. (included in the IM core curriculum)
[[ART-113]] Drawing 3 cr.
[[ART-134]] Computer Graphics I 3 cr.
[[ART-234]] Computer Graphics II 3 cr.
ART electives 6 cr.

### Cognate Minor in Business Administration - 18 credits

The following courses are required for a cognate minor in Business Administration:

[[BA-153]] Management Foundations 3 cr. (included in the IM core curriculum)
[[ACC-161]] Financial Accounting & Decision-Making 3 cr.
[[ENT-203]] Opportunity Development: Creativity & Innovation 3 cr. (included in the IM core curriculum)
[[MKT-221]] Marketing 3 cr.
[[MKT-322]] Advertising 3 cr.
[[MGT-251]] Management of Organizations and People 3 cr.

### Cognate Minor in Communication Studies - 21 credits

The following courses are required for a cognate minor in Communication Studies:

[[COM-102]] Principles of Communication 3 cr. (included in the IM core curriculum)
[[COM-124]] Mass Media Literacy 3 cr.
[[COM-203]] Small Group and Team Communications 3 cr.
[[COM-222]] Broadcast Production 3 cr.
[[COM-262]] Digital Storytelling and Design 3 cr.
[[COM-322]] Advanced Video Production 3 cr.
[[COM-323]] Advanced Audio Production 3 cr.

### Cognate Minor in Computer Science - 23 credits

The following courses are required for a cognate minor in Computer Science:

[[CS-125]] Computer Science I 4 cr. (included in the IM core curriculum)
---

[[CS-126]] Computer Science II 4 cr.
[[CS-225]] Computer Science III 3 cr.
[[CS-226]] Computer Science IV 3 cr.
[[CS-283]] Web Development I 3 cr.
[[CS-325]] Database Management 3 cr.
[[CS-383]] Web Development II 3 cr.

### Cognate Minor in English - 18 credits

The following courses are required for a cognate minor in English:

[[ENG-120]] Introduction to Literature and Culture 3 cr.
[[ENG-202]] Technical and Professional Writing 3 cr. (included in the IM core curriculum)
[[ENG-203]] Introduction to Creative Writing 3 cr.
[[ENG-308]] Rhetorical Analysis of Non-Fiction Prose 3 cr.
English writing or literature electives numbered 300 and above 6 cr.

### Cognate Minor in Entrepreneurship - 18 credits

The following courses are required for a cognate minor in Entrepreneurship:

[[BA-153]] Management Foundations 3 cr. (included in the IM core curriculum)
[[ACC-161]] Financial Accounting and Decision-Making 3 cr.
[[MKT-221]] Marketing 3 cr.
[[ENT-201]] Nature and Essence of Entrepreneurship 3 cr.
[[ENT-461]] Practicing Entrepreneurship 3 cr.
[[ENT-384]] Small Business Consultancy or
[[ENT-462]] Entrepreneurship Internship 3 cr.

### Cognate Minor in Game and Emergent Technology - 18 credits

The following courses are required for a cognate minor in Game and Emergent Technology:

[[IM-120]] Foundations of Game Design 3 cr.
[[IM-210]] Introduction to Game Development 3 cr.
[[IM-310]] Advanced Game Development 3 cr.
[[IM-330]] Virtual Environments and Emerging Technology 3 cr.
[[IM-350]] 3-Dimensional Environments and Animation 3 cr.
[[IM-368]] 3-Dimensional Game Development 3 cr.

### Cognate Minor in Marketing - 18 credits

The following courses are required for a cognate minor in Marketing:

[[BA-153]] Management Foundations 3 cr. (included in the IM core curriculum)
--

## Digital Design + Media Art - Cognate Minors

[[ENT-201]] Nature and Essence of Entrepreneurship 3 cr.
[[ENT-203]] Opportunity Identification: Innovation and Creativity 3 cr. (included in the IM core curriculum)
[[MKT-221]] Marketing 3 cr.
[[MKT-322]] Advertising 3 cr.
[[MKT-327]] Seminar in Social Media Marketing
[[MKT-328]] Consumer Behavior 3 cr.

## Cognate Minor in Theater Arts (Acting & Directing) - 18 credits

The following courses are required for a cognate minor in Theatre Arts (Acting & Directing):

[[ART-111]] Fundamentals of Color & Design 3 cr. (included in the IM core curriculum)
[[THE-131]] Acting I 3 cr.
[[THE-234]] Directing I 3 cr.
[[THE-334]] Directing II 3 cr.
Two Theater Arts Elective 6 cr.

## Cognate Minor in Theater Arts (Theater Design) - 18 credits

The following courses are required for a cognate minor in Theatre Arts (Theatre Design):

[[ART-111]] Fundamentals of Color & Design 3 cr. (included in the IM core curriculum)
[[IM-350]] 3-Dimensional Environments & Animation 3 cr.
[[THE-121]] Stagecraft 3 cr.
[[THE-226]] Scene painting 3 cr.
[[THE-321]] Scene Design 3 cr.
One Theater Arts Elective 3 cr.

# DIGITAL DESIGN AND MEDIA ART MINOR

## Requirements

The minor in Digital Design + Media Art offers to the student body the foundational skill set delivered within the art, design, and technology core and elective DDMA courses. As with the major, these courses follow real world production roles and cycles fulfilling a range of creative and non-creative content creation positions as stated in the DDMA major description. There are many majors that would benefit through the understanding of new media production processes as critically relational to their area of study.

Required courses include:

<b>Core Courses (12 cr.)</b>
[[IM-101]] – Integrative Media Foundations I 3 cr.
[[IM-201]] – Integrative Media Foundations II 3 cr.
[[IM-320]] – Integrative Media Concept Development & Practices 3 cr.
[[IM-391]] – Integrative Media Project I 3 cr.
<b>One of the following courses (3 cr.)</b>
[[IM-301]] – Principles of Motion and Layering 3 cr. <b>OR</b>
[[IM-302]] – Principles of Interactivity 3 cr.
<b>AND (2) IM Electives 6 cr.</b>
Note: Any IM course not taken can qualify as an elective.

Minimum Total Required Credits 21 cr.

# **EARTH AND ENVIRONMENTAL SCIENCES**

## **Earth and Environmental Sciences Minor**

The minor in Earth & Environmental Sciences (EES) is designed for students wishing to explore the geosciences as part of career enhancement or personal development. The goals of the minor in EES are to provide undergraduate students with:

1. An awareness of the scientific aspects of the world's environmental problems and paths toward sustainable solutions,
2. A background for environmentally related careers in business, education, law, policy, or research,
3. Preparation for graduate study.

The minor provides students with a framework for understanding the Earth's natural science systems and the environmental forces that influence populations and society. Students will gain knowledge of fundamental concepts in the physical, life, and interdisciplinary natural sciences that inform society about the environment in which we live. Graduates might combine the minor with a wide range of majors in the arts, humanities, social sciences, or education. Graduation with the minor equips students with excellent background for entry-level professional employment in areas such as environmental consulting, ecosystem management, private and nongovernmental science agencies, science journalism, environmental education, and environmental law.

### **Program highlights:**

- Required courses (18 credits) can be completed during the expected 8 semesters while fulfilling their major.
- Applied science skills and industry-standard software training implemented into courses to teach students real-world investigations and interpretations.
- Field-based training and research using modern mapping and investigative instruments.
- Local and regional field trips to learn environmental science principals in real-world context.
- Modern laboratory and field equipment.
- Professional development opportunities through national societies and organizations.

### **Requirements**

1. a minimum of 18 credits of EES courses
2. courses must be 200 level or above
3. minimum grade of 2.0 in courses toward minor
4. completion of a "Declaration of Minor" form

# **ECONOMICS MINOR**

## **Requirements**

Total minimum number of credits required for a minor in Economics — 18.

The Division of Behavioral and Social Sciences offers a minor program in Economics. For students who have chosen other majors, a minor in Economics often is a valuable complement. Its ability to bring into sharp focus the economic issues and problems subsumed in such areas as business administration, political science, sociology, history, pre-law, music, or engineering make it a valuable career asset. The minor program in Economics requires the completion of EC 101 and EC 102 and at least 12 additional credits in economics courses, chosen in consultation with an academic advisor in the Division of Behavioral and Social Sciences.

# **ENERGY STUDIES MINOR**

## **Energy Studies Minor**

The Energy Studies minor attracts students seeking to know more about energy issues for career purposes, to be more intelligent energy consumers, or leaders in community discourse on energy issues. The curriculum equips students to deeply understand and provide systems-oriented solutions to vexing problems relating to energy. Students successfully completing the requirements of the minor have a sophisticated grasp of the complexities of energy production, delivery and consumption – understanding multiple dimensions including policy, business, science, public health, and engineering. They become critical consumers and productive producers of information relating to energy. They are able to productively interact with a variety of stakeholders including leaders and employees of energy companies, members of an often-skeptical public, government officials, and members of the media. Graduates of the minor are marketable for employment by energy companies, engineering and consulting firms, non-profit organizations, print and broadcast media, government regulatory agencies and legislative staffs, and organizations devoted to energy-related research and analyses.

Program Director: Kenneth M. Klemow, Ph.D.

Total minimum number of credits required for a minor in Energy Studies - 18

Required courses are as follows:

[[EGY-105]] Energy in Our World;

A 200-level course pertaining to energy in each of three subject areas – Science/Engineering, Humanities/Policy and Business;

One additional course pertaining to energy from any of the three subject areas;

[[EGY-291]] Capstone.

# **ENGINEERING MANAGEMENT MINOR**

## **Engineering Management Minor**

A 21-credit Engineering Management (EGM) minor is a special curriculum established to offer critical business and technical management skills for engineering majors. These courses are normally not taken by typical engineering students in the design disciplines.

The following courses are required:

- [[EGM-320]] - Engineering Project Management
- [[EC-102]] - Principles of Economics II
- [[EGM-321]] - Quantitative Analysis
- [[EGM-336]] - Engineering and Management Models
- [[BA-335]] - Law and Business

Additionally, six elective credits must be completed from the following courses:\*

- [[EGM-310]] - Project Decision Processes
- [[EGM-315]] - Quality Management
- [[EGM-322]] - Operations Analysis
- [[EGM-325]] - Project Analysis
- [[EGM-399]] - Cooperative Education

*\*Engineering students should consult their academic advisors or their Department Chair regarding possible classification of these courses as "technical electives." Some engineering programs require certain technical electives aligned to the major field of study. Other majors must consult their respective Chair for classification of these electives.*

# **ENGLISH MINOR**

## **Requirements**

The Department of English offers a minor degree program of study in English.

### **English Minor**

The minor in English is designed to cultivate students' knowledge of literature and writing by enhancing their ability to discover meaning in a variety of literary works and to develop their writing skills. This minor provides students with practical skills in communication, writing, and analysis that enhance personal growth and prepare students for careers in a variety of challenging areas. The minor in English includes the fulfillment of General Education Curriculum requirements in composition and literature along with fifteen credits in literature, writing, or language studies courses numbered 200 or above.

# **ENGLISH MINOR IN CREATIVE WRITING**

## **Requirements**

The Department of English offers a minor degree program of study in Creative Writing.

### **English Minor In Creative Writing**

The minor in Creative Writing offers students the opportunity to develop their creative writing skills by exploring the full range of literary genres. The minor in Creative Writing requires fulfillment of General Education Requirements in composition and literature along with 15 additional credits including the completion of [[ENG-203]], [[ENG-303]] and nine credit hours among [[ENG-190]] (maximum 3 credits), 200-level literature survey courses (maximum 6 credits from [[ENG-233]], [[ENG-234]], [[ENG-281]], [[ENG-282]]), 300-level literature courses (maximum 6 credits, [[ENG-395]] / [[ENG-396]], or [[ENG-399]]. The department strongly recommends that students who minor in Creative Writing take advantage of the opportunity to write creatively for the university's literary magazine, Manuscript, published by the Manuscript Society.

# **ENGLISH MINOR IN WORKPLACE WRITING**

## **Requirements**

The Department of English offers a minor degree program of study in Workplace Writing.

### **English Minor In Workplace Writing**

The minor in Workplace Writing offers students the opportunity to develop writing skills adaptable to the workplace. The minor in Workplace Writing requires fulfillment of General Education Requirements in composition and literature and 15 additional credits including completion of [[ENG-202]] and twelve credit hours among [[ENG-190]] (maximum of 3 credits), [[ENG-222]], [[ENG-225]], [[ENG-228]], [[ENG-308]], [[ENG-395]] / [[ENG-396]], or [[ENG-399]]. The department strongly recommends that students who minor in Workplace Writing take advantage of the opportunity to work on the English program's newsletter, The Inkwell Quarterly, published by the English Department.

# ENTREPRENEURSHIP MINOR

## Entrepreneurship Minor

**Coordinator:** Dr. Woojun Lee

Total minimum number of credits required for a minor in Entrepreneurship – 18

For majors in other disciplines, The Jay S. Sidhu School of Business and Leadership offers an 18-credit minor in Entrepreneurship. Students who may be contemplating the pursuit of entrepreneurial opportunities will find the Entrepreneurship Minor to be an excellent complement to their chosen majors. Courses required to complete the Entrepreneurship Minor are:

[[MKT-221]] - Marketing	3
[[ENT-201]] – Nature and Essence of Entrepreneurship	3
[[ENT-252]] – Entrepreneurial Leadership	3
AND 2 of the following courses:	
[[HL-201]] – Introduction to Hospitality Leadership	3
[[HL-353]] – Customer Relations for the Hospitality Industry	3
[[LDR-201]] – Small Business Consultancy	3
[[LDR-202]] – Organizational Design and Development	3
[[MKT-419]] – Marketing Research and Analytics	3
[[MKT-357]] –Digital Marketing	3
[[ENT-462]] or any other internship courses	3

# **ENVIRONMENTAL POLICY MINOR**

## **Requirements**

### **Environmental Policy Minor**

A minor in Environmental Policy consists of 19 hours for students in the Sciences and 18 hours for non-science majors. Science majors must complete EES 240, PS 221, PS 224, PS 226 plus 6 credit hours of electives. Non-Science majors must complete EES 210, PS 221 or PS 224, PS 226 plus 9 credit hours of electives.

<b>Electives in Political Science</b>
---------------------------------------

[[PS-212]] - Urban Government and Politics
--

[[PS-242]] - International Law and Organization
---

<b>Electives in Environmental Engineering and Earth Science</b>
---

[[EES-105]] - Planet Earth
----------------------------

[[EES-261]] - Regional Geography
----------------------------------

# ETHICS MINOR

## Requirements

The Minor in Ethics consists of 18 credit hours, including:

1. [[PHL-101]] Introduction to Philosophy, [[PHL-110]] Introduction to Ethical Problems, [[PHL-114]] Introduction to Bioethics, or [[PHL-115]] Business Ethics, and
2. Five courses from among the following:
  - [[PHL-203]] Introduction to Symbolic Logic
  - [[PHL-216]] Violence and Nonviolence
  - [[PHL-217]] Animal Minds, Animal Lives,
  - [[PHL-218]] Environmental Ethics,
  - [[PHL-242]] The Meaning of Life,
  - [[PHL-246]] Happiness and the Good Life,
  - [[PHL-310]] Ethical Theory,
  - [[PHL-312]] Virtues & Vices in Life and Literature,
  - [[PHL-314]] Advanced Topics in Bioethics,
  - [[PHL-316]] Moral Psychology,
  - Special topics courses ([[PHL-298]] or [[PHL-398]]) as appropriate.

# FINANCIAL INVESTMENTS MINOR

## Financial Investments Minor

**Coordinator:** Dr. Dean Frear

Total number of credits required for a minor in Finance - 22

For majors in other disciplines, The Jay S. Sidhu School of Business and Leadership offers an 18 credit minor in Finance. Courses required to complete the Finance minor are:

### Requirements

[[FIN-240]] Introduction to Finance	3
[[FIN-341]] Managerial Finance	3
[[FIN-201]] Personal Finance	3
[[FIN-230]] Money and Banking	3
[[FIN-343]] Investments and Portfolio Management	3
[[FIN-319]] Financial Derivatives	3
[[MTH-111]] Calculus	4

# GAME AND EMERGENT TECHNOLOGY

## Requirements

The minor in Game and Emergent Technology offers a sequence of courses in the area of game history, design, and implementation, along with emergent technology courses, such as Virtual and Augmented Reality. These courses prepare students for a range of interactive/immersive positions in game design, production, visualization, engineering, manufacturing, 3D simulation, and other content creation environments.

Required courses include:

<b>Core Courses (18 cr.)</b>
[[IM-120]] – Foundations of Game Design 3 cr.
[[IM-210]] – Introduction to Game Development 3 cr.
[[IM-310]] – Advanced Game Development 3 cr.
[[IM-330]] – Virtual Environments and Emerging Technology 3 cr.
[[IM-350]] - 3-Dimensional Environments and Animation 3 cr.
[[IM-368]] - 3-Dimensional Game Development 3 cr.

# GEOLOGY

## Geology Minor

### Course Offerings

Students must select from the following list to satisfy the requirements for the minor in Geology

Course	Credits
[[GEO-101]] Introduction to Geology*	3
[[GEO-103]] Introduction to Geology Lab*	1
[[GEO-212]] Historical Geology	3
[[GEO-281]] Mineralogy	4
[[GEO-282]] Petrology	3
[[GEO-345]] Stratigraphy and Sedimentation	4
[[GEO-349]] Structure and Tectonics	4
[[GEO-351]] Paleoclimatology	3
[[GEO-352]] Hydrogeology	3
[[GEO-370]] Geomorphology	3
[[GEO-390]] Applied Geophysics	3
[[GEO-395]] Independent Research I	1-3
[[GEO-396]] Independent Research II	1-3
[[GEO-298]] or [[GEO-398]] Topics in Geology	1-3
[[CE-346]] Rock Engineering	3

\* Required

### Guidelines and stipulations

Course offerings are subject to change.

Special topics geology courses, [[EES-298]], [[GEO-298]], or [[EES-398]], [[GEO-398]], may be applied to the minor.

Environmental Science majors can use [[ENV-315]] Soils or [[ENV-321]] Hydrology (but not both) toward the geology minor.

Civil and Environmental Engineering majors can use [[ENV-321]] Hydrology and [[ENV-315]] Soils or [[CE-346]] Rock Engineering toward the geology minor.

## GLOBAL CULTURES MINOR

The Global Cultures Minor serves as a foundation for undergraduate students with an interest in cultures and an aim of informing their major courses of study with cultural knowledge. In close consultation with the Global Cultures (GC) Advisor, students will plan a coherent course of study that allows the construction of a unique curriculum leading to a focus in one global culture or a related issue, with the intention of integrating that knowledge into their career plans upon graduation or furthering their knowledge in this area through formal graduate studies.

### Requirements

The Minor in Global Cultures requires 18 credit hours, including [[GC-301]] Global Cultures: Issues and Perspectives and at least 1, but no more than 2, foreign language courses at any level. In addition, students will choose 5 courses from among the GC-approved courses listed below or any course with a study abroad component. Students are also encouraged to select appropriate special topics courses according to area of interest, in consultation with the GC Advisor. Students cannot count more than two courses with the same designation toward the GC Minor without approval of the GC Advisor.

### Understanding Cultures of the World

[[ANT-102]] Cultural Anthropology

[[ANT-211]] Anthropology Through Film

[[ANT-212]] Peoples and Cultures of the World

[[COM-304]] Intercultural Communication

[[ENG-233]] Survey of British Literature

[[ENG-234]] Survey of British Literature II

[[ENG-353]] Postcolonial Literature

[[ENG-355]] African American Literature

[[ENG-358]] Contemporary Fiction

### Philosophical or Political Differences

[[PHL-216]] Violence and Nonviolence

[[PHL-244]] Buddhist Thought

[[PHL-272]] Philosophy of Religion

[[PHL-301]] Origins of Western Thought

[[PS-141]] Introduction to International Relations

[[PS-151]] Introduction to Comparative Politics

[[PS-242]] International Law and Organization

[[PS-251]] European Politics

[[PS-354]] Ecotourism in Costa Rica

## History of Cultures and Global Forces

[[HST-341]] History of Great Britain and the British Empire and Commonwealth

[[HST-342]] History of Great Britain and the British Empire and Commonwealth

[[HST-352]] The Renaissance and Global Connections

[[HST-353]] Global Empires of the Eighteenth Century

[[HST-354]] The Age of Revolutions in a Global Context

[[HST-355]] The Nineteenth Century Global Order

[[HST-356]] World War I and Interwar Period

[[HST-357]] The World Since 1945

[[HST-376]] World War II

## Interacting in the World, Environment and Sustainability

[[SUS-401]] Introduction to Sustainability

[[EES-210]] Global Climate Change

[[FIN-358]] International Finance

[[MGT-358]] International Business (WGS)

[[STE-300]] Study Tour Experience

# **HISTORY MINOR**

## **Requirements**

A minor in History shall consist of a minimum of 18 credit hours in courses offered by the department. The required courses are [[HST-101]] (Historical Foundations of the Modern World), [[HST-125]] (American History I), and [[HST-126]] (American History II).

# HOSPITALITY LEADERSHIP MINOR

## Hospitality Leadership Minor

**Director:** Dr. HyeRyeon Lee

Total minimum number of credits required for a minor in Hospitality Leadership – 18

For majors in other disciplines, The Jay S. Sidhu School of Business and Leadership offers an 18 credit minor in Hospitality Leadership. Students considering careers in or involving aspects of the hospitality profession will find this minor to be an excellent complement to their primary academic and career interests. Courses required to complete the Hospitality Leadership Minor are:

[[HL-201]] – Introduction to Hospitality	3
[[HL-381]] – Hotel Operations Management	3
(OR [[HL-382]] – Food and Beverage Management)	3
[[HL-325]] – Service Marketing	
[[HL-462]] – Hospitality Internship	3
AND TWO OF THE FOLLOWING COURSES:	
[[HL-198]] / [[HL-298]] / [[HL-398]] - Topics in Hospitality Leadership	3
[[HL-355]]– Event Management	3
[[HL-385]] – Travel and Tourism Management	3
[[HL-341]] – Hospitality Finance and Revenue Management	3
[[HL-353]] – Customer Relations for the Hospitality Industry	
[[SM-355]] – Facility Management	3
[[SM-201]] – Introduction to Sports Management	3
[[SM-325]] – Sports Marketing	3
[[MKT-328]] – Customer Behavior	3
[[MKT-419]] – Marketing Research and Analytics	3
[[LDR-201]] – Introduction to Leadership	3
[[MGT-356]] – The Social Responsibility of Business	3
[[SUS-401]] – Introduction to Sustainability	3

# INTERNATIONAL RELATIONS MINOR

## Requirements

A minor in International Relations consists of 18 hours, including [[ANT-102]], [[PS-141]], and [[PS-151]], which all students must complete.

In addition, the International Relations minor must complete 9 hours from the courses listed below from at least two different Content Areas.

<b>Content Area I: Political Science Credits</b>		
[[PS-251]]	European Politics	3
[[PS-252]]	Changing Face of Eastern Europe	3
[[PS-255]]	Political Economy of Coffee	3
[[PS-350]]	Comparative Politics	3

<b>Content Area II: History</b>		
HST-328	History of the Foreign Policy of the US	3
HST-341	History of Great Britain	3
HST-342	The British Empire and Commonwealth	3
HST-345	History of Northeastern Europe	3
HST-346	History of the Balkans	3
HST-348	History of Russia	3
HST-356	Europe, 1900–1960	3
HST-357	The World Since 1945	3
HST-376	World War II	3

<b>Content Area III: Languages</b>		
[[SP-101]]	Elementary Spanish	3
[[SP-101]]	Elementary Spanish	3
[[SP-203]]	Intermediate Spanish	3
[[SP-204]]	Intermediate Spanish	3
[[SP-205]]	Conversation	3
[[SP-206]]	Advanced Grammar,	3

	Stylistics, & Composition	
[[SP-208]]	Culture and Civilization	3
[[SP-209]]	Latin American Culture & Civilization	3
[[SP-210]]	Spanish for Business	3
[[SP-211]]	Conversational Spanish for Health & Social Services	3
[[SP-212]]	Non-Literary Translation	3
[[SP-220]]	Spanish Listening & Comprehension	3
[[SP-301]]	Introduction to Latin American Culture	3
[[SP-307]]	Survey of Spanish Literature I	3
[[SP-308]]	Survey of Spanish Literature II	3

# **LEADERSHIP MINOR**

## **Leadership Studies Minor**

**Director:** Dr. Kedir A. Tessema

Total minimum number of credits required for a minor in Leadership Studies – 18

The current generation of college students will be responsible for dealing with a growing leadership crisis and finding solutions to some of the most difficult problems of our time. Challenges facing society include economic polarity, dramatic demographic changes, as well as issues of natural resources and energy, national security, foreign diplomacy, international conflict, and economic instability, to name just a few. Leadership education has the potential to transform and develop the current generation of college students into future leaders of tomorrow. The Leadership Studies Minor, offered in the Sidhu School of Business and Leadership, is an interdisciplinary, academic and applied program of study that focuses on the fluid process and components of the interaction between leaders and followers in a particular context. Students from all majors will have an opportunity to learn about leadership, while preparing to take an active leadership role in their future career.

There are a number of benefits for students choosing to complement their major with a minor in Leadership Studies. Research suggests that undergraduate leadership education can impact a student's personal/professional skills, increase self-confidence, increase interpersonal skills, and make students more effective decision makers, conflict negotiators, and goal setters. The Leadership Studies minor aims to improve a student's self awareness, develop stronger personal values, increase communication effectiveness, and increase a student's organizational skills.

Additionally, the Leadership Studies minor can increase a student's likelihood to be involved with community action programs and more willing to serve others. Research on leadership education supports the notion that students in leadership programs are more committed to developing leadership in others and are more willing to promote understanding across racial and ethnic groups. Students taking the minor in Leadership Studies will learn how to become effective social change agents at the institutions where they learn, the organizations where they work, and the communities where they live. Finally, these increased competencies and skills not only serve the personal needs of each student, by developing a well rounded individual, it also helps a student's marketability in pursuing jobs after college.

### **REQUIREMENTS FOR THE LEADERSHIP STUDIES MINOR (18 credits total)**

**Each student with a minor in Leadership Studies must complete the following 9 credits:**

[[LDR-201]]: Introduction to Leadership

[[LDR-202]]: Organizational Design and Development

[[LDR-461]]: Capstone in Business and Leadership or  
[[LDR-356]] Self, Interpersonal and Group Leadership or  
[[ENT-252]]: Entrepreneurial Leadership

**Each student with a minor in Leadership Studies must complete 3 more courses from the following, or any relevant courses (should be approved by the program coordinator), a total of 9 credits:**

Any ENT courses

[[LDR-398]]: Understanding Leadership through Film

[[HL-353]]: Human Resource Management in the Service Industry

[[MGT-251]]: Management of Organizations and People

[[MGT-354]]: Organizational Behavior

[[PS-221]]: Introduction to Public Administration

[[PS-311]]: The American Presidency

[[PSY-242]]: Personality

[[COM-301]]: Persuasion

# LEGAL STUDIES MINOR

## Requirements

### Legal Studies Minor

**Coordinator:** Dr. Kyle L. Kreider

A minor in Legal Studies requires 18 credits and that the student take [[PS-232]]: Criminal Law and [[PS-233]]: Law and Society, plus an additional 12 credits in at least two academic disciplines, consisting of the below possible courses:

### Political Science

[[PS-226]] Environmental Policy	3
[[PS-242]] International Law and Organizations	3
[[PS-298]] The Politics of the U.S. Supreme Court	3
[[PS-331]] The Constitution and the Federal System	3
[[PS-332]] Civil Rights and Civil Liberties	3

### History

[[HST-370]] Introduction to Legal History	3
[[HST-371]] The History of Public International Law	3

### Business

[[BA-335]] Law and Business	3
[[BA-336]] Advanced Topics in Business Law	3
[[BA-337]] Legal Aspects of Sport	3
[[HL-356]] Hospitality Law and Ethics	3

### Philosophy

[[PHL-122]] Introduction to Symbolic Logic	3
[[PHL-334]] Philosophy Law	3

### Psychology

[[PSY-355]] Forensic Psychology	3
---------------------------------	---

### Sociology

[[SOC-201]] Introduction to Criminal Justice	3
[[SOC-252]] Race, Class, Gender, and Crime	3

[[SOC-298]] Contemporary Issues in Crime and Justice	3
--	---

### English

[[ENG-228]] Professional and Workplace Writing	3
[[ENG-308]] Rhetorical Analysis and Nonfictional Prose Analysis	3

### Communication Studies

[[COM-201]] Advanced Public Speaking	3
[[COM-204]] Argumentation and Debate	3
[[COM-301]] Persuasion	3

Note: Students are required to take any prerequisite needed for any Legal Studies-eligible course.

# MANAGEMENT MINOR

## Management Minor

**Coordinator:** Dr. Ruth Hughes

Total number of credits required for a minor in Management - 18

For majors in The Jay S. Sidhu School of Business and Leadership an 18-credit minor in Management is available.

**The following Minor requirements are only available to students with majors inside the Sidhu School:**

Students intending to minor in MANAGEMENT should take the following three courses...

- BA 152 or BA 153
- MGT 251. Management of Organizations and People or ENT 201. The Nature and Essence of Entrepreneurship (ENT majors only)
- MGT 354. Organizational Behavior

...and three additional courses from the following:

- (1) two Management courses from the list below, and
- (2) one Leadership course

### Requirements for the Management Minor (18 credits total) Credits (12 additional credits total)

[[ENT-384]] Small Business Consultancy	3
[[MGT-209]] Technical Business Reports	3
[[MGT-251]] Management of Organizations and People	3
[[ENT-201]] The Nature and Essence of Entrepreneurship	3
[[MGT-257]] Management Information Systems	3
[[MGT-301]] Project Management	3
[[MGT-352]] Production and Operations Management	3
[[MGT-353]] Human Resources	3
[[MGT-354]] Organizational Behavior	3
[[MGT-356]] Social Responsibility of Business	3

# MARKETING MINOR

## Marketing Minor

**Coordinator:** Dr. Ge Grace Xiao

Total minimum number of credits required for a minor in Marketing – 18

For majors in other disciplines, The Jay S. Sidhu School of Business and Leadership offers an 18 credit minor in Marketing. Students considering careers in or involving aspects of the marketing profession will find the Minor in Marketing an excellent complement to their primary academic and career interests. All students seeking the Minor in Marketing will be required to complete a minimum of eighteen (18) credits from the following list of courses:

[[MKT-221]] - Marketing	3
<b>Plus, 15 credits of marketing or marketing related courses from the following list</b>	<b>15</b>
[[MKT-322]] – Integrated Marketing Communication	3
[[MKT-324]] – Retailing	3
[[MKT-326]] – The Selling Process	3
[[MKT-327]] – Seminar in Social Media Marketing	3
[[MKT-328]] – Consumer Behavior	3
[[MKT-357]] – Digital Marketing	3
[[MKT-198]] / [[MKT-298]] / [[MKT-398]] – Topics in Marketing	3
[[MKT-419]] – Marketing Research and Analytics	3
[[MKT-462]] - Marketing Internship	3
[[SM-325]] Sports Marketing	3
[[HL-325]] Service Marketing	3
[[HL-355]] Event Management	3
[[ENT-321]] – Analyzing Market & Competitions	3

# **MATHEMATICS MINOR**

## **Requirements**

### **Mathematics Minor**

A minor in Mathematics requires the completion of a minimum of 20 credits, consisting of the following courses:

#### **Credits**

[[MTH-111]] – Calculus I 4

[[MTH-112]] – Calculus II 4

Any two MTH courses numbered 300 or higher, excluding [[MTH-302]], [[MTH-303]], [[MTH-391]], and [[MTH-392]] 6-8

#### **and**

two of the following courses (electives): 6-8

[[MTH-211]]

[[MTH-212]]

[[MTH-214]]

[[MTH-231]]

[[MTH-232]] or [[MTH-302]]

**Minimum total credits required for a minor in Mathematics: 20**

# MUSIC MINOR

## Requirements

Total minimum number of credits required for a minor in music  
— 18

The music minor program at Wilkes University offers a range of musical experiences, including participation in performing ensembles, studies in music history, and studies in music theory.

The required courses for the minor in music are as follows:

<b>Performance: 6 credits</b>
Choose from the following courses:
[[MUS-121]] Civic Band (3 credits) (repeatable)
[[MUS-125]] University Chorus (0 - 3 credits) (repeatable)
[[MUS-127]] Jazz Ensemble (3 credits) (repeatable)
[[MUS-132]] Chamber Orchestra (3 credits) (repeatable)
<b>Music Theory: 3 credits</b>
[[MUS-103]] Music Theory I (3 credits)
<b>Music History: 6 credits</b>
[[MUS-210]] Music History I (3 credits)
[[MUS-211]] Music History II (3 credits)
<b>Music Elective: 3 credits</b>
Any non-performance ensemble class at the level of MUS 104 or higher. Possible classes include, but are not limited to:
[[MUS-104]] Music Theory II (3 credits)
[[MUS-198]] Topics in Music Theory or Music History (1 - 3 credits)
[[MUS-298]] Topics in Music Theory or Music History (1 - 3 credits)
[[MUS-395]] Independent Research, Music Theory or Music History (1 - 3 credits)

## Music Practice Rooms

A limited number of music practice rooms are available in Dart Hall. These rooms are generally reserved for those students majoring in Theatre Arts or Musical Theatre and those participating in ensembles or taking private music instruction within the Performing Arts Division or the Wilkes Community Conservatory. Because of the heavy enrollment in these courses, the University is unable to make these rooms available to students who are not enrolled in these curricular offerings.

Students who are eligible to use these rooms are assigned a key for the practice room through the Division of Performing Arts Office. Since more than one student is assigned to a practice room, it is expected that students will cooperate and work out compatible practice times. Failure to return the key to the practice room at the conclusion of the semester will result in a block being placed on the student's record that precludes

the release of the official transcript of work undertaken at the University.

# NEUROSCIENCE MINOR

## Requirements

### Neuroscience Minor

**Coordinator:** Dr. Edward Schicatano

The Departments of Psychology and Biology offer an interdisciplinary minor in Neuroscience. The Neuroscience minor provides students with a basic science background, emphasizing a broadly based, yet integrated, approach to understanding the neural mechanisms controlling human or animal behavior. The program is designed to prepare students who are interested in studying any of the following fields: neuroscience, pharmacology, and medicine. To earn a minor, students must complete at least 28 credits in the courses listed below.

### Required Courses for the Minor in Neuroscience

Course No.	Course Title	Credits
PSY 101	General Psychology	3
PSY 200	Research Design and Statistics	4
MTH 150	Elementary Statistics	3
PSY 311	Behavioral Neuroscience	4
PSY 257	Neuropsychology	3
PSY 359	Psychopharmacology	<b>OR</b>
PHA 450	Neuropharmacology of Drugs of Abuse	3
BIO 121	Principles of Modern Biology I	4
BIO 226	Molecular and Cellular Biology	4
BIO 115	Human Anatomy & Physiology	<b>OR</b>
BIO 321	Mammalian Physiology	<b>OR</b>
PHA 331	Medical Anatomy	<b>AND</b>
PHA 332	Physiology I & II	4

# **PHILOSOPHY MINOR**

## **Requirements**

The minor in Philosophy consists of 18 credit hours, including three credits at the 100-level, [[PHL-203]] (Introduction to Symbolic Logic), and at least six credits at the 300-level.

# PHYSICS MINOR

## Physics Minor

Physics is the study of physical phenomena, including forces, energy, momentum, friction, electricity, electrostatics, magnetism, acoustics, heat, light, and relativity. It is thus the foundation of mechanical, civil, and electrical engineering and also is central to music, sound, and architecture.

Wilkes University offers a minor in Physics, which requires the satisfactory completion of 20 credits, as follows:

Twelve credits of required introductory courses in Physics:

[[PHY-201]] - General Physics	3
[[PHY-204]] - General Physics I Lab	1
[[PHY-202]] - General Physics II	3
[[PHY-205]] - General Physics II Lab	1
[[PHY-203]] - General Physics III	3
[[PHY-206]] - General Physics III Lab	1

### AND

Three credits of required advanced courses selected from the following:

[[PHY-311]] - Thermodynamics and Statistical Mechanics	3
[[PHY-312]] - Analytical Mechanics	3
[[PHY-314]] - Quantum Mechanics	3

### AND

Additional six credits of electives selected from the following:  
(Classes taken in above list may not be duplicated for credit.)

[[PHY-311]] - Thermodynamics and Statistical Mechanics	3
[[PHY-312]] - Analytical Mechanics	3
[[PHY-314]] - Quantum Mechanics	3
[[CHM-351]] – Physical Chemistry I: Quantum and Spectroscopy	3
[[CHM-352]] – Physical Chemistry II: Kinetics and Thermodynamics	3

[[EES-251]] – Synoptic Meteorology	4
[[EES-280]] – Principles of Astronomy	4
[[EE-337]] – Electromagnetics I	3
[[EGR-200]] – Introduction to Materials Science	3
[[ME-231]] – Statics	3
[[ME-321]] – Fluid Mechanics	3
[[ME-322]] – Engineering Thermodynamics	3
[[MTH-361]] – Partial Differential Equations	3
[[MTH-362]] – Advanced Calculus	3
[[PHY-398]] – Topics in Physics	variable

**Minimum total credits required - 20**

# **POLICY STUDIES MINOR**

## **Requirements**

### **Policy Studies Minor**

A minor in Policy Studies requires that the student take the following four Political Science courses and an additional 6 credits in policy courses. These courses may include an offering from outside the Political Science Department, but the course(s) must be approved by an advisor in the Department before taking the course(s).

### **Policy Studies Minor Requirements**

PS 111 Introduction to American Government	3
PS 141 Introduction to International Relations	3
PS 221 Introduction to Public Administration	3
PS 224 Public Policy Analysis	3
PS 298/PS 398 Special Topics (in any policy area)	6

## **POLITICAL SCIENCE MINOR**

### **Requirements**

A minor in Political Science requires 18 credits and that the student take PS 111, 141, 151, 260, plus an additional 6 credits, at least 3 credits of which must be at the 300-level or higher.

# **PSYCHOLOGY MINOR**

## **Requirements**

### **Psychology Minor**

Students who elect to minor in Psychology must complete at least 18 credits of psychology courses. This includes [[PSY-101]] and [[PSY-200]] and at least 12 additional credits in psychology. Students who have completed [[MTH-150]], having satisfied the basic statistics requirement for the minor, may opt to take another PSY course in lieu of PSY 200. Note: [[PSY-309]] does not count toward the psychology minor.

# **PUBLIC HISTORY MINOR**

## **Requirements**

The Minor in Public History consists of [[HST-125]], [[HST-126]], [[HST-211]], [[HST-297]], [[HST-399]], and any two of the following: [[HST-311]], [[HST-312]] or [[HST-325]].

The Certificate in Public History (intended for Post-baccalaureate students) consists of [[HST-297]] or a 300-level history course offered by the department and selected in consultation with Program Director; and either a second 3-credit internship ([[HST-399]]) or an individualized 3-credit capstone project. To enter the Certificate in Public History program, students must have been undergraduate history majors or minors or majored in cognate disciplines (such as Museum Studies, English, and Political Science) and completed the equivalent of both [[HST-125]] and [[HST-126]] (the American History Survey). Potential students who lack [[HST-125]] and/or [[HST-126]] can take those courses concurrently at Wilkes.

# **READING MINOR**

## **Reading Minor**

The 18-credit reading minor is incorporated into the Elementary & Early Childhood Education (PreK-4) program. The minor provides students with a strong literacy foundation. The Reading Minor is comprised of six, three-credit courses. The current sequence of courses offered by the Undergraduate Education Department related to reading pedagogy and literacy are included in the requirements for the 18-credit minor. These courses are:

[[ED-321]] - Literacy Foundations I with Professional Development School Field Hours

[[ED-322]] - Literacy Foundations II with Professional Development School Field Hours

[[ED-323]] - Differentiated Reading Methods

[[ED-324]] - Children's Literature

[[ED-325]] - Applied Reading Strategies with Field Hours

[[ED-341]] - Language Arts in Elementary & Early Childhood Education

# SECONDARY EDUCATION CERTIFICATION

## Required Courses & Recommended Course Sequence for the Minor in Secondary Education

First Semester	Credits
CS 115 – Computers and Applications	3
ED 180 – Educational Psychology	3
ENG 101 – Composition	4
FYF 101 – First-Year Foundations	3
PSY 101 – General Psychology	3
<b>Total Credits</b>	<b>16</b>

Second Semester	Credits
ED 190 – Effective Teaching (40)*	3
ED 191 – Integrating Technology into the Classroom	3
MTH 101 – Solving Problems Using Math	3
Social Science Elective (Distribution Req.)	3
Major Elective	3
<b>Total Credits</b>	<b>15</b>

Third Semester	Credits
EDSP 210 – Teaching Students with Spec. Needs	3
ENG 120 – Introduction to Literature & Culture	3
HST 101 – Historical Foundations of the Modern World	3
Math Elective (2nd MTH required by PDE)	3
Science Elective (Distribution Req.)	3
Major Elective	3
<b>Total Credits</b>	<b>18</b>

Fourth Semester	Credits
ED 220 – Teaching ... Diverse Learners	3
Science Elective (Distribution Req.)	3
Visual & Perform. Arts Elective (Dist. Req.)	3
Major Electives	6
<b>Total Credits</b>	<b>15</b>

Fifth Semester	Credits
EDSP 225 – Teaching Students with High Incidence Disabilities with field experience ( <i>Cross List</i> with EDSP 501)	3
FL or PHL 101, 110	3
Major Electives	9
<b>Total Credits</b>	<b>15</b>

Sixth Semester	Credits
Major Electives	18
<b>Total Credits</b>	<b>18</b>

Seventh Semester	Credits
ED 380 – Content Area Literacy	3
EDXXX – Concentration Methods (40)*	4
Major Electives	9
<b>Total Credits</b>	<b>16</b>

Eighth Semester	Credits
ED 390 – Student Teaching (40)***	12
EDSP 388 – Inclusionary Practices	3
<b>Total Credits</b>	<b>15</b>

NOTE: Since the Education Minor may be pursued in combination with nine different majors (Biology, Chemistry, Earth & Environmental Sciences, English, History, Mathematics, Physics, Political Science, or Spanish), this sequence demonstrates only one way all the required minor courses may be taken. The required academic major courses, which all differ in total credits, and the required sequences of those courses, may be accommodated to pursue the minor in Education. **To ensure completion of the minor in four years, early in their matriculation at Wilkes, students should seek advice from the major advisor as well as from the Coordinator of the Secondary Education program when planning their individual sequence of courses.**

# **SOCIOLOGY MINOR**

## **Requirements**

A minor in Sociology consists of 18 hours, including SOC 101. At least one of the following courses is required: Social Stratification ([[SOC-352]]); Quantitative Reasoning in the Social Sciences ([[SOC-371]]); Sociological Methods ([[SOC-371]]); Sociological Theory ([[SOC-381]]).

The department offers [[SOC-393]] (Practicum) and [[SOC-399]] (Cooperative Education), a supervised practical field experience in a professional setting designed for Sociology minors. The hours earned in Cooperative Education or Practicum may not, however, be applied toward the 18 hours of course work required for the minor.

## **SPANISH MINOR**

### **Requirements**

Students may elect to minor in Spanish. A minor in Spanish consists of 18 credit hours beyond [[SP-102]] (Elementary Spanish II). Study abroad is encouraged.

# **SPORT PSYCHOLOGY MINOR**

## **Sport Psychology Minor**

The sport psychology minor at Wilkes University will provide you with a unique opportunity to learn psychological performance enhancement techniques while also exploring how individuals can perform at peak skill levels in athletics.

Coursework will address common issues faced by athletes in all sports. These include anxiety, stress and anger management, as well as drug and alcohol abuse and relationship difficulties.

As a sport psychology minor, you will take 18 credits, including these core courses:

[[PSY-101]] – General Psychology[[PSY-242]]  
– Personality[[PSY-266]] – Peak Performance  
Coaching[[PSY-352]] – Abnormal Psychology[[SM-261]] –  
Sport Psychology  
[[SOC-261]] / [[EC-298]] – The Sociology of Sports/  
The Economics of Sports, [[SM-201]] – Intro to Sports  
Management, [[PSY-353]] Clinical Methods in Psychology, or  
[[PSY-399]] Cooperative Education

Seventh Semester  
Elective  
Major Requirements  
General Education Requirements

Eighth Semester  
Elective  
Major Requirements  
General Education Requirements

## **Recommended Course Sequence**

### Sports Psychology Coursework Sequence

#### First Semester

[[PSY-101]] - General Psychology  
Major Requirements  
General Education Requirements

#### Second Semester

[[SM-261]] - Sport Psychology  
Major Requirements  
General Education Requirements

#### Third Semester

[[PSY-266]] - Peak Performance Coaching  
Major Requirements  
General Education Requirements

#### Fourth Semester

[[PSY-242]] - Personality  
Major Requirements  
General Education Requirements

#### Fifth Semester

[[PSY-352]] - Abnormal Psychology  
Major Requirements  
General Education Requirements

#### Sixth Semester

[[SOC-261]] The Sociology of Sports / The Economics of  
Sports, [[SM-201]] - Intro. to Sports Management,  
[[PSY-353]] - Clinical Methods in Psychology, or [[PSY-399]] -  
Cooperative Education (Choose One).  
Major Requirements  
General Education Requirements

# SPORTS MANAGEMENT MINOR

## Sports Management Minor

**Coordinator:** Dr. Woojun Lee

For majors in other disciplines, The Jay S. Sidhu School of Business and Leadership offers an 18-credit minor in Sports Management.

### Total number of credits required for a minor in Sports Management - 18

[[SM-201]] – Introduction to Sports Management	3
[[SM-325]] – Sports Marketing	3
[[SM-341]] – Sport Finance and Economics	3
[[SM-462]] – Sports Management Internship	3

### And 2 of the following courses:

[[SM-261]] - Sport Psychology	3
[[SM-355]] - Facility Management	3
[[SM-203]] – Sport Communication & Media	
[[SM-298]] - Management of Athletics	3
[[SM-358]] - Global Sport Business	3
[[COM-302]] - Fundamentals of Public Speaking	3
[[COM-303]] - Organizational Communication	3
[[HL-201]] – Introduction to Hospitality	3
[[HL-353]] – Human Resource Management in the Service Industry	3
[[HL-355]] – Event Management	3
[[LDR-201]] – Introduction to Leadership	3
[[MKT-322]] – Integrated Marketing Communication	3
[[MKT-328]] - Consumer Behavior	3
[[MKT-419]] - Marketing Research and Analytics	3

# **STATISTICS MINOR**

## **Requirements**

### **Statistics Minor**

In a wide range of sciences, both natural and social, statistical analysis is of major importance both in conducting research and in understanding its findings. Likewise, in governmental planning and industrial management, statistical methods are a necessary tool and constitute a major application of mathematics and computing. The minor in Statistics is intended to support work in a major either in another mathematical science or in a number of other disciplines.

### **Credits**

[[CS-125]] – Computer Science I 4

[[MTH-111]] – Calculus I and 4

[[MTH-112]] – Calculus II 4

[[MTH-351]] – Probability and Mathematical Statistics I 3

[[MTH-352]] – Probability and Mathematics Statistics II 3

[[MTH-354]] – Statistical Methodology 3

**Minimum total credits required for a minor in Statistics: 21**

## **STUDIO ART MINOR**

### **Requirements**

The minor in Studio Art requires a total of 18 credit hours in studio art courses, with no more than 6 credits in art history.

# SUPPLY CHAIN MANAGEMENT MINOR

## Supply Chain Management Minor

**Coordinator:** Dr. Ruth Hughes

The Jay S. Sidhu School of Business and Leadership offers a 19-credit minor in Supply Chain Management.

### Requirements for the Supply Chain Management Minor Credits

<b>Students will need to complete the following courses:</b>	
[[BA-119]] Data Analysis in Excel	3
[[SCM-201]] Intro. to Supply Chain Management	3
[[MGT-352]] Operations Management	3
<b>Students will also need to complete four of the following courses in advanced Supply Chain Management:</b>	
[[MGT-301]] Project Management	3
[[MKT-357]] Global eBusiness	3
[[SCM-251]] Logistics & Transportation Management	3
[[SCM-257]] Supply Chain Info. Systems	3
[[SCM-351]] Inventory Management & Control	3
[[SCM-352]] Quality Management	3
[[SCM-358]] Global Supply Chain Management	3
[[SCM-463]] Research in Supply Chain	3
[[SCM-198]] / [[SCM-298]] / [[SCM-398]] Topics	3

# SUSTAINABILITY MANAGEMENT

## Sustainability Management Minor

Sustainability Management Minor Course Offerings  
Students must select from the following list to satisfy the requirements for the minor in Sustainability Management.

Course	Credits
[[SUS-401]] Introduction to Sustainability*	3
[[SUS-402]] Metrics of Sustainability*	3
[[SUS-403]] Sustainability Implementation*	3
[[SUS-404]] Industry-focused Sustainability*	3
[[EES-105]] Planet Earth-The Global Environment**	3
[[HL-353]] Human Resource Management in the Service Industry	3
[[HL-355]] Event Management	3
[[MGT-298]] Introduction to Supply Chain Management	3
[[MGT-352]] Production and Operations Management	3
[[SM-355]] Facility Management	3
[[EES-210]] Global Climate Change	3
[[EES-240]] Principles of Environmental Engineering and Science	3
[[ENV-305]] Solid Waste Management	3
[[ENV-330]] Water Quality	4
[[ENV-332]] Air Quality	3
ENV-TE Engineering Technical Elective***	3

\*Required

\*\*Non CEE students only

\*\*\*Required approval by Sustainability Management minor coordinators

### GUIDELINES AND STIPULATIONS

Course offerings are subject to change.

# THEATRE ARTS MINOR

## Requirements

A minor in Theatre Arts consists of 18 hours, including THE 121 (Stagecraft), a course that all students must complete. In addition, the Theatre Arts minor must complete at least five courses from the prescribed list of Theatre electives.

<b>Required courses for a minor in Theatre Arts:</b>		
THE 121	Stagecraft	3 cr.

<b>Electives (select five of the following courses):</b>		
[[THE-131]]	Acting I	3 cr.
[[THE-132]]	Voice & Diction I	3 cr.
[[THE-211]]	Theatre History I	3 cr.
[[THE-214]]	Script Analysis	3 cr.
[[THE-216]]	Design for the Theatre	3 cr.
[[THE-232]]	Acting II	3 cr.
[[THE-234]]	Directing I	3 cr.
[[THE-311]]	Theatre History II	3 cr.
[[THE-321]]	Scenic Design	3 cr.
[[THE-334]]	Directing II	3 cr.

# **WOMEN'S AND GENDER STUDIES MINOR**

## **Interdisciplinary Minors**

### **Global Cultures Minor**

Advisor: Dr. Gina Zanoloni Morrison

The Global Cultures Minor serves as a foundation for undergraduate students with an interest in cultures and an aim of informing their major courses of study with cultural knowledge. In close consultation with the Global Cultures (GC) Advisor, students will plan a coherent course of study that allows the construction of a unique curriculum leading to a focus in one global culture or a related issue, with the intention of integrating that knowledge into their career plans upon graduation or furthering their knowledge in this area through formal graduate studies.

The Minor in Global Cultures requires 18 credit hours, including [[GC-301]] Global Cultures: Issues and Perspectives and at least 1, but no more than 2, foreign language courses at any level. In addition, students will choose 5 courses from among the GC-approved courses listed below or any course with a study abroad component. Students are also encouraged to select appropriate special topics courses according to area of interest, in consultation with the GC Advisor. Students cannot count more than two courses with the same designation toward the GC Minor without approval of the GC Advisor.

### **Women's and Gender Studies**

Director: Dr. Jennifer Thomas

Women's and Gender Studies Coordinating Committee:

Dr. Robert Bohlander, Psychology; Dr. Barbara Bracken, Mathematics; Dr. Mia Briceño, Communication Studies; Dr. Helen Davis, English; Dr. Maria Grandinetti, Nursing; Dr. Andreea Maiercan, Political Science; Dr. Ellen Newell, Psychology; Heather Sincavage, Integrative Media, Art and Design; Dr. Amy Sopcak-Joseph, History; Dr. Wagih Taylor, Sidhu School of Business; Dr. Jennifer Thomas, Psychology; Dr. Robert Tuttle, Sociology; Dr. Andrew Wilczak, Sociology; Dr. Linda Winkler, Anthropology

Total minimum number of credits required for a minor in Women's and Gender Studies — 18.

The Women's and Gender Studies Program at Wilkes University welcomes students interested in the study of women, gender, sexuality, and feminism. This interdisciplinary program offers courses in a wide range of subject areas in the Social Sciences, Humanities, Sciences, and Contemporary Arts.

The Women's and Gender Studies Minor focuses on expanding traditional scholarship by studying the ways in which gender has structured intellectual and social traditions. The minor is designed to add a professionally and personally valuable concentration for students majoring in such areas as business, sociology, English, communications, psychology,

and nursing, as well as for students in pre-medical and pre-law courses of study.

Students may earn the minor by taking Women's Studies 301 ([[WS-301]]) in their junior or senior year and an additional 15 hours of designated Women's and Gender Studies eligible courses. Students are additionally required to complete a capstone research project that addresses gender as a category of analysis in the Women's Studies 301 course.

It is expected that students will have completed several Women's and Gender Studies eligible courses before enrolling in Women's Studies 301.

Students who wish to declare the minor in Women's and Gender Studies should contact the Director of Women's and Gender Studies Program.

Minors are also available in a variety of other fields including, but not limited to, Aerospace Studies, Art, Computer Engineering, Criminology, Dance, International Studies, Music, Neuroscience, Policy Studies, and Statistics. See the appropriate sections in this bulletin for details about these areas of minor study.

# OTHER

## ARMY MILITARY SCIENCE

### Army ROTC (Military Science)

CHAIRPERSON: MAJOR WILLIAM WHITE

#### Faculty

Professor: Captain David Sherman

Professor: Mr. Bill Ramsey

Assistant Professor: Sergeant First Class Steven Rice

Wilkes University offers students the opportunity to participate in Army ROTC at nearby King's College through the Northeast Pennsylvania Officer Training Corps Battalion. The classes are conducted at nearby King's College, a five-minute walk north on Franklin Street from Wilkes University. Students who participate in this program do so without penalty to their full-time academic status at Wilkes University.

The primary objective of the Army Reserve Training Program is to develop leadership capabilities in students and to train future officers for the active Army, US Army Reserve, and the Army National Guard.

Army ROTC is a flexible program that can be tailored to the individual student's schedule, particularly in the freshman and sophomore years. Military Science instruction is offered at King's College with both two- and four-year programs leading to a commission as an officer in one of the three components of the United States Army.

To obtain a commission, qualified male and female students must pass a physical examination and complete either the two- or four-year program of Military Science courses. Students normally take one course per semester during their four-year course of study.

All students receiving ROTC scholarships, as well as juniors and seniors and some sophomores participating in Army ROTC, are contracted with the Army and receive a monthly stipend. The stipend is \$420 per month for up to 10 months a year. The stipend is paid directly to the student each month that the student is in school.

The Army ROTC Department provides all uniforms, equipment, and textbooks required for the classes. In addition to the academic classes, students may also participate on a voluntary basis in many additional training opportunities such as physical training and hands-on equipment training each week. Each semester there is a military social event at least one optional weekend training session that includes such events as military marksmanship, cross country orienteering, military rappelling, leadership application courses, and obstacle and confidence courses. During breaks and vacations, students may volunteer for active army training in such areas as military parachute operations, helicopter operations, military mountain climbing, and training with active Army units in the United States and overseas. All training is cost-free to the student, and students are paid for some summer training courses.

The ROTC program consists of two programs: 1) the Basic Course, normally given during the freshman and sophomore

years and comprising [[MIL-211]], [[MIL-212]], [[MIL-221]], and [[MIL-222]], and 2) the Advanced Course, normally taken during the junior and senior years and comprising [[MIL-231]], [[MIL-232]], [[MIL-241]] and [[MIL-242]]. [[MIL-251]]/[[MIL-252]] are taken each year in both the Basic and Advanced Courses.

Students who have completed basic training in any U.S. service may qualify for placement in the Advanced Course. Additionally, students who have not completed the ROTC Basic Course may qualify for the Advanced Course by attending a paid four-week Leadership Training Course conducted at Fort Knox, Kentucky.

Freshman and sophomore students may compete for two-, three-, and four-year ROTC scholarships that pay full tuition and up to \$1200 per year for books. The Army will commission graduates as second lieutenants with a starting salary of over \$53,000 per year, plus medical and dental benefits and 30 days paid vacation per year.

For more information on the Army ROTC program at Wilkes University, contact the Army ROTC Department at 570-208-5900, ext. 5305.

#### Basic Course

The Basic Course constitutes a two-year program for freshmen and sophomores and is designed to provide a basic level of military knowledge and a general knowledge of roles, organization, missions, and basic leadership techniques. The program consists of two one-credit and two two-credit courses. Students enrolled in the Basic Course who are not receiving Army ROTC scholarships incur no military obligations.

#### Army ROTC Basic Course

#### Required Courses and Recommended Course Sequence

##### First Semester Credits

[[MIL-211]] Concepts of Leadership I	1
[[MIL-251]] Leadership Laboratory	0
[[MIL-100]] Physical Fitness Training	1
	2

##### Second Semester

[[MIL-212]] Concepts of Leadership II	1
[[MIL-252]] Leadership Laboratory	0
[[MIL-100]] Physical Fitness Training	1
	2

##### Third Semester

[[MIL-221]] Dynamics of Leadership I	2
--------------------------------------	---

[[MIL-251]] Leadership Laboratory	0
[[MIL-100]] Physical Fitness Training	1
	3

Fourth Semester

[[MIL-222]] Dynamics of Leadership II	2
[[MIL-252]] Leadership Laboratory	0
[[MIL-100]] Physical Fitness Training	1
	3

Army ROTC is a flexible program and variations of this schedule are possible. Sophomores and second-semester freshmen with no prior military experience may enroll in more than one basic level class under the ROTC Compressions Program. Students who have not completed the basic courses and have at least two years remaining until graduation may still apply for entry into the Advanced Course, but must qualify for advanced placement credit.

Advanced Course

Consists of two two-credit and six one-credit courses open to students who have three or four semesters of college remaining. Course credit values are shown with each course.

Army ROTC Advanced Course

Required Courses and Recommended Course Sequence

Fifth Semester

[[MIL-100]] Physical Fitness Training	1
[[MIL-231]] Military Leadership I	2
[[MIL-251]] Leadership Laboratory	0
	3

Sixth Semester

[[MIL-100]] Physical Fitness Training	1
[[MIL-232]] Military Leadership II	1
[[MIL-252]] Leadership Laboratory	0
	2

Seventh Semester

[[MIL-100]] Physical Fitness Training	1
[[MIL-241]] Advanced Military Leadership I	2

[[MIL-251]] Leadership Laboratory	0
	3

MIL 251 & 252 (Leadership Laboratory) and MIL 100 (Physical Fitness Training) are mandatory for all cadets enrolled in the Army ROTC Advanced Course as well as ROTC scholarship recipients and must be taken con-currently with each Military Leadership course.

# BIOENGINEERING 4 + 1

## Bioengineering 4 + 1

The 4 + 1 Bioengineering Program is an accelerated master's program that allows undergraduate students to earn a master's degree in bioengineering one year after successful completion of a bachelor's degree in Biology, Biochemistry, Electrical Engineering or Mechanical Engineering. With careful planning and consultation with your faculty advisor, you will take master's-level bioengineering courses as an undergraduate. When you complete your undergraduate degree, you will automatically proceed into your fifth year as a graduate student in the MS Bioengineering Program to complete the 36 credit hour requirement. The Program has two tracks, Biomedical Engineering and Synthetic Biology, which are discussed in more detail below. Additional details are found in the MS BEGR website.

Students will work with expert faculty in the fields of medical device design, imaging systems, bioengineering and synthetic biology technologies. Guided by faculty mentors, bioengineering students benefit from hands-on, research-intensive experiences unparalleled at other institutions in the region. Lab and classroom instruction includes training in cell and molecular techniques, bioinformatics, 3-D imaging and design software, and instrumentation and other simulation technologies.

Many students will complete their 4+1 master's program in bioengineering in the year after completing their undergraduate degree, although some students may need an extra semester in a summer session. If a student takes longer than 1 year plus a summer, the student could be removed from the 4+1 program and be placed into the normal MS-BEGR Program, meaning that additional coursework may be required.

### Admissions Requirements and Applications

Students must:

- Apply and be accepted to the 4 + 1 program before the start of their junior year and before they begin to take any bioengineering master's degree courses. Students who wish to apply must request, complete and send the application to the graduate engineering admissions counselor, who will assist with the application process (applicants might be requested to provide letters of recommendation);
- Choose either the biomedical engineering (BMED) or synthetic biology (SynBio) track and work with the track's program director as their primary or secondary advisor;
- Take required bioengineering courses at the master's level as undergraduates;
- Earn a grade-point average of 3.0 or higher in each of their bioengineering courses;
- Maintain a 3.0 grade-point average in the bioengineering program;
- Complete their master's degree thesis in their 5th year;
- Strive to complete their undergraduate degree in four years.

### Biomedical Engineering Track

Biomedical Engineering is the application of Engineering, Mathematics, and Physics to solve healthcare problems. Biomedical engineers design artificial limbs, joints, tissues and organs. They also design and build diagnostic equipment, monitoring devices and drug delivery systems, gather information on devices and work on software and automation for biomedical and biotechnological purposes.

Mechanical and Electrical Engineering students who meet all of the 4 + 1 program requirements will automatically be accepted into the biomedical engineering track of the bioengineering master's program.

### Synthetic Biology Track

Synthetic Biology is the application of Biology, Chemistry, and Physics to solve healthcare problems. Synthetic biologists create biological molecules, systems or even entire organisms, which are useful for medical applications or performing unique functions, such as detecting or detoxifying biohazardous chemicals.

Biology and Biochemistry students who meet all of the 4 + 1 program requirements will automatically be accepted into the cell/metabolic engineering track of the bioengineering master's program.

# **CANNABIS AND CBD EXTRACTION**

## **Certificate In Cannabis and CBD Extraction**

The rapid growth and acceptance of both medical and recreational uses of cannabis will create a demand for persons with expertise in various aspects of the industry. This would include chemists, horticulturalists, medical practitioners, marketers, and pharmacists. Because cannabis is a federally controlled substance, there will also be a demand for people who understand the legal implications of its use. The certificate will enhance the employment opportunities for students who are currently enrolled at the university and also facilitate recruitment of professional students into the program. These students will be both part-time or fulltime status.

### Course Plan:

#### Fall:

[[PHA 461]] – Cannabis Law and Policy (1 Credit) (Cross-listed with [[PHS 461]])

[[PHA 462]] – Hemp Biology and Physiology of Hemp (3 Credits) (Cross Listed with [[BIO 363]] and

[[PHS 462]] Lab (1 Credit)

[[PHA 465]] - Therapeutics of Medicinal cannabis (3 Credits)  
Cross Listed with [[PHS 462]]

#### Spring

[[PHA 463]] - Cannabis and Cannabinoids (3 Credits) (Cross Listed with PHS 463)

This course will include history of cannabis, taxonomy, pharmacology and pharmacokinetics, and toxicology.

[[PHA 464]] – CBD Analysis and Extraction Lab (2 Credits)  
(Cross Listed with Chemistry Advanced

Separations Chemistry and Cross Listed with [[PHS 464]]

#### Fall or Spring

[[PHA 466]] – Capstone Research (3 Credits) Cross Listed with [[PHS 466]]

# **CREATIVE WRITING 4 + 1**

## **Creative Writing 4 + 1**

Undergraduate students at Wilkes University or at our partner institutions hoping to attend a graduate program in creative writing after graduation may "double count" 9 credits of undergraduate and graduate instruction as a way of saving one semester's tuition in the Wilkes MA program. Qualified students would take [[CW-501]]R, the introductory residency, in person, followed by any two of the following online Foundations courses (3 credits each) during their senior year:

[[CW-502]] Writing Fiction

[[CW-503]] Writing Poetry

[[CW-504]] Writing Screenplays

[[CW-505]] Writing Plays

[[CW-506]] Writing Nonfiction

Upon completion of these courses the undergraduate may apply for admission into the Wilkes graduate program with one semester's worth of transfer credit. Such students must meet all the same requirements as all other applicants in terms of demonstrated talent, ability, and dedication. Using the BA/MA (4+1) option, students will be able to complete the M.A. in a single year.

Please contact the program administrators at 570-458-4547 for further information.

# ETHICS CONCENTRATION

## Requirements

The Concentration in Ethics consists of 12 credit hours, including:

1. [[PHL-101]] Introduction to Philosophy, [[PHL-110]] Introduction to Ethical Problems, [[PHL-114]] Introduction to Bioethics, or [[PHL-115]] Business Ethics, and
2. Three courses from among the following:
  - [[PHL-216]] Violence and Nonviolence,
  - [[PHL-217]] Animal Minds, Animal Lives,
  - [[PHL-218]] Environmental Ethics,
  - [[PHL-242]] The Meaning of Life,
  - [[PHL-246]] Happiness and the Good Life,
  - [[PHL-310]] Ethical Theory,
  - [[PHL-312]] Virtues & Vices in Life and Literature,
  - [[PHL-314]] Advanced Topics in Bioethics,
  - [[PHL-316]] Moral Psychology, or
  - Special topics courses ([[PHL-298]] or [[PHL-398]]) as appropriate.

# GEOGRAPHIC INFORMATION SCIENCE (GISCIENCE), CERTIFICATE

## Certificate in Geographic Information Science (GIScience)

**Program Director:** Bobak Karimi, Ph.D.

The Certificate in Geographic Information Science (GIScience) at Wilkes University is designed so that students can gain knowledge and skills using up-to-date techniques to solve real-world geospatial problems. Courses are designed to be offered online, or as hybrid/hybrid-flexible, with hands-on and experiential learning at the core of the curriculum. Contextual learning is to be encouraged by elective courses.

The Certificate in GIScience is constructed around GISP certification using the Geographic Information Systems Certification Institute's (GISCI) technical knowledge exam content as a roadmap for additional course/content.

To earn the certificate students must complete the following course series:

**INTRODUCTORY TRACK** (15 credits; minimum of 2.0 required in all courses; see table for curriculum)

This track is designed for current and/or aspiring geospatial specialists who want to become well-versed in Geographic Information Science (GIScience) and skillful users of software and technology relevant to Geographic Information Systems (GIS). This track is suitable for students enrolled in a baccalaureate program at Wilkes University, or elsewhere, as well as industry and community participants with no baccalaureate degree. NOTE: GIS-271 is listed as a general education Area II course. It is 3-credits and has a lab. Students currently enrolled at Wilkes University full-time can take this course towards satisfying Area II requirements. All GIS courses are listed as computer intensive (CI) courses. Students currently enrolled at Wilkes University full-time can take any two CI courses in place of computer science general education requirements – per general education guidelines. Students would need to have this deviation from their normal curriculum approved by the chair of their home department.

- [\[\[GIS-271\]\]](#) - Introduction to GPS & GIS
- [\[\[GIS-272\]\]](#) - Advanced GIS & Remote Sensing
- [\[\[GIS-301\]\]](#) - GIS Applications & Colloquia
- Electives

Course	Course Title	Short Description	Credits	Modality	Activity Hours
<a href="#">[[GIS-271]]</a> (CI)	Introduction to GPS & GIS	Theory and practice of GPS and fundamentals of GIS	3	Hybrid	3

<a href="#">[[GIS-272]]</a> (CI)	Advanced GIS & Remote Sensing	Advanced GIS topics including geostatistics, surface analysis and 3D modeling, and basics of Remote Sensing. Prerequisite: <a href="#">GIS-271</a> , or permission from the instructor.	3	Hybrid	3
<a href="#">[[GIS-301]]</a> (CI)	GIS Applications	Learning to solve real-world problems with GIS. Prerequisite: <a href="#">GIS-272</a> , or permission from the instructor.	3	Hybrid-Flex	3
Electives	Elective Courses	<a href="#">[[GIS-298]]</a> <a href="#">[[GIS-398]]</a> – Topics in GIScience (3 cr.; CI) <a href="#">[[GIS-310]]</a> – GIS Prog. and Custom. (3 cr.; CI) <a href="#">[[GIS-315]]</a> – Web GIS (3 cr.; CI) <a href="#">[[GIS-320]]</a> – Intro. to Geospatial Modeling (3 cr.; CI) <a href="#">[[EES-261]]</a> –		Varies	Varies

	Regional & Human Geography (3 cr.) [[BA-419]] – Quanti. Decision Making (3 cr.) [[MGT-352]] – Prod. And Operations Manag. (3 cr.) [[MKT-357]] – Global eBusiness (3 cr.)			
--	---	--	--	--

**ADVANCED TRACK** (15 credits; minimum of 2.0 required for all courses; see table for curriculum)

Intended for post-baccalaureate or other learners with some GIScience experience, this track is designed to enhance knowledge in GIScience by allowing students to gain in-depth GIScience knowledge through advanced courses appropriate to the student's level and focus. Enrollment to this track requires permission from the director of the Center for Geographic Information Science, and students must show proficiency of requisite knowledge/coursework to waive GIS-271 and/or GIS-272.

- [[GIS-271]] - Introduction to GPS & GIS
- [[GIS-272]] - Advanced GIS & Remote Sensing
- [[GIS-301]] - GIS Applications & Colloquia
- Electives

Course	Course Title	Short Description	Credits	Modality	Activity Hours
[[GIS-271]] (CI)	Introduction to GPS & GIS	Theory and practice of GPS and fundamentals of GIS and Cartography. *Students may have this course waived with permission by the director of the Center	3	Hybrid	3

		for GIScience. If waived, students must complete an additional GIS 3-credit elective in its place.			
[[GIS-272]] (CI)	Advanced GIS & Remote Sensing	Advanced GIS topics including geostatistics, surface analysis and 3D modeling, and basics of Remote Sensing. Prerequisite: [[GIS-271]], or permission from the instructor. *Students may have this course waived with permission by the director of the Center for GIScience. If waived, students must complete an additional GIS 3-credit elective in its place.	3	Hybrid	3
[[GIS-301]] (CI)	GIS Applications	to solve	3	Hybrid-Flex	3

		real-word problems with GIS. Prerequisite: GIS-272, or permission from the instructor.		
Electives	Elective Courses	<p>[[GIS-298]]                  [[GIS-398]]                  – Topics in GIScience (3 cr.; CI)</p> <p>[[GIS-310]]                  – GIS Prog. and Custom. (3 cr.; CI)</p> <p>[[GIS-315]]                  – Web GIS (3 cr.; CI)</p> <p>[[GIS-320]]                  – Intro. to Geospatial Modeling (3 cr.; CI)</p> <p>[[EES-261]]                  – Regional &amp; Human Geography (3 cr.)</p> <p>[[BA-419]]                  – Quanti. Decision Making (3 cr.)</p> <p>[[MGT-352]]                  – Prod. And Operations Manag. (3 cr.)</p> <p>[[MKT-357]]                  – Global eBusiness (3 cr.)</p>	Varies	Varies

## Degree Requirements

The program requires 15-credits for completion, a minimum of 2.0 in each course, and includes 3 fundamental foundation courses (GIS-271/GIS-272/GIS-301) in addition to two upper-level GIS and/or interdisciplinary electives. Students can select from two available tracks: introductory or advanced. The introductory track is designed specifically for those who have little to no background/experience with GIScience, which would include Wilkes University students, as well as undergraduates at other institutions, such as those the University has agreements with for cross-registration. The advanced track is designed for those with existing, but limited knowledge (such as industry professionals and postbaccalaureate students). Additionally, the proposed program allows currently enrolled students to easily incorporate the certificate program into their studies.

# LEADING TO A COMMISSION IN THE UNITED STATES AIR FORCE

## Recommended Course Sequence

### General Military Course

The General Military Course (GMC) consists of four one-credit courses, which are introductory in nature and open to freshmen or sophomores. Students enrolling in these courses do not incur any military service obligation (Exception: Air Force scholarship recipients incur a commitment at the beginning of their sophomore year.) Course credit values are shown with each course.

#### First Semester

AS 101 Heritage and Values of the USAF I	1
AS 103 Leadership Laboratory	0
<b>Total Credits</b>	<b>1</b>

#### Second Semester

AS 102 Heritage and Values of the USAF II	1
AS 104 Leadership Laboratory	0
<b>Total Credits</b>	<b>1</b>

#### Third Semester

AS 201 Team and Leadership Fundamentals I	1
AS 203 Leadership Laboratory	0
<b>Total Credits</b>	<b>1</b>

#### Fourth Semester

AS 202 Team and Leadership Fundamentals II	1
AS 204 Leadership Laboratory	0
<b>Total Credits</b>	<b>1</b>

Variations in this schedule are possible. Sophomores with no AFROTC experience may enroll in both of the one-credit freshman and sophomore courses concurrently, under the "dual-enrollee" program).

### Summer Field Training

Only one Field Training class is required.

### Summer

AS 240 13-day AFROTC Field Training	3
<b>Total Credits</b>	<b>3</b>

### Professional Officer Course

The Professional Officer Course (POC) consists of four three-credit courses, which focus on leadership, management, national security studies, and preparation for active duty. Students enrolled in the POC desiring to commission in the Air Force upon graduation must attend these courses. POC students may incur a military service obligation upon graduation even if they do not successfully complete these courses and fail to commission in the Air Force. Course credit values are shown with each course. These courses are open to all college students as electives with the permission of the chairperson of the department.

#### Fifth Semester

AS 301 Leading People and Effective Communication I	3
AS 303 Leadership Laboratory	0
<b>Total Credits</b>	<b>3</b>

#### Sixth Semester

AS 302 Leading People and Effective Communication II	3
AS 304 Leadership Laboratory	0
<b>Total Credits</b>	<b>3</b>

#### Seventh Semester

AS 401 Nat'l Security Affairs/ Active Duty Preparation I	3
AS 403 Leadership Laboratory	0
<b>Total Credits</b>	<b>3</b>

#### Eighth Semester

AS 402 Nat'l Security Affairs/ Active Duty Preparation II	3
AS 404 Leadership Laboratory	0
<b>Total Credits</b>	<b>3</b>

## MBA 4 + 1

## MBA 4 + 1

The MBA Program Requirements include Foundation, Core and Elective courses and must total 39 credits. For students enrolled in a 4+1 program, the following program requirements must be met:

**Admissions Requirements.** Students will apply to the MBA program prior to the semester in which they intend to start taking MBA courses. Students will need to document the completion of at least 108 credits prior to the start of MBA courses. A minimum cumulative GPA of 3.25 is required. In addition, students must have completed an undergraduate internship prior to the start of MBA courses. For the inaugural semester (i.e. the semester in which they complete their undergraduate program), students enrolled in the 4+1 program must not exceed 18 credit hours for that semester.

Non-business majors wishing to pursue the 4+1 program can complete a minor in Management (18 credits) as part of their undergraduate course of study. These classes include: [[ACC-161]], [[BA-153]], [[BA-335]], [[FIN-240]], [[MGT-251]], and [[MKT-221]].

**Foundation Courses.** Students enrolled in a 4+1 program will begin taking up to three MBA courses in the spring semester of their senior year. If the student has completed a minor in Management (prior to the start of MBA courses), the Foundations courses are waived.

**Core Courses.** Students enrolled in a 4+1 program will begin taking MBA core and elective courses in the summer after the completion of the undergraduate program at the rate of three to four courses per semester until the completion of the degree. No more than four courses can be completed in any one semester.

**Elective Courses.** Students enrolled in a 4+1 program will enroll in three elective courses at the pace of one elective course per semester, after the completion of foundation courses, to fulfill the elective course requirements. Students are encouraged to select a specialization within the MBA course offerings to focus their MBA elective course selections.

In summary, students will complete 36-39 credits to fulfill the requirements of the MBA Program. Courses are available in hybrid weekender and online formats – students will likely complete multiple courses in each format. Students enrolled in a 4+1 joint program will complete the MBA degree program within three additional semesters of the completion of the undergraduate degree.

# MECHANICAL ENGINEERING 4+1

## The Mechanical Engineering 4 + 1 Master of Science Program

**Point of Contact:** Yong Zhu, PhD

The Master of Science in Mechanical Engineering (MSME) program requires 30 credits of graduate-level course work. The program consists of 15 credits of mandatory core courses. Students have the option of a six-credit thesis or a three-credit project with an additional three-credit technical elective. Students may select nine (9) or twelve (12) additional credits from the list of technical electives. The required courses and typical course sequence of the normal two-year MSME program is shown below.

### Requirements for MSME, Typical Course Sequence

<b>First Semester</b> [[MTH-361]] – Partial Differential Equations  [[ME-415]] – Programmable Logic Controllers  Technical Elective	<b>Second Semester</b> [[ME-436]] – Solid Mechanics  [[ME-480]] – Advanced CADD  Technical Elective
<b>Third Semester</b> [[ME-427]] – Transport Phenomena  Technical Elective  Technical Elective (if project option)	<b>Fourth Semester</b> [[ME-599]] – Thesis (six credits) OR  Project (three credits)

Students interested in the MSME 4+1 program should apply and be admitted into the program no later than the end of the junior year. During the senior year (or earlier with advisor approval and as their schedules allow), students should complete at least two graduate-level technical courses (six graduate credits) **in addition** to the 130 undergraduate credits required for the ME Bachelor's degree. These graduate credits are **NOT** counted towards the undergraduate degree; instead, they will be counted only towards the 30 graduate credits required for the MSME program. Subsequently, the student would complete an additional 24 credits within one year to fulfill the 30-credit requirement of the MSME program. Students in the MSME 4+1 program would still have the option of a six-credit thesis or a three-credit project.

Almost all of the mandatory courses in the master's curriculum are also offered to seniors as technical electives. If a

mandatory master's course has been completed by a student in the MSME 4+1 program during the undergraduate study as a technical elective, it may be replaced by a technical course approved by the graduate coordinator to fulfill the 30-credit requirement of the MSME program. A suggested course sequence for the MSME 4+1 program is shown below.

### MSME 4+1 Suggested Course Sequence

<b>Junior or Senior Year</b> [[MTH-361]] – Partial Differential Equations	<b>Junior or Senior Year</b> Technical Elective
<b>First Semester, Fifth Year</b> [[ME-415]] – Programmable Logic Controllers  [[ME-427]] – Transport Phenomena  Technical Elective  Technical Elective (if project option) OR  [[ME-599]] – Thesis (three credits)	<b>Second Semester, Fifth Year</b> [[ME-436]] – Solid Mechanics  [[ME-480]] – Advanced CADD  Technical Elective  [[ME-599]] – Master's Project (three credits) OR  Thesis (three credits)

# MIDDLE LEVEL EDUCATION MAJOR LEADING TO CERTIFICATION WITH A CONCENTRATION IN MATHEMATICS AND SCIENCE AND DUAL CERTIFICATION IN SPECIAL EDUCATION (PK-8)

## Recommended Course Sequence

135 Credits

First Semester	Credits
ED 180 – Educational Psychology	3
ENG 101 – Composition	4
FYF 101 – First-Year Foundations	3
MTH 103 – Mathematics for Elem. School Teachers I	3
PSY 101 – General Psychology	3
<b>Total Credits</b>	<b>16</b>
Second Semester	
CS 115 – Computers & Applications	3
EES 105 – Planet Earth	3
ED 190 – Effective Teaching (40)*	3
ED 191 – Integrating Technology into the Classroom	3
HST 101 - Historical Foundations of the Modern World	3
MTH 104 – Math for Elem. School Teachers II	3
<b>Total Credits</b>	<b>18</b>
Third Semester	
Visual/Performing Arts	3
BIO 105 – The Biological World	3
EDSP 210 – Teaching Students with Spec. Needs	3
ENG 120 – Introduction to Literature & Culture	3
HST 101 – Historical Foundations. of the Modern World	3

MTH 150 – Elementary Statistics	3
<b>Total Credits</b>	<b>18</b>
Fourth Semester	
CHM 105 – Chemistry & Modern Society	3
ED 220 – Teaching . . . Diverse Learners	3
EDSP 225 – Spec. Ed. Methodology I (30)*	3
ENG 202 - Technical Writing	3
EES 211/251/280	4
<b>Total Credits</b>	<b>16</b>
Fifth Semester	Credits
BIO 121 – Principles of Modern Biology I	4
EDSP 300 – Spec. Ed. Assessment & Evaluation	3
PHY 105 – Concepts in Physics	3
MTH 111 – Calculus I	4
MTH 303 – Teaching Mathematics in ML & SS (40)*	4
<b>Total Credits</b>	<b>18</b>
Sixth Semester	
BIO 122 – Principles of Modern Biology II	4
EDSP 302 – Special Ed. Methods	3
EDSP 227 – Behavior Management in Special Ed. (20)*	3
MTH 114 – Calculus and Modeling...	4
ED 375 Middle Level & Secondary Ed. Methods (40)*	4
<b>Total Credits</b>	<b>18</b>
Seventh Semester	
ED 380 – Content Area Literacy	3
ED 371 – Teaching Methods in Science (40)*	4
EDSP 226 – Special Ed. Methodology (20)*	3
ENG 225 – Comparative Grammar	3
FL or PHL 101	3
<b>Total Credits</b>	<b>16</b>

**Middle Level Education Major leading to Certification  
with a Concentration in Mathematics and Science and Dual Certification in Special Education (PK-8)**

<b>Eighth Semester</b>	
ANT 101/ EC 102/ PS 111/ SOC101	3
ED 390 – Student Teaching (40)**	12
EDSP 388 – Inclusionary Practices	3
<b>Total Credits</b>	<b>18</b>
<i>*Denotes field experience hours</i> <i>**Denotes pre-student teaching hours completed during the first two weeks of the eighth semester.</i>	

# MIDDLE LEVEL EDUCATION MAJOR LEADING TO CERTIFICATION WITH A CONCENTRATION IN SCIENCE AND DUAL CERTIFICATION IN SPECIAL EDUCATION (PK-8)

## Recommended Course Sequence

135 Credits

First Semester	Credits
ED 180 – Educational Psychology	3
ENG 101 – Composition	4
FYF 101 – First-Year Foundations	3
MTH 103 – Mathematics for Elem. School Teachers I	3
PSY 101 – General Psychology	3
<b>Total Credits</b>	<b>16</b>
Second Semester	
CS 115 – Computers & Applications	3
EES 105 – Planet Earth	3
ED 190 – Effective Teaching (40)*	3
ED 191 – Integrating Technology into the Classroom	3
HST 101 - Historical Foundations of the Modern World	3
MTH 104 – Math for Elem. School Teachers II	3
<b>Total Credits</b>	<b>18</b>
Third Semester	
Visual/Performing Arts	3
BIO 105 – The Biological World	3
EDSP 210 – Teaching Students with Spec. Needs	3
ENG 120 – Introduction to Literature & Culture	3
HST 101 – Historical Foundations. of the Modern World	3
MTH 150 – Elementary Statistics	3

<b>Total Credits</b>	<b>18</b>
Fourth Semester	
CHM 105 – Chemistry & Modern Society	3
ED 220 – Teaching . . . Diverse Learners	3
EDSP 225 – Spec. Ed. Methodology I (30)*	3
ENG 202 - Technical Writing	3
EES 211/251/280	4
<b>Total Credits</b>	<b>16</b>
Fifth Semester	Credits
BIO 121 – Principles of Modern Biology I	4
EDSP 300 – Spec. Ed. Assessment & Evaluation	3
PHY 105 – Concepts in Physics	3
MTH 111 – Calculus I	4
MTH 303 – Teaching Mathematics in ML & SS (40)*	4
<b>Total Credits</b>	<b>18</b>
Sixth Semester	
BIO 122 – Principles of Modern Biology II	4
ED 375 Middle Level & Secondary Ed. Methods (40)*	4
EDSP 302 – Special Ed. Methods	3
EDSP 227 – Behavior Management in Special Ed. (20)*	3
MTH 114 – Calculus and Modeling...	4
<b>Total Credits</b>	<b>18</b>
Seventh Semester	
ED 380 – Content Area Literacy	3
ED 371 – Teaching Methods in Science (40)*	4
EDSP 226 – Special Ed. Methodology (20)*	3
ENG 225 – Comparative Grammar	3
FL or PHL 101	3
<b>Total Credits</b>	<b>16</b>
Eighth Semester	
ANT 101/EC 102/PS 111/SOC 101	3

**Middle Level Education Major leading to Certification with a Concentration in Science and Dual Certification in Special Education (PK-8)**

ED 390 – Student Teaching (40)**	12
EDSP 388 – Inclusionary Practices	3
<b>Total Credits</b>	<b>18</b>
<i>*Denotes field experience hours</i> <i>**Denotes pre-student teaching hours completed during the first two weeks of the eighth semester.</i>	

## **OTHER SPECIAL PROGRAMS**

### **Special Programs**

#### **Cooperative Education and Internships**

Cooperative Education is a program that formally integrates a student's studies with work experiences in employing organizations. Students may alternate semesters of full-time study and full-time professional work experience or they may combine work and study in the same term; in either case, students earn academic credit and, in many cases, a salary while gaining valuable experience in a work environment. Internships are available throughout the U.S. in the summer, spring, and fall, and assistance with internships is readily available to eligible students. Students are encouraged to participate in the many programs offered by the Internship office by registering at the Center for Career Development and Internships, rear 236 S. River Street at the Student Center Gateway or contact the Director of Internships, [sharon.castano@wilkes.edu](mailto:sharon.castano@wilkes.edu) or visit the website at [www.wilkes.edu/coop](http://www.wilkes.edu/coop).

#### **Study Abroad**

Study Abroad is an elective option open to all students in good academic standing who wish to study at foreign institutions. Earned academic credit may be applied toward the requirements for a bachelor's degree at Wilkes. Overseas study may be for a period of a year, a semester, or a summer. Information regarding the specific programs available to Wilkes students is available from the Study Abroad Director and the Wilkes University Study Abroad website (<https://www.wilkes.edu/academics/study-abroad/>). Students who use tuition exchange must complete the "Consortium Financial Aid Agreement" form, available in the Office of the Registrar. Students must also complete all required application materials of the desired program before registering for Study Abroad. Course selection and preregistration take place with the student's academic advisor in coordination with the Study Abroad Director. Students must complete the "Transfer Credit Request Form" (with all the appropriate signatures) and register for Study Abroad (IS 000) before conducting their study abroad. There is a \$70 lab fee associated with IS 000.

# PERSONAL AND PROFESSIONAL DEVELOPMENT

## The Personal and Professional Development Series

**Director:** Bridget Turel

At the Sidhu School we believe that leadership and career development matters. The Personal and Professional Development Series (PPD) is a four credit program closely linked to the Sidhu School business curriculum. It is an innovative, integrated, developmental advising/coaching program designed to unleash and nurture each student's personal and professional potential.

Employers in business, government, military and social organizations all agree that superior performance depends on effective leadership up and down the line. This calls for leaders with self-awareness, empathy, emotional intelligence, vision, integrity, and compassion. Research has shown that superior leaders are authentic. They understand their own strengths and values, and the effect they have on others. They are competent, caring, resilient, and consistent. They listen, analyze, and are able to provide vision, energy, and motivation. These are capabilities, skills and behaviors the Sidhu School seeks to cultivate in its students.

The PPD provides an environment where each student can link academic content in their curriculum with career planning, extracurricular activities and leadership development. Each student has the opportunity to build a strong professional network, face social and business challenges, and practice meaningful leadership.

Throughout the PPD program students undertake on-going self-assessment, build their emotional intelligence, strengthen team building competencies, engage in field work/career preparation experiences, learn to take advantage of coaching/mentoring activities, and formulate developmental action plans and a leadership portfolio. In the process, they discover strengths and areas for improvement, nurture their passions, and facilitate their own authentic leadership journey.

The Personal and Professional journey consists of two bookend courses (PPD 101 and PPD 401), which are consistent for every student throughout the program. These two courses provide an introductory and capstone experience that build the foundation for the PPD program. Additionally, students choose a one credit course each in the areas of leadership competency and career focus, to customize the program to their specific developmental needs. The one credit elective courses vary each semester and are taught by subject matter experts.

- [[PPD-101]]. Personal & Professional Development I: Introduction to PPD
- [[PPD-201]]. Personal & Professional Development III: Topics in Career Development
- [[PPD-301]]. Personal & Professional Development V: Topics in Leadership Competencies

- [[PPD-401]]. Personal & Professional Development VII: Leadership Legacy

# PHARMD/MBA

## PharmD/MBA

The MBA Program Requirements include Foundation, Core and Elective courses and must total 39 credits. For students enrolled in the PharmD/MBA joint program, the following outlines the program requirements:

**Admissions Requirements.** Students will apply using the normal application criteria and deadlines for the MBA program prior to the semester in which they intend to start taking MBA courses. Students intending to enroll in the PharmD/MBA joint program will need to document the completion of at least 108 credits prior to the start of MBA courses.

**Foundation Courses.** Students enrolled in the PharmD/MBA joint program will begin taking MBA foundation courses in the fall semester of their P2 year at the rate of one course per semester. If the student has completed a minor in Management (prior to the start of the MBA courses), the Foundation courses are waived.

**Core Courses.** Students enrolled in the PharmD/MBA joint program will begin taking MBA core courses in the summer of their P2 year at the rate of one or two courses per semester until the completion of the degree. If the student has completed a minor in Management (prior to the start of the MBA courses), they will begin with one core course in the spring semester of their P2 year and continue at the pace described above.

**Elective Courses.** Students enrolled in the PharmD/MBA joint program will enroll in Pharmacy Operations ([[PHA-412]]), Pharmacoeconomics ([[PHA-509]]) to fulfill the two of the three elective course requirements.

In summary, students will complete 30-33 additional credits to fulfill the requirements of the MBA Program. Students enrolled in the PharmD/MBA joint program will complete the dual degree program within the normal timeframe of completing the standalone PharmD degree (i.e. 6 years).

# **PRE-LAW STUDIES**

## **Pre-Law Studies**

Coordinating Pre-Law Advisor: Dr. Kyle Kreider

Pre-Law Advisory Council: Professors Hepp, Kuhar, Whitman

Wilkes University has developed a carefully designed Pre-law Advisory Program, which has proved able to provide exceptionally effective support for students seeking admission to graduate schools of law. The Pre-Law Program at Wilkes is based on the principles that admission to, and success in, law school depends upon completion of a rigorous curriculum at the undergraduate level as well as an up-to-date understanding of the law school admission process. One of the greatest strengths of Wilkes University is its ability to provide students from different educational backgrounds with a sound education that prepares them for the challenges of leading professional schools.

Law schools do not prescribe a specific undergraduate major but rather suggest a broadly based educational program that enhances the student's ability to reason, read analytically, and write effectively. Students interested in law school may major in any field, but the most frequently chosen areas are Political Science, English, History, and Business Administration. Majors such as Philosophy, Sociology, Nursing, Biology, Engineering, Computer Science, Psychology, and Earth and Environmental Sciences also provide appropriate preparation for legal studies. Indeed, a major in a technical field may be especially useful in particular aspects of legal practice.

### Advising

Wilkes students are assigned to faculty advisors in the areas of their majors. These advisors guide them regarding degree requirements in particular fields. Pre-law students also consult with a designated pre-law advisor, who acquaints the students with aspects of legal study and practice. The pre-law advisor has available law school catalogs and information on the Law School Admission Test (LSAT). We strongly recommend that the LSAT be taken during the month of June between the junior and senior years of undergraduate study.

As the senior year approaches, the pre-law advisor can provide suggestions as to which law schools are most likely to admit students with particular academic records and LSAT scores. Most importantly, the pre-law advisor helps to overcome the myths that too often affect student thinking about law schools.

# SECONDARY EDUCATION CERTIFICATION FOR THE MAJOR WITH DUAL CERTIFICATION IN SPECIAL EDUCATION 7-12

## Recommended Course Sequence

First Semester	Credits
CS 115 – Computers and Applications	3
ED 180 – Educational Psychology	3
FYF 101 – First-Year Foundations	3
HST 101 – Historical Foundations of the Modern World	3
MTH 101 – Solving Problems Using Math	3
<b>Total Credits</b>	<b>15</b>

Second Semester	Credits
ED 190 – Effective Teaching (40)*	3
ED 191 – Integrating Technology into the Classroom	3
ENG 101 – Composition	4
PSY 101 – General Psychology	3
Science Elective (Distribution Req.)	3
<b>Total Credits</b>	<b>16</b>

Third Semester	Credits
EDSP 210 – Teaching Students with Spec. Needs	3
ENG 120 – Introduction to Literature & Culture	3
Major Electives	6
Science Elective (Distribution Req.)	3
Visual & Perform. Arts Elective (Dist. Req.)	3
<b>Total Credits</b>	<b>18</b>

Fourth Semester	Credits
ED 220 – Teaching ... Diverse Learners	3
EDSP 225 – Sp. Educ. Methodology I (30)*	3
FL Elective (Distribution Requirement)	3
Social Science Elective (Distribution Req.)	3
Major Electives	6
<b>Total Credits</b>	<b>18</b>

Fifth Semester	Credits
EDSP 227 – (20)* Behavior Management in Spec. Ed. (20)*	3
Math Elective (2nd MTH required by PDE)	3
Major Electives	9
Social Science Elective	3
<b>Total Credits</b>	<b>18</b>

Sixth Semester	Credits
EDSP 226 – (20)* Spec. Ed. Methodology II	3
ED 375 Methods in Sec. & MLE	4
ED 345 Assessment	3
Major Electives	6-8
<b>Total Credits</b>	<b>16 -18</b>

Seventh Semester	Credits
EDXXX – Concentration Methods (40)*	4
ED 380 – Content Area Literacy	3
EDSP 302 – Spec. Ed. Methods	3
Major Electives	6
<b>Total Credits</b>	<b>16</b>

Eighth Semester	Credits
ED 390 – Student Teaching (40)**	12
EDSP 388 – Inclusionary Practices	3
EDSP 300 Assessment in Special Ed.	
<b>Total Credits</b>	<b>15</b>

\*Denotes field experience hours

\*\*Denotes pre-student teaching hours completed during the first two weeks of the eighth semester.

NOTE: Since the Education Minor with dual certification in Special Education may be pursued in combination with nine different majors (Biology, Chemistry, Earth & Environmental Sciences, English, History, Mathematics, Physics, Political Science, or Spanish), this sequence demonstrates only one way all the required minor courses with dual certification in Special Education may be taken. The required content area major courses, which all differ in total credits, and the required sequences of those courses, may be accommodated to pursue the minor in Education with dual certification in Special Education. **To ensure completion of the minor with dual certification in four years, early in their matriculation at Wilkes, students should seek advice and guidance from the major advisor as well as from the Coordinator of the Secondary Education program when planning their individual sequence of courses.**

# SECONDARY EDUCATION CERTIFICATION FOR THE MINOR WITH DUAL CERTIFICATION IN SPECIAL EDUCATION 7-12

## Recommended Course Sequence

First Semester	Credits
CS 115 – Computers and Applications	3
ED 180 – Educational Psychology	3
FYF 101 – First-Year Foundations	3
HST 101 – Historical Foundations of the Modern World	3
MTH 101 – Solving Problems Using Math	3
<b>Total Credits</b>	<b>15</b>

Second Semester	Credits
ED 190 – Effective Teaching (40)*	3
ED 191 – Integrating Technology into the Classroom	3
ENG 101 – Composition	4
PSY 101 – General Psychology	3
Science Elective (Distribution Req.)	3
<b>Total Credits</b>	<b>16</b>

Third Semester	Credits
EDSP 210 – Teaching Students with Spec. Needs	3
ENG 120 – Introduction to Literature & Culture	3
Major Electives	6
Science Elective (Distribution Req.)	3
Visual & Perform. Arts Elective (Dist. Req.)	3
<b>Total Credits</b>	<b>18</b>

Fourth Semester	Credits
ED 220 – Teaching ... Diverse Learners	3
EDSP 225 – Sp. Educ. Methodology I (30)*	3
FL Elective (Distribution Requirement)	3
Social Science Elective (Distribution Req.)	3
Major Electives	6
<b>Total Credits</b>	<b>18</b>

Fifth Semester	Credits
EDSP 227 – Behavior Management in Spec. Ed. (20)*	3
Math Elective (2nd MTH required by PDE)	3
Major Electives	9
Social Science Elective	3
<b>Total Credits</b>	<b>18</b>

Sixth Semester	Credits
EDSP 226 – Spec. Ed. Methodology II (20)*	3
EDSP 302 – Special Ed. Methods	3
Major Electives	9-12
<b>Total Credits</b>	<b>15 -18</b>

Seventh Semester	Credits
EDXXX – Concentration Methods (40)*	4
ED 380 – Content Area Literacy	3
EDSP 300 – Assessment in Spec. Ed.	3
Major Electives	6
<b>Total Credits</b>	<b>16</b>

Eighth Semester	Credits
ED 390 – Student Teaching (40)**	12
EDSP 388 – Inclusionary Practices	3
<b>Total Credits</b>	<b>15</b>

\*Denotes field experience hours

\*\*Denotes pre-student teaching hours completed during the first two weeks of the eighth semester.

NOTE: Since the Education Minor with dual certification in Special Education may be pursued in combination with nine different majors (Biology, Chemistry, Earth & Environmental Sciences, English, History, Mathematics, Physics, Political Science, or Spanish), this sequence demonstrates only one way all the required minor courses with dual certification in Special Education may be taken. The required content area major courses, which all differ in total credits, and the required sequences of those courses, may be accommodated to pursue the minor in Education with dual certification in Special Education. **To ensure completion of the minor with dual certification in four years, early in their matriculation at Wilkes, students should seek advice and guidance from the major advisor as well as from the Coordinator of the Secondary Education program when planning their individual sequence of courses.**

# SECONDARY EDUCATION CERTIFICATION FOR THE MINOR WITH DUAL CERTIFICATION IN SPECIAL EDUCATION PK-12

## Recommended Course Sequence

First Semester	Credits
CS 115 – Computers and Applications	3
ED 180 – Educational Psychology	3
FYF 101 – First-Year Foundations	3
HST 101 – Historical Foundations of the Modern World	3
MTH 101 – Solving Problems Using Math	3
<b>Total Credits</b>	<b>15</b>

Second Semester	Credits
ED 190 – Effective Teaching (40)*	3
ED 191 – Integrating Technology into the Classroom	3
ENG 101 – Composition	4
PSY 101 – General Psychology	3
Science Elective (Distribution Req.)	3
<b>Total Credits</b>	<b>16</b>

Third Semester	Credits
EDSP 210 – Teaching Students with Spec. Needs	3
ENG 120 – Introduction to Literature & Culture	3
Major Electives	6
Science Elective (Distribution Req.)	3
Visual & Perform. Arts Elective (Dist. Req.)	3
<b>Total Credits</b>	<b>18</b>

Fourth Semester	Credits
ED 220 – Teaching ... Diverse Learners	3
EDSP 225 – Teaching Students with High Incidence Disabilities with field experience ( <i>Cross List</i> with <b>EDSP 501</b> )	3
FL Elective (Distribution Requirement)	3
Social Science Elective (Distribution Req.)	3
Major Electives	6
<b>Total Credits</b>	<b>18</b>

Fifth Semester	Credits
EDSP 227 – Behavior Intervention and Support w/field experience ( <i>Cross List</i> with <b>EDSP 503</b> )	3
Math Elective (2nd MTH required by PDE)	3
Major Electives	9
Social Science Elective	3
<b>Total Credits</b>	<b>18</b>

Sixth Semester	Credits
EDSP 226 – Teaching Students with Low Incidence Disabilities w/ field experience ( <i>Cross List</i> with <b>EDSP 502</b> )	3
EDSP 300 - Assessment in Spec. ED	3
Major Electives	9-12
<b>Total Credits</b>	<b>15 -18</b>

Seventh Semester	Credits
EDXXX – Concentration Methods (40)*	4
ED 380 – Content Area Literacy	3
EDSP 302 – SSecondary Transition in Special Education ( <i>Cross List</i> with <b>EDSP 505</b> )	3
Major Electives	6
<b>Total Credits</b>	<b>16</b>

Eighth Semester	Credits
ED 390 – Student Teaching (40)**	12
EDSP 388 – Inclusionary Practices	3
<b>Total Credits</b>	<b>15</b>

\*Denotes field experience hours

\*\*Denotes pre-student teaching hours completed during the first two weeks of the eighth semester.

NOTE: Since the Education Minor with dual certification in Special Education may be pursued in combination with nine different majors (Biology, Chemistry, Earth & Environmental Sciences, English, History, Mathematics, Physics, Political Science, or Spanish), this sequence demonstrates only one way all the required minor courses with dual certification in Special Education may be taken. The required content area major courses, which all differ in total credits, and the required sequences of those courses, may be accommodated to pursue the minor in Education with dual certification in Special Education. **To ensure completion of the minor with dual certification in four years, early in their matriculation at Wilkes, students should seek advice and guidance from the major advisor as well as from the Coordinator of the Secondary Education program when planning their individual sequence of courses.**

# **SUSTAINABILITY MANAGEMENT, CERTIFICATE**

## **Certificate In Sustainability Management**

**Program Director:** Marleen Troy, Ph.D.

The online certificate in Sustainability Management is a 12-credit program that trains students in environmental sustainability standards and management practices. This program will equip students with the knowledge to take on and implement sustainability-related projects in the workplace by providing:

- a comprehensive overview of sustainability standards,
- effective assessment practices,
- the tools to design a sustainability plan and implement solutions in the workplace.

To earn the certificate students must complete the following course series:

- [\[\[SUS-401\]\]](#) - Introduction To Sustainability
- [\[\[SUS-402\]\]](#) - Metrics Of Sustainability
- [\[\[SUS-403\]\]](#) - Sustainability Implementation
- [\[\[SUS-404\]\]](#) - Industry-Focused Sustainability

### **Degree Requirements**

All candidates for the online certificate in Sustainability Management must complete a program of twelve (12) credits with a grade of 3.0 or higher.

# UNIVERSITY PERSONNEL

- [Board of Trustees](#)
- [Administration](#)
- [Office of the Provost](#)
- [Academic Departments](#)
- [Faculty](#)
- [Presidents Emeriti](#)
- [Executives Emeriti](#)
- [Faculty Emeriti](#)
- [Correspondence Directory](#)

## Academic Departments

- [College of Arts and Sciences](#)
- [College of Business & Engineering](#)
  - [The Jay S. Sidhu School of Business and Leadership](#)
- [College of Health and Education](#)
  - [The Nesbitt School of Pharmacy](#)
  - [The Passan School of Nursing](#)
  - [School of Education](#)
- [Office of the Vice President for Student Affairs](#)

## College of Arts and Sciences

**Division of Behavioral and Social Sciences**, Dr. Kyle L. Kreider, Chair

**Department of Biology and Earth Systems Science**, Dr. Kenneth Klemow, Chair

**Department of Chemistry and Biochemistry**, Dr. Amy Bradley, Chair

**Department of Communication Studies**, Dr. Evene Estwick, Chair

**Division of Global Cultures: History, Languages & Philosophy**, Dr. Chris Zarpentine, Chair

**Department of English**, Dr. Mischelle B. Anthony, Chair

**Department of Integrative Media and Art**, Mr. Eric A. Ruggiero, Chair

**Department of Mathematics, Physics and Computer Science**, Dr. Barbara Bracken, Co-Chair and Dr. John Harrison, Co-Chair

**Division of Performing Arts**, Mr. Jonathan Liebetrau

## College of Business and Engineering

**Department of Aerospace Studies**, Lieutenant Colonel Sarah Hedrick, Chair

**Department of Civil and Environmental Engineering**, Dr. Brian Whitman, Chair

**Department of Finance, Accounting and Management**, Dr. Ruth Hughes, Chair

**Department of Marketing, Sports Management and Hospitality Leadership**, Dr. Woojun Lee, Chair

**Department of Mechanical & Electrical Engineering**, Dr. Henry Castejon, Chair

**MBA Program**, Karen Alessi, Director

**PPD Program**, Bridget Turel, Director

## College of Health and Education

**Dean:** Dr. Deborah A. Zbegner

**Assistant Dean of Operations:** Ms. Michele D. Garrison

## Office of the Vice President for Student Affairs

**MARK R. ALLEN (1986)**, Interim Vice President for Student Affairs

B.S., M.A. SUNY, Oneonta

**GRETCHEN YENINAS (1998)** Associate Dean of Student Affairs

B.A. Elizabethtown College, M.S. University of Scranton, M.A. Wilkes University

**PHILIP RUTHKOSKY (1999), Associate Dean, Student Development**

B.S., M.B.A. Scranton, Ph.D. Penn State

**Athletics****ADELENE MALATESTA (1989), Director of Athletics**

B.S. Slippery Rock, M.Ed. East Stroudsburg

**School of Education****Doctoral Department**, Dr. Karim Letwinsky, Chair**Master Level Department**, Dr. Charles Smargassi, Chair**Undergraduate Department of Education**, Dr. Suzanne Murray Galella, Chair**The Jay S. Sidhu School of Business and Leadership****Department of Finance, Accounting and Management**, Dr. Ruth Hughes, Chair**Department of Marketing, Sports Management and Hospitality Leadership**, Dr. Woojun Lee, Chair**MBA Program**, Karen Alessi, Director**PPD Program**, Bridget Turel, Director**The Nesbitt School of Pharmacy****School of Pharmacy****Department of Pharmaceutical Sciences**, Dr. Marie Roke-Thomas, Chair**Department of Pharmacy Practice**, Dr. Judith Deluca, Chair**The School of Nursing****Undergraduate Nursing Department**, Dr. Emily Havrilla, Chair**Graduate Nursing Department**, Dr. Patricia Sweeney, Chair**Administration****Contacts**

- **A. GREGORY CANT (2020), President**  
B.A. University of Western Australia, M.S. Queen's University, Ph.D. University of Western Australia
- **DAVID M. WARD (2021), Senior Vice President and Provost**  
B.A. Colgate University, M.P.A., Ph.D. New York University
- **TERESE M. WIGNOT (1989) Associate Provost for Academic Partnerships**  
B.A., Ph.D. Lehigh
- **JONATHAN FERENCE (2008), Associate Provost for Student Success**  
Pharm.D. Wilkes
- **MARK ALLEN (1986), Interim Vice President for Student Affairs**  
B.A., M.S. SUNY, Oneonta, Ph.D. Antioch University
- **ELLEN GALLAGHER (2022), Vice President of Finance and Chief Operating Officer**  
B.S. King's College, M.B.A. Notre Dame, M.S. Villanova
- **Kevin Boyle (2016), Vice President for Advancement**
- **MICHAEL J. WOOD (2006), Special Assistant to the President**  
B.A. Alderson-Broaddus College
- **Jared Menghini, Interim Vice President for Enrollment Management, Financial Aid**
- **Chris Mayerski, Interim Vice President for Enrollment Management, Undergraduate Admissions**

## University Personnel

- **JOSEPH HOUSENICK (2008), Assistant Vice President/Chief Human Resources Officer**  
B.S. King's College

# Board of Trustees

## Officers

WILLIAM R. MILLER '81, Chair  
LAURA CARDINALE '72, Vice Chair  
CHARLES F. COHEN, Secretary/Assistant Treasurer  
RAYMOND DOMBROSKI '78, Treasurer/Assistant Secretary

## Trustees

GREG CANT  
MATTHEW BERGER '02  
CAROLANN BESLER '76  
DANIEL CARDELL '79  
LAURA B. CARDINALE '72  
TERRENCE CASEY '81  
CYNTHIA CHARNETSKI '97  
EDWARD CIARIMBOLI '95  
CHARLES F. COHEN  
SUSAN MAIER DAVIS '85  
RAYMOND DOMBROSKI '78  
WILLIAM EGGLESTON '14  
RANDA FAHMY '86  
LISA ISBITSKI GOLDEN '90  
WILLIAM GRANT '86  
JASON GRIGGS '90  
ELLEN STAMER HALL '71  
WILLIAM HANBURY '72  
SEYMOUR HOLTZMAN '57  
JOHN KERR '72  
GERARD MCHALE, JR. '67  
WILLIAM R. MILLER '81  
THOMAS RALSTON '80  
HEDY RITTENMEYER '72  
KAYLA ROONEY '15  
JOANNE SCHOONOVER '72  
ELIZABETH A. SLAUGHTER '68  
TARA MUGFORD WILSON

## Trustees Emeriti

RICHARD L. BUNN '55  
LAWRENCE E. COHEN '57  
PATTIE S. DAVIES  
JEROME R. GOLDSTEIN  
MELANIE MASLOW KERN  
ROBERT A. MUGFORD '58  
GEORGE PAWLUSH '69 '76  
MARY B. RHODES M'77  
STEPHEN SORDONI

## Officers

WILLIAM R. MILLER, '81, Chairman  
LAURA CARDINALE, '72, Vice Chair  
CHARLES F. COHEN, Secretary/Assistant Treasurer  
RAYMOND DOMBROSKI, '78, Treasurer/Assistant Secretary

## Trustees Emeriti

RICHARD L. BUNN '55  
 LAWRENCE E. COHEN '57  
 PATTIE S. DAVIES  
 JEROME R. GOLDSTEIN  
 MELANIE MASLOW KERN  
 ROBERT A. MUGFORD '58  
 GEORGE PAWLUSH '69 '76  
 MARY B. RHODES M'77  
 STEPHEN SORDONI

## Correspondence Directory

Write to or contact these persons for additional information on specific matters:

Greg Cant, *President*  
 General Institutional Policy  
 (570) 408-4000

David M. Ward, Senior Vice President/Provost  
 Curriculum and Academic Affairs  
 (570) 408-4200

Susan A. Hritzak, Registrar  
 Readmission, registration, graduation audit, and academic records of currently enrolled and former students  
 (570) 408-4859

Kishan Zuber, *Vice President of Enrollment Management and Marketing*  
 Admission to Wilkes Undergraduate Program, visits to the campus, tours, and interviews  
 (570) 408-4405

Jared Menghini, *Executive Director of Financial Aid*  
 Financial aid and scholarships  
 (570) 408-4512

Mark Allen, *Interim Vice President for Student Affairs*  
 Student Affairs, readmission  
 (570) 408-4114

Philip Ruthkosky, *Interim Dean of Students*  
 Student life, development, and leadership  
 (570) 408-4103

Cathy Lee Arcuino, *Executive Director of Global Engagement*  
 International student admission and advisement  
 (570) 408-2616

Erica Acosta, Director, Diversity Initiative  
 Diversity Affairs  
 (570) 408-7856  
 Crystal Cool, *Assistant Director of International Student and Scholar Services*  
 International student admission and advisement  
 (570) 408-2029  
 Kimberly A. Niezgoda, Director, Intensive English Program  
 Intensive English Program  
 (570) 408-4170

Gretchen Yeninas, Associate Dean  
 Residential matters for enrolled students  
 (570) 408-4107

Jonathan Ference, Associate Provost for Student Success  
 Student academic support services and advisement

## University Personnel

(570) 408-4271

Katy Betnar, Director, University College  
Student academic support services and advisement  
(570) 408-4233

Anne Kotarski, *Director, Treasury and Student Accounts*  
Student accounts and other financial matters for new and enrolled students  
(570) 408-4654

## Executives Emeriti

*Date of award of emeritus status noted in parentheses.*

### **J. MICHAEL LENNON (2002)**

Vice President for Academic Affairs, Emeritus, Ph.D. Rhode Island

### **EUGENE MANGANELLO (2002)**

Director of Human Resources Management, Emeritus, B.A. Wilkes

### **PAUL O'HOP (2002)**

Vice President of Business Affairs and Auxiliary Enterprises, Emeritus, M.B.A. George Washington

## Faculty

In alphabetical order, with date of appointment following the name.

NELSON M. ANAYA-ARCHILA (2022), Assistant Professor of Mechanical Engineering  
B.A. Universidad Industrial de Santander, M.S. University of Puerto Rico, Ph.D. Rhode Island

MISCHELLE B. ANTHONY (2003), Associate Professor of English  
B.A. Central State University, M.A. Central Oklahoma, Ph.D. Oklahoma State

CAROLE E. BADDOUR (2017), Assistant Professor of Mechanical Engineering  
BESc., MESC. University of Western Ontario, Canada, Ph.D., McGill University, Canada

EDWARD T. BEDNARZ III (2013), Associate Professor of Mechanical Engineering  
B.S. Wilkes, M.S., Ph.D. University of Maryland

PAOLA BIANCO (1996), Professor of Spanish  
B.A. Wilkes, M.A. SUNY-Binghamton, Ph.D. North Carolina (Chapel Hill)

WILLIAM J. BIGGERS (2003), Associate Professor of Biology  
B.S., M.S. North Carolina State, Ph.D. Connecticut

LORETTA M. BILDER (2011), Assistant Professor of Nursing  
B.S.N. Marywood, M.S.N. Cincinnati

JOSHUA M. BLECHLE (2017), Associate Professor of Chemistry  
B.S. Truman State, Ph.D. Colorado State

SCOTT BOLESTA (2005), Professor of Pharmacy Practice  
B.S., Pharm. D. Wilkes

BARBARA BRACKEN (1998), Associate Professor of Computer Science  
B.S., M.S., Ph.D. SUNY Binghamton

AMY L. BRADLEY (2004), Associate Professor of Chemistry  
B.A., Ph.D. University of New Orleans

MIA E. BRICENO (2013), Associate Professor of Communication Studies  
B.A. Pittsburgh, M.A. California State, Ph.D. Penn State

THANH BUI (2017), Assistant Professor of Accounting  
B.S., M.S. National Economics University, Hanoi, Vietnam, D.B.A. Argosy University, Sarasota, Florida, CPA California

HENRY J. CASTEJON (2003), Professor of Materials Science and Chemistry  
B.S., M.S. Simon Bolivar, Ph.D. Yale

CHELSEA CHAMBERLAIN (2022), Assistant Professor of Global Cultures  
B.A. Whitworth University, M.A. University of Montana, Ph.D. University of Pennsylvania

SOFIA CHEPUSHTANOVA (2015), Associate Professor of Mathematics  
Ph.D. Colorado State

KRISTEN CHESLICK (2018), Faculty of Practice of Nursing  
B.S., M.S., D.N.P. (ABD) Wilkes

CYNTHIA J. CHISARICK (1981), Associate Professor of Accounting  
B.S. Wilkes, M.B.A. Scranton, C.P.A. Commonwealth of Pennsylvania  
KALEN M.A. CHURCHER (2014), Associate Professor of Communication Studies  
B.A. Wilkes, M.S. Scranton, Ph.D. Penn State

LORI COOPER (2014), Associate Professor of Education,  
B.S. Mansfield University, M.Ed. Cameron University, Ed.D. Liberty University  
SHARON COSGROVE (1990), Associate Professor of Art  
B.A. Shepherd College, B.F.A., M.A., M.F.A. New Mexico

DIANE DADDARIO (2022), Faculty of Practice of Graduate Nursing  
B.S. Pennsylvania State, M.S.N. Bloomsburg, D.N.P. Wilkes

SHERRY L. DAUGHTRY (2008), Faculty of Practice, Nursing  
B.S.N., M.S.N. Wilkes

HELEN HOLTZCLAW DAVIS (2008), Associate Professor of English  
B.A. Duke, M.A. Wake Forest, Ph.D. CUNY

JUDITH DELUCA (2002), Professor of Pharmacy Practice  
B.S., Pharm.D. Kentucky

ELLEN DENNIS (2008), Faculty of Practice, Nursing  
B.S.N. University of Pittsburgh, M.S.N. University of Pennsylvania, M.S. Ed Wilkes

WEI DU (2017), Assistant Professor of Electrical Engineering  
B.S: Peking University (China), Ph.D. Chinese Academy of Science

EVE S. A. ESTWICK (2005), Associate Professor of Communication Studies  
B.A., M.A. Howard, Ph.D. Temple

KIMBERLY FERENCO (2008), Associate Professor of Pharmacy Practice  
Pharm.D., Wilkes

JILL A. FERRETTI (2022), Clinical Assistant Professor, Undergraduate Nursing  
A.S.N., Luzerne County Community College, B.S.N., Misericordia, M.S.N., F.N.P. Chamberlain

KRISTIANA FEESER (2021), Visiting Assistant Professor of Psychology  
B.A., Western Kentucky University M.A., Ph.D. Southern Illinois University

MATTHEW FINKENBINDER (2016), Associate Professor of Geology  
B.S., Shippensburg University, M.S. West Virginia University, Ph.D. U. of Pittsburgh

THOMAS FRANKO (2013), Associate Professor of Pharmacy Practice  
Pharm.D. University of the Science

KAREN FRANTZ-FRY (2013), Associate Professor of Education  
B.S., M.S. Bloomsburg, Ph.D. Marywood

DEAN FREAR, SR. (2006), Associate Professor of Business Administration  
B.A. Bloomsburg, M.B.A. Scranton, Ph.D. Capella

HOLLY FREDERICK (2008), Associate Professor of Civil Engineering and Environmental Engineering  
B.S. Wilkes, M.S., Ph.D. Pennsylvania State

TY FREDERICKSON (2017). Assistant Professor of Education

## University Personnel

B.S.E. Emporia State, M.A. Wichita State, Ed.D. Wilkes

STEVEN GAPINSKI (1997), Faculty of Practice, Mathematics and Computer Science  
M.S. Wilkes

RAFAEL GARCIA (2011), Associate Professor of Spanish  
Licenciaturas, University of Valladolid (Spain), Ph.D. Cincinnati

ANU C. GHAI, CPA, CFE (2017), Assistant Professor of Accounting  
B.A. Duke University, MAcc, University of West Florida

MOHSEN GHAMARI (2016), Associate Professor of Mechanical Engineering  
BS, MS Amirkabir University of Technology, PhD University of Iowa

JAMAL GHORIESHI (1984), Professor of Mechanical Engineering  
B.S., M.S., Ph.D. SUNY, Buffalo

MARIA GRANDINETTI (2011), Associate Professor of Nursing  
B.S.B.A. Rider, B.S.N. Seton Hall, M.S. Wilkes, Ph.D. Widener

WILLIAM L. GREINER III (2014), Faculty of Practice  
BS TriState University, MS Bucknell

BRENDA GRUVER (2019), Assistant Professor Pharmacy Practice  
PharmD, Wilkes

LINDA S. GUTIERREZ (2002), Professor of Biology  
M.D. Universidad de Carabobo, Venezuela

THOMAS A. HAMILL (2002), Associate Professor of English  
B.A. Loyola College (Maryland), M.A., Ph.D. Delaware

GREGORY HARMS (2011), Associate Professor of Physics  
B.A., B.S. Bethel, Ph.D. University of Kansas

JOHN W. HARRISON (1994), Associate Professor of Mathematics  
B.S. Wilkes, M.A., Ph.D. SUNY, Binghamton

TODD B. HASTINGS (2022), Assistant Professor of Undergraduate Nursing  
A.A.S. Luzerne County Community College, M.S.-R.N. Wilkes University, Ph.D. University of Phoenix

EMILY SISCO HAVRILLA (2006), Associate Professor of Nursing  
B.S., M.S.N. Misericordia, Ph.D. Rutgers

CHRISTOPHER HENKELS (2012), Associate Professor of Chemistry  
A.B. Colgate, M.S. Cornell, Ph.D. Duke

RYAN A. HENRY, Associate Professor of Chemistry  
B.S. Johns Hopkins, M.S. and Ph.D. University of Rochester School of Medicine and Dentistry

DAVID HICKS (2020), Faculty of Practice, Creative Writing  
B.A. Nazareth, M.A. St. Bonaventure, PhD New York University

JAYME IRENE HINES (2022), Assistant Professor, Undergraduate Education  
B.S. Ed. St. Bonaventure, M.Ed. College of Charleston, Ed.D. College of St. Mary

KATHLEEN A. HIRTHLER (2010), Associate Professor of Nursing  
B.S.N., M.S.N. Misericordia, D.N.P. Chatham

SHELLI HOLT-MACEY (1998), Instructor, Pharmacy Practice  
B.S. Pharm, U of Buffalo

RUTH C. HUGHES (2013), Associate Professor of Business Law  
B.A. Tulane, J.D. Washington and Lee

MATTHEW JENNINGS (2022), Assistant Professor of Microbiology  
B.Sc. University of Scranton, M.Sc. Villanova, Ph.D. University of Arkansas

MARK JOHNSON (2019), Assistant Professor of Music  
B.M.E. Winthrop University, M.M. Winthrop University, D.M.A. University of Southern Mississippi

ANGELA JONES (2017), Faculty of Practice, Undergraduate Nursing  
B.S., M.S. Chamberlain

VICKI JONES (2018), Assistant Professor of Education  
B.S. East Stroudsburg, M.S. Old Dominion, M.S. Virginia Polytechnic, Ed.D. Wilkes (EBD)  
LISA KADLEC (2005), Professor of Biology  
B.A. Haverford, Ph.D. Duke

VALERIE G. KALTER (1991), Associate Professor of Biology  
B.A. Northwestern, Ph.D. University of Iowa

M. ANTHONY KAPOLKA, III (1996), Associate Professor of Computer Science  
B.S. Lebanon Valley, M.S., Ph.D. Pittsburgh, M.Div. RTS, M.A., M.F.A. Wilkes

BOBAK KARIMI (2017), Assistant Professor of Geology  
B.S. University of Pittsburgh (Johnstown), Ph.D. University of Pittsburgh (Pittsburgh)

SARITHA KARNAE (2018), Assistant Professor of Civil Engineering and Environmental Engineering  
B.E. Osmania, M.S., Ph.D. Texas A & M

TRACY A. KASTER (2013), Faculty of Practice, Education  
B.S. University of Arkansas, M.S. Wilkes

DANIELLE KIECK (2019), Assistant Professor, Pharmacy Practice  
PharmD, The State University of New York at Buffalo

SEAN J. KELLY (2008), Associate Professor of English  
B.A. Tennessee, M.A. Pittsburgh, Ph.D. SUNY, Buffalo

NA YOON KIM (2019), Assistant Professor of Management  
B.A. Yonsei University; M.S. Yonsoe University; PhD Cornell University

KENNETH M. KLEMOW (1982), Professor of Biology, GeoEnvironmental Sciences and Engineering  
B.S. Miami, M.S., Ph.D. SUNY, Syracuse

FANHUI KONG (2005), Professor of Statistics  
B.S., M.A. Northeast Normal University, P.R. China, Ph.D. Binghamton University

SUSAN KORONKIEWICZ (2022), Assistant Professor, Undergraduate Nursing  
B.S., M.S. Wilkes

KYLE L. KREIDER (2004), Professor of Political Science  
B.A., Millersville, M.A., Ph.D. Temple

LAWRENCE T. KUCHAR (1989), Professor of English  
B.A., M.A. Duquesne, Ph.D. Maryland

JONATHAN KUIKEN (2014), Associate Professor of History  
B.A. Gordon College, M.A., Ph.D. Boston College

MICAYLA LACEY (2022), Assistant Professor of Psychology  
B.A. Lee University, M.A., Ph.D. University of Alabama

HYERYEON LEE (2016), Assistant Professor, Hospitality Management  
B.A., M.A. South Korea, Ph.D. Texas Tech University

WOOJUN LEE (2016), Associate Professor, Sports Management  
M.A., Ph.D. Texas A&M University

V. MING LEW (1993), Associate Professor of Mathematics  
B.S. UC Santa Barbara, M.S., Ph.D. Cornell

TROY LYNN LEWIS (2018), Assistant Professor, Pharmacy Practice  
B.S., Pharm.D, Wilkes

JON P. LIEBETRAU (2014), Associate Professor of Theater  
B.A. Gettysburg, B.F.A. Wayne State, M.F.A. Brandeis

EUGENE T. LUCAS (2013), Associate Professor of Nursing

## University Personnel

B.S. Wilkes, M.S. Misericordia, D.N.P. Wilkes

DEL LUCENT (2012), Associate Professor of Physics  
B.A. B.S. Wilkes, Ph.D. Stanford

XIN LUO (2017), Assistant Professor of Mathematics  
B.S. Jinan University, Guangzhou, China; M.S. Jinan University, Guangzhou, China; M.S. University of Alabama, Tuscaloosa, AL;  
Ph.D. University of Alabama, Tuscaloosa, AL.

HAN MA (2019), Assistant Professor of Marketing  
B.A. Nanjing University of Aeronautics and Astronautics; M.B.A. New York Institute of Technology; Ph.D. The University of Texas at Arlington

BLAKE MACKESY (2014), Associate Professor of Education  
B.A. Russell Sage College, M.A. Rollins College, Ed.D. Wilkes University

RUBI MAHATO (2022), Assistant Professor, Pharmaceutical Sciences  
B.Pharm. Rajiv Gandhi University, M.B.A. Farleigh Dickinson, Ph.D. University of Missouri

ANDREEA MAIEREAN (2013) Associate Professor of Political Science  
B.A. National School of Political Studies and Public Administration (Bucharest), M.A. Central European, Ph.D. Boston

JENNIFER MALINOWSKI (1998), Associate Professor of Pharmacy Practice  
B.S., Philadelphia College of Pharmacy and Science, Pharm.D. Temple

DANA MANNING (2008), Associate Professor of Pharmacy Practice  
B.S. Cornell, Pharm.D., Wilkes

ANDREA MANTIONE (2022), Assistant Professor of Undergraduate Nursing  
B.S.N. Wilkes University, M.S.N.- FNP, M.H.A., D.N.P. University of Scranton

JIN JOY MAO (2008), Associate Professor of Education  
B.A. Xi'an International Studies University, M.S., Ph.D. Penn State University

LYNNE MARIANI (2014) Faculty of Practice, Dance

JUSTIN C. MATUS (2005), Associate Professor of Business Administration  
B.S. King's, M.B.A. Golden Gate University, Ph.D. Old Dominion  
MARY F. McMANUS (2000), Associate Professor of Pharmaceutical Sciences  
B.S., Ph.D. St. John's

KARIM MEDICO (2013), Associate Professor of Education  
B.S. Fairfield University, M.S. University of Scranton, Ed.D. University of Phoenix

CHRISTINE E. MELLON (2008), Faculty of Practice, Communication Studies  
B.A. Scranton, M.S. Neumann, Ed.D. Wilkes

DONALD E. MENCER, Jr. (2001), Professor of Chemistry  
B.S. Frostburg State, Ph.D. Texas A&M

ANDREW MILLER (2005), Associate Professor of Political Science  
B.A. Illinois College, M.A. Illinois State, Ph.D. Purdue

MARY JANE MISKOVSKY (2011), Associate Professor of Nursing  
B.S. Misericordia, M.S. Syracuse, D.N.P. Carlow

ALISON MOROONEY, Assistant Professor of Performing Arts  
B.F.A., M.F.A. Pennsylvania State

GINA ZANOLINI MORRISON (1996), Professor of Global Cultures  
B.S. Kutztown, M.S., Ph.D. Marywood

XIAOMING MU (2017), Assistant Professor of Mechanical Engineering  
B.S. Dalian University of Technology, China, Ph.D. Georgia Institute of Technology

JULIE MURPHY (2021), Assistant Professor of Nursing  
B.S.N. Pennsylvania, M.S.N. Drexel, Ph.D. Pennsylvania

SUZANNE MURRAY-GALELLA (2004), Associate Professor of Education  
B.A. Scranton, M.S. Marywood, Ed.D. Wilkes

PRAHLAD N. MURTHY (1993), Professor of Civil Engineering and Environmental Engineering  
B.E. Bangalore University, India, M.E. Anna University, India, Ph.D. Texas A&M, P.E., QEP

RICHARD MUSZYNSKI, III (2020), Assistant Professor of Quantitative Management  
B.A. Lewis-Clark, M.S. Washington State, Ph.D. Washington State  
AMJAD NAZZAL (2008), Associate Professor of Physics  
B.Sc., M.Sc. Yarmouk University (Jordan), Ph.D. Arkansas

ELLEN E. NEWELL (2013), Associate Professor of Psychology  
B.A., M.A., Ph.D. Maine

KIMMY NGUYEN (2018), Assistant Professor of Pharmacy Practice  
PharmD, University of the Sciences

JULIE L. OLENAK (2004), Professor of Pharmacy Practice  
Pharm.D. Wilkes

JODI OLENGINSKI (2017), Faculty of Practice  
B.S. University of Scranton, M.S.N. Mansfield

AVNI J. PATEL (2021), Assistant Professor of Pharmacy Practice  
B.S. UCLA, Pharm.D. University of New Mexico

LINDA M. PAUL (1989), Associate Professor of Philosophy  
B.A. Guilford, Ph.D. Maryland, College Park

NICOLE PEZZINO (2015), Associate Professor of Pharmacy Practice  
Pharm.D., U of Pittsburgh

TERESA FAIRCHILD PITCHER (2017), Assistant Professor of Nursing  
M.S. Drexel University, B.S. Saint Joseph's College

ALISHA PITCHFORD (2017), Faculty of Practice of Chemistry  
B.S., M.S. Marywood University

DIANE M. POLACHEK (1986), Professor of Education  
B.A., M.S. Wilkes, M.S. UC Santa Barbara, Ed.D. Lehigh

KRISTINA POWERS (2015), Instructor, Pharmacy Practice  
Pharm.D., Wilkes

RONALD L. PRYOR (2001), Faculty of Practice, Mathematics and Computer Science  
B.A., M.S. Wilkes, Ph.D. SUNY, Binghamton

TANYA PYKE (2018), Faculty of Practice of Finance, Accounting and Management  
B.S., M.P.A. The University of Akron, Ph.D. Walden University

ALI RAZAVI (1984), Professor of Mechanical Engineering  
B.S. Tehran, Iran, M.S. Manchester, England, Ph.D. Drexel

ROBLYN D. RAWLINS (2022), Visiting Assistant Professor of Sociology/Criminology  
B.S. Georgia State University, M.A. & Ph.D. Stony Brook University

PAUL REINERT (2016), Assistant Professor of Education  
B.S., M.S. University of Scranton, Ph.D. Marywood University

SHUO REN, (2019) Assistant Professor of Integrative Media, Art + Design  
BS Virginia Tech, MS Old Dominion University, PhD Old Dominion University

MARIANNE M. REXER (1990), Professor of Accounting  
B.S. Wilkes, M.S. Bryant, Ph.D. Drexel, C.P.A. Commonwealth of Pennsylvania

LISA REYNOLDS (2018), Assistant Professor, of Integrative Media  
B.F.A. Kutztown, M.F.A. Marywood

MARIE ROKE-THOMAS (2003), Associate Professor of Pharmaceutical Sciences  
B.S. Wilkes, M.P.A. Seton Hall, Ph.D. Marywood

LAUREN ROSSITER (2022), Assistant Professor of Chemistry

## University Personnel

B.S. Messiah, Ph.D. Temple

ERIC RUGGIERO (2010), Associate Professor of Integrative Media, Art and Design  
B.F.A. Syracuse, M.F.A. Savannah College of Art and Design

ABAS SABOUNI (2013), Associate Professor of Electrical Engineering  
B.S., Azad University, M.S. K.N. Toosi University of Technology, Ph.D. University of Manitoba, Winnipeg

EDWARD J. SCHICATANO (1999), Professor of Psychology  
B.A. Bloomsburg, M.A., Ph.D. Wake Forest

VANDY SCOATES (2022), Assistant Professor of Theatre  
B.A. California State, M.A. Villanova, M.F.A. University of Greensboro

ROBERT D. SEELEY (1989), Associate Professor of Economics  
B.A. Franklin and Marshall, Ph.D. Maryland  
NICHOLE M. SELL (2022), Assistant Professor of Applied Psychology  
B.A. Cedar Crest, M.Ed. Lehigh, M.S., Ph.D. Pennsylvania State

SHI SHA (2018), Assistant Professor of Electrical Engineering  
B.S. Beihang, M.S. Murray State, Ph.D. Florida International

AKIRA SHIMIZU (2015), Associate Professor of History  
B.A. Konan, M.A. Memphis, M.A., Ph.D. Illinois (Urbana-Champaign)

HEATHER SINCAVAGE (2016), Associate Professor of Art and Director of the Sordoni Art Gallery  
B.F.A. Temple, M.F.A. Washington

AMY SOPCAK-JOSEPH (2019), Assistant Professor of History  
B.A. Dickinson, M.A., Ph.D. Connecticut  
LAURA SKORONSKI (2016), Assistant Professor of Nursing  
B.S.N. University of Scranton, M.S.N. Georgetown University

CHARLES SMARGIASSI (2018), Assistant Professor  
B.S. Millersville University, M.S. Bloomsburg University, Ph.D. Penn State University

AMY STANCAVAGE (2022), Assistant Clinical Professor of Undergraduate Nursing,  
B.S.N. & M.S.N. Wilkes

JACQUELINE STEWART (2007), Associate Professor of Nursing  
B.S. Cedar Crest, M.S.N. Widener, DNP Duke

THYAGARAJAN SRINIVASAN (1985), Professor of Electrical Engineering  
B.E., M.Sc. (Eng) India, M.S. Oklahoma State, Ph.D. Pennsylvania State, P.E. (Elec)

WILLIAM CHAD STANLEY (2005), Associate Professor of English  
B.A. Syracuse, M.A., Ph.D. Connecticut

AMY STANCAVAGE (2022), Clinical Assistant Professor, Undergraduate Nursing  
B.S.N., M.S.N., Wilkes

MICHAEL A. STEELE (1989), Professor of Biology  
B.S. Millersville, Ph.D. Wake Forest

MARK D. STINE (1999), Professor of Communication Studies  
B.A. Moravian, M.Ed. East Stroudsburg, Ph.D. Temple

JEFFREY A. STRATFORD (2006), Professor of Biology  
B.S. Rutgers, M.S. Southeastern Louisiana, Ph.D. Auburn

FREDERICK J. SULLIVAN (1993), Associate Professor of Mathematics  
B.S., M.S. Louisiana State, Ph.D. SUNY Binghamton

PATRICIA SWEENEY (2014), Associate Professor of Nursing  
B.S.N. Wilkes, M.S. State University of New York, Ph.D. Pennsylvania State University

GHAZALEH TAHERZADEH (2021), Assistant Professor of Computer Science

B.Sc. Multi Media University, M.Sc. University of Malaya, Ph.D. Griffith University

ROBERT R. TAYLOR (2011), Faculty of Practice, Electrical Engineering  
B.A. Earlham College, M.B.A. Wright State

WAGIHA-ABDEL-GAWAD TAYLOR (1969), Professor of Business Administration and Economics  
B.A. Alexandria, M.A. Brown, Ph.D. Clark

WILLIAM B. TERZAGHI (1995), Professor of Biology  
B.Sc. University of Waikato, Ph.D. Utah

KEDIR ASSEFA TESSEMA (2017), Assistant Professor of Leadership Studies  
B.Ed. KCTE, M.A. Addis Ababa University, M.A. Umeå University, Ph. D. University of San Diego

JENNIFER THOMAS (2006), Associate Professor of Psychology  
B.S. Bucknell, M.A. Wake Forest, Ph.D. Purdue

DEBORAH R. TINDELL (1998), Professor of Psychology  
B.A. California State (Chico), M.S., Ph.D. Texas A&M  
BENJAMIN TOLL (2019), Assistant Professor of Political Science  
B.A. Taylor University, M.A. Baylor University M.A. Indiana University Ph.D. Indiana University

DOMINICK TROMBETTA (2001), Associate Professor of Pharmacy Practice  
CGP, B.S. Temple, Pharm.D. Shenandoah

MARLEEN A. TROY (1997), Professor of Civil Engineering and Environmental Engineering  
B.S., M.S., Drexel, M.S. Rhode Island, Ph.D. Drexel, P.E.  
KENDALL TUCKER (2021), Assistant Professor of Pharmacy Practice  
M.S., Pharm.D., University of South Carolina

ROBERT C. TUTTLE (1989), Professor of Sociology  
B.A. Kansas, M.A., Ph.D. Notre Dame

ADAM L. VAN WERT (2008), Associate Professor of Pharmaceutical Sciences  
Pharm.D., Wilkes, Ph.D. Medical University of SC  
JOYCE VICTOR (2004), Associate Professor of Nursing  
B.S.N, M.S.N., M.H.A., M.A. Wilkes, Ph.D. Duquesne

SHAOKANG (Ken) WANG (2014), Associate Professor of Finance  
B. Eng. Tsinghua University, M.S., Ph.D. University at Buffalo (SUNY)  
LETITIA WARUNEK (2019), Assistant Professor Pharmacy Practice  
PharmD, Wilkes

STEPHANIE WASMANSKI (2018), Assistant Professor of Education  
B.S. Misericordia, M.B.A, Ed.D. Wilkes  
JANE BLANKEN WEBB (2018), Assistant Professor of Education  
B.M. Northern Illinois, M.M.E., Ph.D. University of Illinois

BRIAN E. WHITMAN (1997), Professor of Civil Engineering and Environmental Engineering  
B.S., M.S. Ph.D. Michigan Technological University

TERESE M. WIGNOT (1989), Associate Professor of Chemistry  
B.A., Ph.D. Lehigh

ANDREW WILCZAK (2012), Associate Professor of Sociology  
B.A. University of Michigan (Dearborn), M.A. Eastern Michigan, Ph.D. Bowling Green

PHILIP WINGERT (1986), Assistant Professor of Physical Education  
B.S. SUNY, Cortland, M.E. Virginia Polytechnic

LINDA A. WINKLER (2010), Professor of Anthropology  
B.A. Midland Lutheran, M.A., Ph.D., M.P.H. Pittsburgh

KAI WU (2019), Visiting Assistant Professor of Mechanical Engineering  
B.S. Fudan University, M.S. University of Maryland, Baltimore County, Ph.D. University of Maryland, Baltimore County

GE (Grace) XIAO (2008), Associate Professor of Business Administration  
B.A. Yokohama City University (Japan), M.S., M.I.S., Ph.D. Auburn

## University Personnel

BRENT YOUNG (2015), Associate Professor of Mathematics  
B.S. UNC, Chapel Hill, M.S.UNC, Wilmington, Ph.D Rutgers  
CHRISTOPHER ZARPENTINE (2013), Associate Professor of Philosophy  
B.A. Ithaca, M.A., Ph.D. Florida State

DEBORAH K. ZBEGNER (1994), Associate Professor of Nursing  
B.S.N. Allentown College, M.S.N. Pennsylvania, Ph.D. Widener

YONG ZHU (2014), Associate Professor of Mechanical Engineering  
B.S., M.S. Harbin Institute of Technology, M.S. Northern Illinois, Ph.D. Vanderbilt

## Faculty Emeriti

JEFFREY R. ALVES (2018)  
Allan P. Kirby, Jr., Distinguished Professor of Free Enterprise and Entrepreneurship and Dean, Emeritus, Ph.D. Massachusetts  
(Amherst)

THOMAS J. BALDINO (2019)  
Professor of Political Science, Emeritus, B.A. La Salle, M.A. Illinois, Ph.D. Pennsylvania

ANNE HEINEMAN BATORY (2017)  
Professor of Marketing, Emerita, Ph.D. Maryland

JOSEPH T. BELLUCCI (2001)  
Professor of Education and Psychology, Emeritus, Ed.D. Lehigh

LOUISE McNERTNEY BERARD (2015)  
Professor of Mathematics, Emerita, Ph.D. Brown

JOEL BERLATSKY (2007)  
Professor of History, Emeritus, Ph.D. Northwestern

ROBERT W. BOHLANDER (2022)  
Professor of Psychology, Emeritus, Ph.D. Rochester

DALE A. BRUNS (2020)  
Professor of Earth and Environmental Sciences, Emeritus, Ph.D. Idaho State

JAMES MICHAEL CASE (2013)  
Professor of Earth and Environmental Sciences and Biology, Emeritus, Ph.D. Dalhousie, Halifax

LEONA CASTOR (2003)  
Associate Professor of Nursing, Emerita, Ed.D. Penn State

CARL J. CHARNETSKI (2021),  
Professor of Psychology, Emeritus, Ph.D. Temple

HAROLD E. COX (2004)  
Professor of History, Emeritus, Ph.D. Virginia

JANE M. ELMES-CRAHALL (2017)  
Professor of Communication Studies, Emerita, Ph.D. Pittsburgh

BONNIE CULVER (2020)  
Associate Professor of English, Emerita, Ph.D. SUNY, Binghamton

LORNA C. DARTE (1997)  
Associate Professor of Library Science, Emerita, M.S. Drexel Institute of Technology

JOSEPH DAWSON (2022)  
Associate Professor of Theatre, Emeritus, M.F.A. Catholic

SUZANNE M. DRUFFNER (1999)  
Associate Professor of Nursing, Emerita, M.S. Pennsylvania

THEODORE J. ENGEL (2021)  
Associate Professor of Business Administration, Emeritus, M.A. Miami

MAHMOUD H. FAHMY (1996)

Professor of Education, Emeritus, Ph.D. Syracuse

WELTON G. FARRAR (1989)

Professor of Economics, Emeritus, M.S. Pennsylvania

OWEN D. FAUT (2000)

Professor of Chemistry, Emeritus, Ph.D. M.I.T.

BENJAMIN F. FIESTER (1996)

Professor of English, Emeritus, Ph.D. Pennsylvania State

MICHAEL S. GARR (2022)

Professor of Sociology and Anthropology, Emeritus, Ph.D. Indiana

JOHN B. GILMER, JR. (2020)

Professor of Electrical Engineering, Emeritus, Ph.D. Virginia Polytechnic Institute

BERNARD W. GRAHAM (2018)

Professor of Pharmaceutical Sciences and Dean, Emeritus, Ph.D. Purdue

STANLEY S. GUTIN (1992)

Professor of English, Emeritus, Ph.D. Pennsylvania

SID HALSOR (2020)

Professor of Geology, Emeritus, Ph.D. Michigan Technological University

ROBERT J. HEAMAN (2001)

Professor of English, Emeritus, Ph.D., Michigan

JOHN HEPP (2022)

Professor of History, Emeritus, Ph.D. North Carolina (Chapel Hill), J.D. Pennsylvania

LEVERE C. HOSTLER (1997)

Professor of Physics, Emeritus, Ph.D. Stanford

DENNIS P. HUPCHICK (2015)

Professor of History, Emeritus, Ph.D. Pittsburgh

EDWIN L. JOHNSON (1996)

Associate Professor of Education, Emeritus, M.A. Bucknell

WALTER KARPINICH (2002)

Professor of Foreign Languages and Literatures, Emeritus, Ph. D. Ukrainian Free University, Munich

ARTHUR H. KIBBE (2015),

Professor of Pharmaceutical Sciences, Emeritus, Ph.D. Florida

BRADFORD L. KINNEY (2012)

Professor of Communication Studies, Emeritus, Ph.D. Pittsburgh

JOHN A. KOCH (2021),

Professor of Computer Science, Emeritus, Ph.D. Illinois

JANE LAMPE - GROH (1997)

Dean of Student Affairs, Emerita, M.A. Michigan, M.Ed. Virginia

J. MICHAEL LENNON

Professor of English, Emeritus (2005), Vice President for Academic Affairs, Emeritus (2002), Ph.D. Rhode Island

ANTHONY L. LIUZZO (2017)

Professor of Business and Economics, Emeritus, Ph.D. New York University

HILDA A. MARBAN (1986)

Professor of Foreign Languages, Emerita, Ph.D. Havana, Ph.D. Virginia

MARY ANN MERRIGAN (2020)

Associate Professor of Nursing, Emerita, Ph.D. Adelphi

SAMUEL MERRILL, III (2004)

Professor of Mathematics, Emeritus, Ph.D. Yale

## University Personnel

JOHN H. NATZKE (2005)

Associate Professor of Sociology, Emeritus, Ph.D. Western Michigan

KENNETH A. PIDCOCK (2017)

Professor of Biology, Emeritus, Ph.D. Lehigh

WALTER A. PLACEK, JR. (2001)

Professor of Physics and Education, Emeritus, Ph.D. Pennsylvania

RICHARD G. RASPEN (2007)

Associate Professor of Business Administration, Emeritus, Ph.D. Pennsylvania

GEORGE F. RALSTON

Dean of Student Affairs, Emeritus, M.A. Columbia

BRIAN T. REDMOND (2017)

Professor of Geology and Chemistry, Emeritus, Ph.D. Rensselaer Polytechnic

JOHN G. REESE (1995)

Professor of Physical Education, Emeritus, M.Ed. Pennsylvania State

PHILIP L. RIZZO (1987)

Professor of English, Emeritus, Ph.D. Pennsylvania

JAMES P. RODECHKO (2002)

Professor of History, Emeritus, Ph.D. Connecticut

RALPH B. ROZELLE (1996)

Professor of Chemistry, Emeritus, Ph.D. Alfred

DORIS B. SARACINO (2000)

Associate Professor of Physical Education, Emerita, M.S. East Stroudsburg

ROLAND C. SCHMIDT, JR. (1995)

Associate Professor of Physical Education, Emeritus, M.S. Scranton

JUDITH K. SCHREIBER (2002)

Associate Professor of Nursing, Emerita, M.S. Pennsylvania, M.S. Scranton

HERBERT B. SIMON (1992)

Professor of Art, Emeritus, M.A. New York

PHILIP G. SIMON (2019)

Associate Professor of Music, Emeritus, D.M.A. North Texas

WILLIAM H. STERLING (1999)

Professor of Art, Emeritus, Ph.D. Iowa

ROBERT D. STETTEN (1996)

Associate Professor of Psychology, Emeritus, Ph.D. Lehigh

JACQUELINE STEWART (2020)

Associate Professor of Nursing, Emerita, DNP Duke

WILLIAM R. STINE (2004)

Professor of Chemistry, Emeritus, Ph.D. Syracuse

SHARON G. TELBAN (2010)

Associate Professor of Nursing Emerita, D.Ed, Pennsylvania State

STEVEN L. THOMAS (2020)

Professor of Music, Emeritus, D.M.A. Yale School of Music

STEPHEN J. TILLMAN (2012)

Professor of Mathematics, Emeritus, Ph.D. Brown

PHILIP R. TUHY (1993)

Assistant Professor of Political Science, Emeritus, M.G.A. Pennsylvania

LESTER J. TUROCZI (2002)

Professor of Biology, Emeritus, Ph.D. Rutgers

**DIANE E. WENGER (2019)**  
Associate Professor of History, Emerita, Ph.D. Delaware

**ZBIGNIEW J. WITCZAK (2021)**  
Professor of Pharmaceutical Sciences, Emeritus, Ph.D. Medical Academy, Lodz, Poland

**BING K. WONG (2004)**  
Professor of Mathematics, Emeritus, Ph.D. Illinois

**BRIDGETTE W. ZIELINSKI (2020)**  
Associate Professor of Nursing, Emerita, Ph.D. Adelphi

## Office of the Provost

**DAVID M. WARD (2021), Senior Vice President and Provost**  
B.A. Colgate University, M.P.A., Ph.D. New York University

**ABEL ADEKOLA (2016), Dean, College of Business and Engineering**  
B.B.A. Florida International University, M.B.A. Barry University, DBA Nova Southeastern University

**JONATHAN FERENEC (2008), Associate Provost for Student Success, Associate Professor of Pharmacy Practice**  
Pharm.D., Wilkes

**SHELLI HOLT-MACEY (1998), Interim Dean, Nesbitt School of Pharmacy**  
B.S. Pharm, U of Buffalo

**SUSAN HRITZAK (1983), Registrar**  
B.S., M.B.A. Wilkes

**PAUL T. RIGGS (2015), Dean, College of Arts and Sciences**  
B.A. Dickinson, M.A., Ph.D. University of Pittsburgh

**TERESE M. WIGNOT (1989), Associate Provost for Academic Partnerships**  
B.A., Ph.D. Lehigh

**DEBORAH K. ZBEGNER (1994), Dean, College of Health and Education**  
B.S.N. Allentown College, M.S.N. Pennsylvania, D.N. Sc. Widener

## Presidents Emeriti

*Date of award of emeritus status noted in parentheses.*

**JOSEPH E. GILMOUR (2012)**  
President Emeritus, Ph.D. Michigan

**FRANCIS J. MICHELINI (2012)**  
President Emeritus, Ph.D. Pennsylvania

**CHRISTOPHER N. BREISETH (2001)**  
President Emeritus, Ph.D. Cornell

# Course Descriptions

## ACT. ACT

### ACT-101. PROGRAM

A special program for students from Pennsylvania who need academic and financial support, the [[ACT-101]] Program allows educationally underprepared students to improve their skills in verbal and written communication, reading comprehension, mathematics, and problem solving, all in an effort to acquaint these students with and help them adjust to the many new experiences associated with a college education. The program provides for tutoring and counseling to enhance the student's potential for success in the college environment. Inquiries about [[ACT-101]] should be directed to the [[ACT-101]] Office in Conyngham Hall or to the Office of Admissions.

## ABBA. ACCELERATED BACHELOR OF BUSINESS ADMINISTRATION (ABBA)

### ABBA-151. ENTREPRENEURSHIP AND INNOVATION

**Credits:** 3

This course takes students through the entrepreneurial process from the creative practice of developing a business concept, to planning the venture, to launching and operating the business, to harvest and closure of the firm. Students learn how businesses operate through the study of functional areas such as marketing, management, human resources, accounting, finance, and operations. Most importantly, students learn and experience how to integrate the functional areas by tracking information and performance using financial statements.

### ABBA-152. THE LEADERSHIP PROCESS

**Credits:** 3

This course takes an interdisciplinary approach to understanding the complex process of leadership. Students will have the opportunity to explore both leadership theory and the practical application of leadership within different contexts (i.e. group, community, not-for-profit, small business and large organizational environments). The course will also focus on current issues that impact the leadership process including culture, diversity, and global perspectives. Additionally, the course will explore skills and behaviors associated with leadership including ethical decision-making, communication, influences, conflict resolution, and motivation.

### ABBA-153. BUSINESS COMMUNICATIONS

**Credits:** 3

This course emphasizes written and oral communications used in business. Students practice writing major business correspondence, including letters containing persuasive requests and refusals, inquiries, orders, sales, applications, credit, collection, and goodwill. Investigative techniques of research and analytical report writing are examined. Students learn the major techniques of effective oral presentations - such as organizing for impact, gaining and keeping audience attention, multimedia applications, and adapting to cross-cultural audiences.

### ABBA-154. BUSINESS ECONOMICS

**Credits:** 3

This course introduces the student to macroeconomic and microeconomic theories and principles. Core issues in both areas of Economics such as supply and demand, fiscal policy and monetary policy, employment, and pricing and output determination are explored in a business environment context.

### ABBA-161. FINANCIAL ACCOUNTING

**Credits:** 3

This course studies the nature, function, and environment of accounting, including the accounting information system, account analysis, and decision-making. The course also provides an understanding of accounting issues and objectives for proper interpretation and analysis of financial accounting information.

### ABBA-162. MANAGERIAL ACCOUNTING

**Credits:** 3

This course develops managerial accounting as an internal tool used to generate information for managerial planning and control. Students will develop an understanding of how costs flow through the manufacturing process and how financial and non-financial information is used to make budgeting and other managerial accounting decisions.

### Pre-Requisites

[[ABBA-161]] with a minimum grade of 2.0

### ABBA-202. PERSONAL AND PROFESSIONAL DEVELOPMENT I

**Credits:** 2

This is the first part of a two course series on Personal and Professional Development and explicitly targets personal and professional competency assessment, development, practice and evaluation. This course will challenge students to become self-aware in areas including: personality style, leadership style, team oriented qualities. Self-awareness and examination will be expanded and consistently reviewed and will establish the discipline of lifelong learning, goal setting and planning.

**ABBA-221. PRINCIPLES OF MARKETING****Credits:** 3

This course provides an introduction to the planning and activities of marketing. The course will provide an understanding of the dynamic role marketing plays in the global and national economy as well as the organization. The student will have the opportunity to build a knowledge base about the following areas: strategic marketing, research, consumer behavior, segmentation and targeting, marketing mix planning, the selling process, implementation, and evaluation. Marketing challenges, ethical thinking and action, and global dimensions of the practice of marketing and retailing will be identified.

**ABBA-235. THE LEGAL ENVIRONMENT AND BUSINESS LAW****Credits:** 3

This course provides a foundation for business managers to operate within the legal environment in which all businesses in our society function. It provides an overview of law and our legal system, the lawmaking and adjudicatory processes, and the roles of economic, social, and political forces in the shaping of constraining legal rules and regulations. It also provides a study of the laws protecting consumers and employees; and the law of contracts, sales, and business organizations.

**ABBA-240. CORPORATE FINANCE****Credits:** 3

This course provides a study of the financial theories and decision-making models relating to: financial analysis and planning; working capital management; cash budgeting; capital asset acquisitions; capital asset financing; cost of capital; capital structuring; acquisitions; divestitures; and reorganizations.

**ABBA-251. PRINCIPLES OF MANAGEMENT****Credits:** 3

This course introduces the theory and practice of managing organizations. Students analyze the concepts required in overseeing a company including planning, organizing, and controlling. Interdisciplinary in nature, social and ethical dimensions of managing are also examined.

**Pre-Requisites**

[[ABBA-151]] with a minimum grade of 2.0

**ABBA-257. INFORMATION TECHNOLOGY FOR BUSINESS****Credits:** 3

This course explores the assumptions, concepts and theories of information technologies for digital business in the knowledge economy. Topics will include examining critical issues of communication and connectivity of information systems for the organization from both the strategic and technical perspectives. Digital opportunities for organizational connectivity, development of standards and motivating strategic alliances will be emphasized.

**ABBA-319. STATISTICS FOR BUSINESS****Credits:** 3

This course serves as an introduction to the primary calculations and tools needed in business and economics. Topics include, but are not limited to, algebraic functions, interest rates, defining and describing data, numerical and graphical summaries of data, hypothesis testing, and regression and correlation analysis. Mathematical modeling in the business environment is emphasized.

**ABBA-352. PRODUCTION AND OPERATIONS IN BUSINESS****Credits:** 3

This course introduces principles of decision-making, how competition is enhanced, product and process development and management, quality management, and fundamentals of supply chain and inventory management.

**Pre-Requisites**

[[ABBA-319]] with a minimum grade of 2.0

**ABBA-353. MANAGEMENT OF HUMAN RESOURCES****Credits:** 3

This course deals with acquiring skills and understanding of the planning and technologies involved with local, regional, national, and global human resources management. Topics such as selection and recruitment, and job analysis and design are explored. Also included are appraising and rewarding performance, compensation and benefits, and labor management relations.

**Pre-Requisites**

[[ABBA-251]] with a minimum grade of 2.0

**ABBA-354. ORGANIZATIONAL STUDIES****Credits:** 3

This course emphasizes organizational theory and structure enhancing the student's ability to take action in organizations. The role of the employee and manager in the organizational change process will be discussed, highlighting the complexity of change. Topics such as motivation, risk, social influence, communication, organizational structure, team dynamics, leadership, culture, and power will be presented.

**Pre-Requisites**

[[ABBA-251]] with a minimum grade of 2.0

**ABBA-358. INTERNATIONAL BUSINESS MANAGEMENT****Credits:** 3

This course is an introduction to the field of international business. It provides an overview of the world economy; trade channels; and the effects of economic, political, and the social environment on international management. It also provides an insight to problems that exist in international operations, as well as the role of government in fostering international business.

**Pre-Requisites**

[[ABBA-251]] with a minimum grade of 2.0

## Course Descriptions

### **ABBA-402. PERSONAL AND PROFESSIONAL DEVELOPMENT II**

**Credits:** 2

This is the second part of a two course series on Personal and Professional Development and explicitly targets personal and professional competency assessment, development, practice and evaluation. This course will expose you to a series of experts in Leadership in order to examine your own leadership competencies as well as learning about the legacy you leave when you move to later jobs and positions.

#### **Pre-Requisites**

A grade of 2.0 or better in ABBA 202

### **ABBA-461. BUSINESS STRATEGY AND DECISION-MAKING**

**Credits:** 3

This first capstone course integrates the functional areas of business from the perspective of top management. Emphasis is on the role of management in the formation and execution of strategic plans and a particular emphasis on improving a company's performance. ADVISOR PERMISSION REQUIRED.

#### **Pre-Requisites**

[[ABBA-354]] with a minimum grade of 2.0

### **ABBA-462. PROFESSIONAL BUSINESS EXPERIENCE**

**Credits:** 3

This second capstone course is a professional business experience in which students apply their accumulated knowledge, skills, and abilities in a private or public organization related to the students' academic objectives and career goals. The course will include cooperative education, independent study, and/or an experiential component. ADVISOR PERMISSION REQUIRED

#### **Pre-Requisites**

[[ABBA-251]] with a minimum grade of 2.0, [[ABBA-221]] with a minimum grade of 2.0, [[ABBA-240]] with a minimum grade of 2.0

## **ACC. ACCOUNTING**

### **ACC-151. INTEGRATED MANAGEMENT EXPERIENCE I**

**Credits:** 3

**Terms Offered:** Fall

Integrated Management Experience is a two-semester sequence that takes you through the entrepreneurial process from creating a business concept to planning the venture to launching and operating the business to harvest and closure of the firm. You learn how businesses plan and operate through the study of functional areas such as marketing, management, human resources, accounting and finance, and operations. Most importantly, you will learn and experience how the pieces fit together through integrating the functional areas tracking information and performance using financial accounting principles. Cross listed with [[ACC-151]] and [[ENT-151]].

### **ACC-152. INTEGRATED MANAGEMENT EXPERIENCE II**

**Credits:** 3

**Terms Offered:** Spring

Integrated Management Experience is a two-semester sequence that takes you through the entrepreneurial process from creating a business concept to planning the venture to launching and operating the business to harvest and closure of the firm. You learn how businesses plan and operate through the study of functional areas such as marketing, management, human resources, accounting and finance, and operations. You develop a clear understanding of the importance of accounting cycles and how financial accounting principles provide not only information but an integrating thread for all types of organizations. Cross listed with [[BA-152]] and [[ENT-152]].

#### **Pre-Requisites**

[[ACC-151]] / [[BA-151]] / [[ENT-151]] with a minimum grade of 2.0

### **ACC-161. FINANCIAL ACCOUNTING AND DECISION-MAKING**

**Credits:** 3

This is a study of the nature, function, and environment of accounting, including the accounting information system, account analysis, and decision-making. The course provides an understanding of accounting issues and objectives for proper interpretation and analysis of financial accounting information.

### **ACC-162. MANAGERIAL ACCOUNTING AND DECISION-MAKING**

**Credits:** 3

Managerial accounting is an internal tool used to generate information for managerial planning and control. Students will develop an understanding of operating and capital budgets, standard costs, incremental concepts, relevant costs, transfer pricing, and responsibility and profit center reports as a means of analysis as well as techniques of measurement.

#### **Pre-Requisites**

[[ACC-161]] with a minimum grade of 2.0

### **ACC-201. INTERMEDIATE ACCOUNTING**

**Credits:** 3

**Terms Offered:** Fall

A study of the accounting information system and the accounting standards applicable to corporate balance sheet accounts and their related counterparts that result in revenue and expense recognition on the income statement and statement of retained earnings. Course topics include the financial accounting standards, financial statement preparation, cash and receivables, inventories and cost of goods sold, and plant and depreciation.

#### **Pre-Requisites**

[[ACC-161]] with a minimum grade of 2.0

**ACC-202. INTERMEDIATE ACCOUNTING II****Credits:** 3**Terms Offered:** Spring

This course is a study of the accounting standards applicable to intangible assets, liabilities, and stockholders' equity. Also, it focuses on the application of generally accepted accounting principles that relate to various technical reporting areas within financial statements. Emphasis is placed on technical standards and the necessary disclosure requirements for these reporting areas. Course topics include earnings per share, securities that can dilute earnings per share, corporate investments, and accounting for corporate income taxes and pensions.

**Pre-Requisites**

[[ACC-201]] with a minimum grade of 2.0.

**ACC-219. FINANCIAL STATEMENT ANALYSIS****Credits:** 3

This course will focus on corporate financial reporting, evaluation, financial planning, accounting policies and practices, and other current issues. The interplay between accounting and corporate finance will be emphasized. The course will teach you how to use financial statement information for firm valuation and other economic decisions. The course will also help you understand and analyze the issues that corporate managers face as they design and implement financial reporting strategies, increasing your ability to assess accounting quality. This course will provide you with tools to analyze and exploit information in corporate financial statements.

**Pre-Requisites**

[[ACC-162]], [[FIN-240]] both with a minimum grade of 2.0

**ACC-301. ADVANCED FINANCIAL ACCOUNTING****Credits:** 3

A comprehensive review and analysis for various accounting issues relating to corporate consolidations, partnerships, governmental units, non-profit organizations, estates, trusts, and bankruptcies. Extensive computerized applications are an integral part of this course.

**Pre-Requisites**

[[ACC-202]] with a minimum grade of 2.0.

**ACC-311. ADVANCED MANAGERIAL ACCOUNTING****Credits:** 3**Terms Offered:** Fall

Advanced treatment of managerial accounting topics with emphasis on generation, communication, and use of information to assist management in performance of the planning and control function. Information systems design, budgeting, variance analysis, and direct costing concepts are covered.

**Pre-Requisites**

[[ACC-162]] with a minimum grade of 2.0

**ACC-321. TAXES****Credits:** 3**Terms Offered:** Fall

Introduction to the Internal Revenue Code for individuals and sole-proprietorships. Preparation of individual tax returns based on the current tax law, regulations, and revenue ruling letters. Introduction to tax research using various traditional and electronic reference services.

**Pre-Requisites**

[[ACC-161]] with a minimum grade of 2.0

**ACC-322. ADVANCED TAXES****Credits:** 3**Terms Offered:** Spring

Introduction to certain tax laws as they apply to Corporations, S Corporations, and Partnerships. This involves developing a thorough understanding of tax research and how tax planning may help the financial entity to minimize tax liability.

**Pre-Requisites**

[[ACC-321]] with a minimum grade of 2.0

**ACC-331. AUDITING****Credits:** 3**Terms Offered:** Fall

To understand the most important concepts in auditing and how they are used in decision making, evidence accumulation and reporting. This entails understanding the concepts, methods, and processes of control that provide for the accuracy and integrity of financial data and the safeguarding of business assets, along with understanding the nature of attest services and the conceptual and procedural bases for performing them.

**Pre-Requisites**

[[ACC-202]] with a minimum grade of 2.0.

**ACC-341. ACCOUNTING INFORMATION SYSTEMS****Credits:** 3**Terms Offered:** Spring

To develop a solid understanding of and appreciation for the use of accounting information employed to process and sort business events so as to provide information for the functions of financial reporting, internal responsibility accounting, and decision support. This understanding includes applications via spreadsheets, databases, general ledgers, and the internet.

**Pre-Requisites**

[[ACC-162]] and [[MGT-251]]

**ACC-397. SEMINAR****Credits:** 1-3

One to three credits

## Course Descriptions

### **ACC-462. ACCOUNTING INTERNSHIP**

**Credits:** three or six

This internship course consists of professional business experience in which students apply their accumulated knowledge, skills and abilities in an organization related to the students' academic objectives and career goals. This course requires Cooperative Education approval as well as approval of the academic advisor, the department chair and the faculty advisor for the course.

**Pre-Requisites**

[[ACC-202]] with a minimum grade of 2.0

## **AS. AEROSPACE STUDIES**

### **AS-101. HERITAGE AND VALUES OF THE UNITED STATES AIR FORCE I (FALL)**

**Credits:** 1

**Terms Offered:** Fall

Survey course designed to introduce students to the United States Air Force and provides an overview of the basic characteristics, missions and organization of the Air Force.

**Pre-Requisites**

None

### **AS-102. FOUNDATIONS OF THE USAF II (SPRING)**

**Credits:** 1

Survey course looking at the origin and organization of the Air Force. Current topics relate to an understanding of the Air Force and the requirements of qualities possessed by officers.

**Pre-Requisites**

None

### **AS-103. LEADERSHIP LABORATORY (FALL)**

**Credits:** 0

An instructional program that prepares an individual to undertake the broad range of tasks associated with military leadership and management. Course is the required lab component to AS 101 course.

**Pre-Requisites**

None

### **AS-104. LEADERSHIP LABORATORY (SPRING)**

**Credits:** 0

An instructional program that prepares an individual to undertake the broad range of tasks associated with military leadership and management. Course is the required lab component to AS 102 course.

**Pre-Requisites**

None

### **AS-201. TEAM AND LEADERSHIP FUNDAMENTALS I (FALL)**

**Credits:** 1

**Terms Offered:** Fall

Focuses on laying the foundation for teams and leadership. The topics include skills that will allow cadets to improve their leadership on a personal level and within a team. The purpose is to instill a leadership mindset and to motivate sophomore students to transition from AFROTC cadet to AFROTC officer candidate.

**Pre-Requisites**

None

### **AS-202. EVOLUTION OF USAF AIR AND SPACE POWER II (SPRING)**

**Credits:** 1

Survey course examines the history and heritage of the United States Air Force from an historical perspective. Course covers period from Vietnam War to the present.

**Pre-Requisites**

None

### **AS-203. LEADERSHIP LABORATORY (FALL)**

**Credits:** 0

An instructional program that prepares an individual to undertake the broad range of tasks associated with military leadership and management. Course is the required lab component to AS 201 course.

**Pre-Requisites**

None

### **AS-204. LEADERSHIP LABORATORY (SPRING)**

**Credits:** 0

An instructional program that prepares an individual to undertake the broad range of tasks associated with military leadership and management. Course is the required lab component to AS 202 course.

**Pre-Requisites**

None

### **AS-240. AFROTC FIELD TRAINING (4-WEEK SUMMER SESSION)**

**Credits:** 3

Intensive study of military education, experience in leadership and management at an active duty installation.

**Pre-Requisites**

[[AS-101]], [[AS-102]], [[AS-201]], and [[AS-202]]; successful completion of an interview with the Professor of Aerospace Studies

**AS-301. LEADING PEOPLE AND EFFECTIVE COMMUNICATION I (FALL)****Credits:** 3**Terms Offered:** Fall

Teaches cadets advanced skills and knowledge in management and leadership. Special emphasis is placed on enhancing leadership skills and communication.

**Pre-Requisites**

Permission of AFROTC Department.

**AS-302. LEADING PEOPLE AND EFFECTIVE COMMUNICATION II (SPRING)****Credits:** 3**Terms Offered:** Spring

Teaches cadets advanced skills and knowledge in management and leadership. Special emphasis is placed on enhancing leadership skills and communication.

**Pre-Requisites**

Permission of AFROTC Department.

**AS-303. LEADERSHIP LABORATORY (FALL)****Credits:** 0

An instructional program that prepares an individual to undertake the broad range of tasks associated with military leadership and management. Course is a required lab component for the Air Force ROTC program.

**Pre-Requisites**

Permission of the AFROTC Department

**AS-304. LEADERSHIP LABORATORY (SPRING)****Credits:** 0

An instructional program that prepares an individual to undertake the broad range of tasks associated with military leadership and management. Course is a required lab component for the Air Force ROTC program.

**Pre-Requisites**

Permission from AFROTC Department.

**AS-401. NATIONAL SECURITY AFFAIRS / PREPARATION FOR ACTIVE DUTY I (FALL)****Credits:** 3**Terms Offered:** Fall

Designed for college seniors and gives them the foundation to understand their role as military officers in American society. It is an overview of the complex social and political issues facing the military profession and requires a measure of sophistication commensurate with the senior college level. The final semester provides information that will prepare the cadets for Active Duty.

**Pre-Requisites**

Permission of the AFROTC Department.

**AS-402. NATIONAL SECURITY AFFAIRS / PREPARATION FOR ACTIVE DUTY II (SPRING)****Credits:** 3**Terms Offered:** Spring

Designed for college seniors and gives them the foundation to understand their role as military officers in American society. It is an overview of the complex social and political issues facing the military profession and requires a measure of sophistication commensurate with the senior college level. The final semester provides information that will prepare the cadets for Active Duty.

**Pre-Requisites**

Permission of the AFROTC Department.

**AS-403. LEADERSHIP LABORATORY (FALL)****Credits:** 0

An instructional program that prepares an individual to undertake the broad range of tasks associated with military leadership and management. Course is a required lab component for the Air Force ROTC program.

**Pre-Requisites**

Permission of the AFROTC Department.

**AS-404. LEADERSHIP LABORATORY (SPRING)****Credits:** 0

An instructional program that prepares an individual to undertake the broad range of tasks associated with military leadership and management. Course is a required lab component for the Air Force ROTC program.

**Pre-Requisites**

Permission of the AFROTC Department.

**ANT. ANTHROPOLOGY****ANT-101. INTRODUCTION TO ANTHROPOLOGY****Credits:** 3

A general survey of the processes that generate human cultural and biological variation through time and among contemporary human groups. An introduction to cultural and physical anthropology, archaeology, and anthropological linguistics.

**ANT-102. CULTURAL ANTHROPOLOGY****Credits:** 3

A detailed examination of the methods and theories employed in the description and comparison of human cultures, as applied to problems in intercultural relations. Course content is based upon case and cross-cultural studies.

**ANT-211. ANTHROPOLOGY THROUGH FILM****Credits:** 3

A general survey of the use of still photography and cinematography in the depiction of the content of various cultures.

## Course Descriptions

### **ANT-212. PEOPLES AND CULTURES OF THE WORLD**

**Credits:** 3

An overview of social organizations, ethnicity, and cultural developments in various regions of the world: North American native Americans, the Middle East, Africa, Latin America, Asia. Topics are rotated. The contributions of ecological, economic, political and ideological factors to the region's social system are examined in regard to present cultural obligations.

### **ANT-399. COOPERATIVE EDUCATION**

**Credits:** 1-6

Professional cooperative education placement in a private or public organization related to the student's academic objectives and career goals. In addition to their work experience, students are required to submit weekly reaction papers and an academic project to a Faculty Coordinator in the student's discipline. (See the Cooperative Education section of this Bulletin for placement procedures.)

#### **Pre-Requisites**

Sophomore standing, minimum 2.0 cumulative average, consent of academic advisor, and approval of placement by the department chairperson.

## **ART. ART**

### **ART-198/289/398. TOPICS IN ART**

**Credits:** Varies with topic.

A study of topics of special interest not extensively treated in regularly offered courses. Recent studio topics have included Life Drawing, Mural Painting, Color Photography, and Ceramic Sculpture. Past topics in art history have included Modern Architecture, A History of Surrealism, and Nineteenth-Century Art. Special topics in art. [Click here for course fee. Course fee applies only to studio courses.](#)

### **ART-101. EXPERIENCING ART**

**Credits:** 3

Lectures and discussion on the elements of art and the forerunners of modern and contemporary art. Two- and three-dimensional studio work is explored through the creative process in a variety of media.

[Click here for course fees.](#)

### **ART-111. FUNDAMENTALS OF COLOR AND DESIGN**

**Credits:** 3

A basic level design course involving the elements and principles of two-dimensional design and the study of color systems.

[Click here for course fees.](#)

### **ART-113. DRAWING AND COMPOSITION**

**Credits:** 3

**Fees:**

An introductory course exploring the organization and potential of line, space, and texture through a variety of media and subject matter.

[Click here for course fees.](#)

### **ART-120. PAINTING I**

**Credits:** 3

An introduction to painting methods and materials with an emphasis on composition and basic color theory. Oil, watercolor, and acrylic painting techniques are explored in both realistic and abstract styles.

[Click here for course fees.](#)

### **ART-121. PRINTMAKING**

**Credits:** 3

An introduction to monotype, intaglio and relief printmaking processes. Traditional and creative contemporary approaches to printing original works on paper in a print workshop environment.

[Click here for course fees.](#)

### **ART-122. SCULPTURE**

**Credits:** 3

An introductory to the basic concepts of three-dimensional form and space. Modeling in clay from life; and casting, carving and direct building techniques in plaster among other traditional methods of sculpture will be explored.

[Click here for course fees.](#)

### **ART-123. CERAMICS**

**Credits:** 3

Exploration into the basic methods and techniques of hand building and wheel work. Experimentation in surfaces decoration, glazing, and kiln firing.

[Click here for course fees.](#)

### **ART-134. COMPUTER GRAPHICS I**

**Credits:** 3

A foundation course that introduces the basics of Photoshop, Illustrator, InDesign and Adobe Acrobat, as well as the theory, terminology, and genres of graphic design.

[Click here for course fees.](#)

### **ART-138. DIGITAL PHOTOGRAPHY**

**Credits:** 3

**Fees:**

An introduction to the fundamentals of photography; camera usage, subject consideration, lighting, digital techniques, and the preparation of photographs for exhibit.

[Click here for course fees.](#)

### **ART-140. HISTORY OF ART I**

**Credits:** 3

A survey of the art and architecture of Western Civilization from pre-history through the Early Renaissance. Non-western cultures will also be introduced. Slide lectures and discussion will focus on major artworks and trends within their cultural setting. ELIGIBLE FOR WOMEN'S STUDIES MINOR.

### **ART-141. HISTORY OF ART II**

**Credits:** 3

A survey of the art and architecture of Western Civilization from the High Renaissance to the present. Slide lectures and discussions will focus on major artists, artworks, and trends within their cultural setting. ELIGIBLE FOR WOMEN'S STUDIES MINOR.

**ART-220. PAINTING II****Credits:** 3

Increased emphasis on development of style and experimentation in contemporary art methods and techniques.

[Click here for course fees.](#)

**Pre-Requisites**

[[ART-120]] or permission of instructor.

**ART-234. COMPUTER GRAPHICS II****Credits:** 3

A continuation of Computer Graphics I designed to reinforce further development in Photoshop, Illustrator, InDesign, and Adobe Acrobat, as well as theory, terminology, and genres of graphic design. Includes the use of media and processes of scanning, collage, typography, and layouts for print.

[Click here for course fees.](#)

**Pre-Requisites**

[[ART-134]] or permission of instructor.

**ART-238. DIGITAL PHOTOGRAPHY II****Credits:** 3

This course helps students learn the advanced skill necessary to create professional looking images suitable for commercial use, marketing or for personal enrichment. Upon completion of the course the student should be able to:

1. Use off camera lighting to create professional looking images of people and still lifes.
2. Realize the importance of professional high quality equipment and be able to implement them in the production of their images.
3. Fine tune the digital image in post-production and manipulate images using Photoshop.

[Click here for course fees.](#)

**Pre-Requisites**

[[ART-138]]

**ART-241. WOMEN IN ART****Credits:** 3

This course will explore the contributions of women artists to the western art tradition from prehistory to present day, with special emphasis on those from 20th and 21st Century. It begins with the examination of the socio-cultural condition in which women artists have often been excluded or marginalized in art history and later emphasizes how issues of gender have been encoded in art practices, exhibition and collection. Students will read across various fields to interpret and critique images in art and media to explore women's role and perception, women as audience and the importance of women as art makers.

[Click here for course fees.](#)

**ART-399. COOPERATIVE EDUCATION****Credits:** 1-6

Professional cooperative education placement in a private or public organization related to the student's academic objectives and career goals. In addition to their work experience, students are required to submit weekly reaction papers and an academic project to a Faculty Coordinator in the student's discipline. (See the Cooperative Education section of this bulletin for placement procedures.)

**Pre-Requisites**

Sophomore standing, minimum 2.0 cumulative average, consent of academic advisor, and approval of placement by the department chairperson.

**BIO. BIOLOGY****BIO-105. THE BIOLOGICAL WORLD****Credits:** 3

This course presents concepts and modern ideas pertaining to the natural world and the life sciences. Each semester, a selected topic will be addressed and explored from an investigative set of perspectives. While the scientific method will be emphasized in each offering, the range of topics, identified as a subtitle in the course offering data, will include, for example, 1) Genetics, Evolution, and Ecology: Implications for a Changing Society, 2) Human Biology, 3) Contemporary Issues in the Life Sciences, and others. This course is intended for students who are not majoring in science, engineering, pre-pharmacy, and nursing, or pursuing B.S. programs in mathematics or computer science. Fall semesters: Human Biology—two hours of lecture and two hours of laboratory per week. Dissections of specimens may be required in the laboratory component. Spring semesters: Contemporary Issues in the Life Sciences—three hours of lecture each week.

[Click here for course fee.](#)

**BIO-113. MICROBIOLOGY****Credits:** 4

This course presents the basic principles of bacteriology and the relationship of micro-organisms to disease and its prevention, control, and treatment. It considers the effects of microbes within the body and the body's reaction to them. Lecture, three hours per week; laboratory, three hours per week. Offered every spring semester.

[Click here for course fee.](#)

**Pre-Requisites**

[[BIO-115]] or permission of the instructor.

**BIO-115. ANATOMY & PHYSIOLOGY I****Credits:** 4**Terms Offered:** Fall

This course provides a general study of the human body, its structure and normal function. It provides an appreciation of the complex nature of the human body with relation to the promotion of a healthy organism. Dissections of specimens are required in the laboratory portion of these courses. Lecture, three hours per week; laboratory, three hours per week.

[Click here for course fee.](#)

## Course Descriptions

### **BIO-116. ANATOMY & PHYSIOLOGY II**

**Credits:** 4

**Terms Offered:** Spring

This course is a continuation of [[BIO-115]] and provides a general study of the human body, its structure and normal function. It provides an appreciation of the complex nature of the human body with relation to the promotion of a healthy organism. Dissections of specimens are required in the laboratory portion of these courses. Lecture, three hours per week; laboratory, three hours per week.

[Click here for course fee.](#)

#### **Pre-Requisites**

[[BIO-115]] or permission of instructor.

### **BIO-121. PRINCIPLES OF MODERN BIOLOGY I**

**Credits:** 4

**Terms Offered:** Fall

An introduction to concepts of modern biology for students majoring in biology and other sciences. Topics covered include the origin of life, basic biochemistry, cell structure and function, energetics, reproduction and heredity, molecular genetics, and evolution. Four hours of lecture and three hours of laboratory per week. Offered every fall semester. Required of all Biology majors.

[Click here for course fee.](#)

#### **Co-Requisites**

[[CHM-115]]

### **BIO-122. PRINCIPLES OF MODERN BIOLOGY II**

**Credits:** 4

**Terms Offered:** Spring

An introduction to biological diversity and mammalian structure and function for science majors, usually taken as a continuation of [[BIO-121]]. Topics include organismal classification, a survey of biological diversity (including characteristics, ecology, phylogenetic relationships, and economic and biomedical uses) of microbes, plants, and animals, and an overview of the mammalian body addressing the form and function of key organ systems. Dissections of specimens are required in the laboratory portion of this course. Four hours of lecture and three hours of laboratory per week. Offered every spring semester. Required of all Biology majors.

[Click here for course fee.](#)

### **BIO-198. TOPICS**

**Credits:** 1-3

A study of topics of special interest not extensively treated in regularly offered courses.

[Click here for course fee.](#)

#### **Pre-Requisites**

Will vary according to the specific topics course.

### **BIO-225. POPULATION AND EVOLUTIONARY BIOLOGY**

**Credits:** 4

**Terms Offered:** Fall

This course emphasizes the patterns and processes of evolutionary change in living systems in an ecological context. It reviews the basic characteristics and dynamics of populations and the relevance of population ecology and population genetics to the evolution of species. Human evolutions, sociobiology, and other controversial issues are also covered. Laboratory exercises emphasize an experimental approach to more in-depth study of specific topics covered in lecture. Four hours of lecture and three hours of laboratory per week. Offered every fall semester. Required of all Biology majors.

[Click here for course fee.](#)

#### **Pre-Requisites**

[[BIO-121]] and [[BIO-122]].

### **BIO-226. CELLULAR AND MOLECULAR BIOLOGY**

**Credits:** 4

**Terms Offered:** Spring

#### **Fees:**

Cell structure in relation to function. Biochemistry and physiology of animal, plant, and bacterial cells and their viruses are presented in a molecular biology context. Cell division and development are examined. Four hours of lecture and three hours of laboratory per week. Offered every spring semester. Required of all Biology majors.

[Click here for course fee.](#)

#### **Pre-Requisites**

[[BIO-121]] and [[BIO-122]].

### **BIO-254. SUPERLAB**

**Credits:** 3

Superlab is a research-oriented course in which students carry out laboratory and field-based investigations into research areas such as ecotoxicology, plant physiology, ecology, phylogenetics, molecular biology, and cancer biology. In this course, students have one hour of classroom instruction per week during the regular semester followed by ten days (over a period of two weeks) of intensive laboratory work after the end of the semester. During that second phase of the course, students design and implement experiments and carry out research discussed during the first phase with the aid of their instructors. Offered each year.

#### **Pre-Requisites**

[[BIO-225]], [[BIO-226]] or [[BIO-226]] as co-requisite.

### **BIO-298. TOPICS**

**Credits:** 1-3

A study of topics of special interest not extensively treated in regularly offered courses.

[Click here for course fee.](#)

#### **Pre-Requisites**

Will vary according to the specific topics course.

**BIO-306. INVERTEBRATE BIOLOGY****Credits:** 4

This course is a study of the major invertebrate phyla with respect to their taxonomy, evolution, morphology, physiology, and ecology. Three hours of lecture and three hours of laboratory per week. Offered in alternate years.

[Click here for course fee.](#)

**Pre-Requisites**

[[BIO-121]] - [[BIO-122]], [[BIO-225]] - [[BIO-226]], or permission of the instructor.

**BIO-311. COMPARATIVE PHYSIOLOGY****Credits:** 4

Comparative Physiology encompasses the study of organ functions and organ system functions in different animal groups. Emphasis is on the systemic physiology of vertebrate animals. Three hours of lecture and three hours of laboratory per week. Offered every spring semester. Offered in alternate years.

[Click here for course fee.](#)

**Pre-Requisites**

[[BIO-121]]- [[BIO-122]], [[BIO-225]]- [[BIO-226]], or permission of the instructor.

**BIO-312. PARASITOLOGY****Credits:** 4

Parasitology is the study of organisms that live on or within other organisms and the relationship of these organisms to their hosts. This course deals with the common parasites that infect humans and other animals. Three hours of lecture and three hours of laboratory per week. Offered in alternate years.

[Click here for course fee.](#)

**Pre-Requisites**

[[BIO-121]]- [[BIO-122]], [[BIO-225]]- [[BIO-226]], or permission of the instructor.

**BIO-314. COMPARATIVE VERTEBRATE ANATOMY****Credits:** 4

This course deals with the evolution and anatomy of the organ systems of vertebrates. Lectures survey the comparative anatomy of the vertebrate classes. Laboratory dissections include the lamprey, shark, mud puppy, and cat in detail. Three hours of lecture and three hours of laboratory per week. Offered in alternate years.

[Click here for course fee.](#)

**Pre-Requisites**

[[BIO-121]]- [[BIO-122]], [[BIO-225]].

**BIO-321. MAMMALIAN PHYSIOLOGY****Credits:** 4

This course examines the function of mammalian systems with regard to homeostasis, metabolism, growth and reproduction. Normal physiological processes as well as some pathophysiological situations are covered. While the emphasis is on human physiology, other mammalian systems are discussed to demonstrate physiological adaptability to various environmental situations. Laboratory exercises include physiological experimentation in living systems and in computer simulations. Three hours of lecture and three hours of laboratory per week. Offered in alternate years. This course satisfies the requirement for a course with an emphasis in quantitative biology.

[Click here for course fee.](#)

**Pre-Requisites**

[[BIO-121]]- [[BIO-122]], [[BIO-226]], or permission of the instructor.

**BIO-323. FUNCTIONAL HISTOLOGY****Credits:** 4

This course emphasizes the microscopic examination of mammalian tissues from morphological and physiological perspectives. Reference is made to organ embryogenesis to support the understanding of organ form and function. Tissue preparation for histological examination is included. Three hours of lecture and three hours of laboratory per week. Offered in alternate years.

[Click here for course fee.](#)

**Pre-Requisites**

[[BIO-121]]- [[BIO-122]], [[BIO-225]]- [[BIO-226]], or permission of the instructor.

**BIO-324. MOLECULAR BIOLOGY****Credits:** 4**Terms Offered:** Spring

This course introduces students to modern concepts and techniques in molecular biology through a genuine research experience in using cell and molecular biology to learn about a fundamental problem in biology. Rather than following a set series of lectures, we study a problem and see where it leads us. We use the information given in lectures and reading assignments to solve research problems and, in the process, learn a lot of molecular biology. Offered every spring.

[Click here for course fee.](#)

**Pre-Requisites**

[[BIO-225]]- [[BIO-226]], [[CHM-231]]- [[CHM-232]].

## Course Descriptions

### BIO-325. ENDOCRINOLOGY

**Credits:** 4

This course focuses on the structure, biochemistry, and function of mammalian hormones and endocrine glands.

Avian, amphibian, and invertebrate hormones are also discussed, where relevant. Clinical pathologies resulting from excess or insufficient hormones are discussed, as this is essential to mastering an understanding of Endocrinology. Laboratory exercises include experimentation in living systems and computer simulations. Three hours of lecture and three hours of laboratory per week. Offered in alternate years.

[Click here for course fee.](#)

#### Pre-Requisites

[[BIO-121]]- [[BIO-122]], [[BIO-225]]- [[BIO-226]], or permission of instructor.

### BIO-326. IMMUNOLOGY AND IMMUNOCHEMISTRY

**Credits:** 4

This course is concerned with the biological mechanisms and chemistry of reactants and mediators associated with natural and acquired states of immunity, tissue and blood serum responses to infection and immunization. Related pathophysiological alternations of hypersensitivity phenomena in vertebrate animals and man are also discussed. Three hours of lecture and three hours of laboratory per week. Offered in alternate years.

[Click here for course fee.](#)

#### Pre-Requisites

[[BIO-121]]- [[BIO-122]], [[BIO-225]]- [[BIO-226]], or permission of the instructor.

### BIO-327. MEDICAL MICROBIOLOGY

**Credits:** 4

Medical Microbiology provides a professional level introduction to microbiology that is focused on application of microbiology to the study of infectious disease etiology and epidemiology.

The laboratory covers techniques used in isolation and identification of micro-organisms. Three hours of lecture and three hours of laboratory per week. Cross-listed with [[PHA-327]].

[Click here for course fee.](#)

#### Pre-Requisites

[[BIO-121]]- [[BIO-122]], [[CHM-231]]- [[CHM-232]].

### BIO-328. DEVELOPMENTAL BIOLOGY

**Credits:** 4

A course dealing with the principles of animal development from descriptive, experimental, and evolutionary perspectives. Laboratory work includes both descriptive and experimental embryology, including molecular techniques. Three hours of lecture and three hours of laboratory per week. Offered in alternate years.

[Click here for course fee.](#)

#### Pre-Requisites

[[BIO-121]]- [[BIO-122]], [[BIO-225]]- [[BIO-226]], or permission of the instructor.

### BIO-329. VIROLOGY

**Credits:** 3

Virology provides an introduction to the biology of animal viruses. Description of viral molecular architecture and genome organization is followed by a survey of strategies employed for multiplication and regulation of gene expression. Pathogenesis of viral infections is considered from perspectives of viral reproduction strategies and host defense.

#### Pre-Requisites

[[BIO-121]]- [[BIO-122]], [[BIO-225]]- [[BIO-226]], [[CHM-231]]- [[CHM-232]], [[CHM-233]]- [[CHM-234]].

### BIO-330. INTRODUCTION TO BIOINFORMATICS APPLICATIONS

**Credits:** 3

**Terms Offered:** Fall

An introduction to the ways computers are used to make sense of biological information, especially the data generated by the human genome project. Topics covered include databases and data mining, pair-wise, and multiple sequence alignment, molecular phylogeny, finding genes in raw DNA sequences, predicting protein and RNA secondary and tertiary structures, generating and analyzing transcriptomic data, rational drug design, metabolic simulation and artificial intelligence. Offered online every fall, with one assignment each week. This course satisfies the requirement for a course with an emphasis in quantitative biology.

#### Pre-Requisites

[[BIO-225]]- [[BIO-226]], [[CHM-231]]- [[CHM-232]], [[MTH-150]], or permission of the instructor.

### BIO-338. BIOLOGY OF CANCER

**Credits:** 3

This lecture course is designed to explore the various concepts and mechanisms associated with the origins, elaborations, and future developments in cellular transformation and carcinogenesis. Emphasis is placed on the molecular biology and physiology of these processes; therefore, a solid background in basic biology is required. Oncogenes, tumor suppressor genes, and the disruption of homeostasis are covered in detail, while the medical phenomena typically receive a more general level of coverage.

#### Pre-Requisites

[[BIO-121]]- [[BIO-122]], [[BIO-226]], [[CHM-231]]- [[CHM-232]].

### BIO-340. CONSERVATION BIOLOGY

**Credits:** 3

This course covers the major topics of conservation biology including an introduction to biodiversity, threats to biodiversity, and solutions to diminish extinctions and population declines. Lecture: three hours per week. Offered each year.

#### Pre-Requisites

[[BIO-225]]- [[BIO-226]] or permission of the instructor.

**BIO-341. FRESHWATER ECOSYSTEMS****Credits:** 3

A study of the biological and ecological aspects of streams, lakes, and wetlands from a watershed perspective. An initial introduction to physical, chemical, and geological principles of limnology is followed by a focus on freshwater biology. Laboratories include field-based watershed investigations and lake management assessments using geographic information systems techniques. Two hours of lecture and three hours of laboratory per week. Offered in alternate years. Cross-listed with [[EES-341]].

[Click here for course fee.](#)

**Pre-Requisites**

[[GEO-211]] or [[EES-240]] or [[BIO-121]]- [[BIO-122]] or consent of the instructor.

**BIO-342. THE ARCHOSAURS: BIRDS, DINOSAURS, AND CROCODYLIANS****Credits:** 4

An examination of the biology of the Archosaurs. Major topics include evolutionary history, morphology, physiology, behavior, ecology, and conservation of archosaurs. Laboratory is largely field-based with an emphasis on identifying local fauna and population estimation methods. Laboratory also includes dissection, histology, and a field trip to a museum. Offered in alternate years.

[Click here for course fee.](#)

**Pre-Requisites**

[[BIO-225]] or permission of the instructor.

**BIO-343. MARINE ECOLOGY****Credits:** 3

An examination of the biology of marine life within the context of modern ecological principles. The structure and physiology of marine organisms are studied from the perspectives of adaptation to the ocean as habitat, biological productivity, and interspecific relationships. Emphasis is placed on life in intertidal zones, estuaries, surface waters, and the deep sea. Two hours of lecture and three hours of laboratory per week. Offered in alternate years. Cross-listed with [[EES-343]].

[Click here for course fee.](#)

**Pre-Requisites**

[[EES-230]] and [[BIO-121]]- [[BIO-122]]. Students must have formal course experiences in oceanography and biology at the science major level or have completed their sophomore year as a biology major.

**BIO-344. ECOLOGY****Credits:** 4

An examination of contemporary ecological thinking as it pertains to the interrelationships of organisms and their environments. Interactions at the population and community level are emphasized. Three hours of lecture and three hours of laboratory per week. Offered in alternate years. Cross-listed with [[EES-344]]. This course satisfies the requirement for a course with an emphasis in quantitative biology.

[Click here for course fee.](#)

**Pre-Requisites**

[[BIO-121]]- [[BIO-122]] or permission of the instructor

**BIO-345. GENETICS****Credits:** 4

This course presents a detailed treatment of genetics beyond the introductory level in the areas of both transmission and molecular genetics. It includes discussion of the role of genetics in such areas as developmental medicine. Three hours of lecture and three hours of lab per week. Offered every fall semester.

[Click here for course fee.](#)

**Pre-Requisites**

[[BIO-121]]- [[BIO-122]], [[BIO-225]]- [[BIO-226]], or permission of the instructor.

**BIO-346. ANIMAL BEHAVIOR****Credits:** 4

A course emphasizing behavior as the response of animals to physical and social environmental change. It covers the processes that determine when changes in behavior occur and what form the changes take. Laboratories, using local fauna, demonstrate principles discussed in lecture. Three hours of lecture and three hours of laboratory per week. Offered in alternate years. This course satisfies the requirement for a course with an emphasis in quantitative biology.

[Click here for course fee.](#)

**Pre-Requisites**

[[BIO-121]]- [[BIO-122]], [[BIO-225]]- [[BIO-226]], or permission of the instructor.

**BIO-347. BIostatISTICS AND EXPERIMENTAL DESIGN****Credits:** 4

This course reviews the statistical paradigms and techniques involved in analyzing biological phenomena. Frequentist and Bayesian methods are employed when appropriate with an emphasis on applied statistics and experimental design. Laboratory exercises include designing, analyzing, and communicating experiments. Computation and computer coding is employed in laboratory exercises. Offered in alternate years.

[Click here for course fee.](#)

**Pre-Requisites**

[[BIO-225]], [[MTH-150]], or permission of the instructor.

**BIO-348. FIELD ZOOLOGY****Credits:** 3

The goals of this summer course are to introduce field methods of zoology and increase familiarity with Pennsylvania's animals. Taxa covered include turtles, snakes, birds, fish, arthropods, and mammals. Topics covered include conservation issues, population estimation, and sampling methods. Time distributed between lecture, lab, and fieldwork. Offered annually.

[Click here for course fee.](#)

**Pre-Requisites**

[[BIO-225]]- [[BIO-226]] or permission of the instructor.

## Course Descriptions

### **BIO-352. PATHOPHYSIOLOGY**

**Credits:** 4

Pathophysiology provides a series of lectures, exercises, and problem-solving sessions integrating the concepts of functional anatomy with human disease. Problem-based learning is encouraged by reviewing illustrative clinical cases and using interactive audio-visual media. Offered in alternate years.

[Click here for course fee.](#)

#### **Pre-Requisites**

[[BIO-225]]- [[BIO-226]] or permission of the instructor.

### **BIO-361. PLANT FORM AND FUNCTION**

**Credits:** 4

An introduction to the morphology, anatomy, cytology, and physiology of vascular plants. Structural and functional aspects of plants are interpreted in relation to each other and within ecological and evolutionary contexts. Offered in a workshop format of two three-hour sessions per week. Offered every other fall semester.

[Click here for course fee.](#)

#### **Pre-Requisites**

[[BIO-121]]- [[BIO-122]], [[BIO-225]]- [[BIO-226]], or permission of the instructor.

### **BIO-362. PLANT DIVERSITY**

**Credits:** 4

A comprehensive survey of algae, bryophytes, and vascular plants emphasizing their structure, reproductive biology, natural history, evolution, and importance to humans. Offered in a workshop format of two three-hour sessions per week. Offered every other fall semester.

[Click here for course fee.](#)

#### **Pre-Requisites**

[[BIO-121]]- [[BIO-122]], [[BIO-225]]- [[BIO-226]], or permission of the instructor.

### **BIO-363. HEMP BIOLOGY AND ANALYSIS**

**Credits:** 4

This course is an introduction to hemp biology and analysis. Topics include an overview of hemp, hemp phylogeny, subspecies, plant structure, development, reproduction, water uptake, transport, uses for hemp, hemp pathogens and pests, and ways to improve hemp production using biotechnology.

[Click here for course fee.](#)

#### **Pre-Requisites**

Sophomore or pharmacy P-1 standing or instructor permission.

### **BIO-366. FIELD BOTANY**

**Credits:** 3

A specialized summertime field course that emphasizes a taxonomic, phylogenetic, and ecological survey of vascular plants indigenous to Northeastern Pennsylvania. Course includes field trips to a diverse array of habitats in Northeastern Pennsylvania. Cross-listed with [[EES-366]]. Offered in alternate years.

[Click here for course fee.](#)

#### **Pre-Requisites**

[[BIO-121]]- [[BIO-122]] or permission of the instructor.

### **BIO-368. MEDICAL BOTANY**

**Credits:** 3

A specialized summertime course that provides a scientifically based overview of the ways in which plants affect human health. Topics include cultural and historical perspectives of plants and medicine, plants that cause human ailments, plants used to treat human ailments, and psychoactive plants. Two hours of lecture per day for five weeks. Offered in alternate years.

#### **Pre-Requisites**

[[BIO-121]]- [[BIO-122]], [[BIO-225]], [[CHM-231]]- [[CHM-232]], or permission of the instructor.

### **BIO-369. PLANT PHYSIOLOGY**

**Credits:** 4

This course introduces students to modern concepts and techniques in plant physiology through a genuine research experience using the techniques of plant physiology to learn about a problem in plant biology. Rather than following a set series of lectures, we study a problem and see where it leads us. We use the information given in lectures and reading assignments to solve research problems and, in the process, learn a lot of plant physiology. Offered in alternate years.

[Click here for course fee.](#)

#### **Pre-Requisites**

[[BIO-225]]- [[BIO-226]], [[CHM-231]]- [[CHM-232]], or permission of the instructor.

### **BIO-391. SENIOR RESEARCH I**

**Credits:** 1

**Terms Offered:** Fall

The student pursues independent research as a member of a team of senior biology majors. Each team is responsible for the identification of an original research problem, a thorough literature review of the problem, a detailed prospectus prepared in the format of a grant proposal, and formal oral presentations. Senior research is required of all biology majors seeking a four-year degree in Biology. Open only to senior Biology majors.

[Click here for course fee.](#)

#### **Pre-Requisites**

Biology major senior standing

**BIO-392. SENIOR RESEARCH II****Credits:** 2**Terms Offered:** Spring

A continuation of [[BIO-391]]. The student pursues independent research as a member of a team of senior biology majors. Each team is responsible for the execution of their research project, a formal oral presentation, a poster, and a final manuscript prepared in standard journal format. Senior research is required of all biology majors seeking a four-year degree in Biology. Open only to senior Biology majors, or with permission of instructor.

[Click here for course fee.](#)

**Pre-Requisites**

Biology major senior standing, or with permission of instructor.

**BIO-394. BIOLOGICAL FIELD STUDY****Credits:** 1-3**Pre-Requisites**

[[BIO-121]]- [[BIO-122]] or permission of the instructor.

**BIO-395. INDEPENDENT RESEARCH****Credits:** 1-3

This course involves independent study and research for advanced students in the field of the major under the direction of a staff member. A research paper at a level significantly beyond a term paper is required; it must also be presented orally at an appropriate off-campus science meeting.

Requirements:

Written approval of the department chairperson is required. Candidates for Independent Research must have a minimum GPA of 3.00 and be of upper class standing.

**BIO-396. INDEPENDENT RESEARCH****Credits:** 1-3

This course involves independent study and research for advanced students in the field of the major under the direction of a staff member. A research paper at a level significantly beyond a term paper is required; it must also be presented orally at an appropriate off-campus science meeting.

Requirements:

Written approval of the department chairperson is required. Candidates for Independent Research must have a minimum GPA of 3.00 and be of upper class standing.

**BIO-397. PROFESSIONAL PREPARATION TECHNIQUES****Credits:** 2

Professional Preparation Techniques introduces Biology majors to Biology as a profession. Students learn how to read, write, and analyze research papers and how to make oral presentations and posters using electronic and paper-based supplements. Career development issues, including effective presentation of credentials, are also addressed. Offered every fall and every spring semester.

**Pre-Requisites**

Junior-level standing, or permission of the instructor.

**BIO-398. TOPICS****Credits:** 1-3

A study of topics of special interest not extensively treated in regularly offered courses.

[Click here for course fee.](#)

**Pre-Requisites**

Will vary according to the specific topics course.

**BIO-399. COOPERATIVE EDUCATION****Credits:** 1-6

Professional cooperative education placement in a private or public organization related to the student's academic objectives and career goals. In addition to their work experience, students are required to submit weekly reaction papers and an academic project to a Faculty Coordinator in the student's discipline. See the Cooperative Education section of this bulletin for placement procedures. Requirements: Sophomore standing, 2.0 minimum cumulative GPA, consent of the academic advisor, and approval of placement by the department chairperson.

## **BA. BUSINESS ADMINISTRATION**

**BA-119. DATA ANALYSIS IN EXCEL****Credits:** 1

This course is designed to teach the basic and advanced features and functions of Excel, including summative, descriptive and reporting techniques. Students will also gain the knowledge of data manipulation and visual reporting. This one-credit class will meet multiple times each week, and will run for 5 consecutive weeks.

**BA-151. INTEGRATED MANAGEMENT EXPERIENCE I****Credits:** 3**Terms Offered:** Fall

Integrated Management Experience is a two-semester sequence that takes you through the entrepreneurial process from creating a business concept to planning the venture to launching and operating the business to harvest and closure of the firm. You learn how businesses plan and operate through the study of functional areas such as marketing, management, human resources, accounting and finance, and operations. Most importantly, you will learn and experience how the pieces fit together through integrating the functional areas tracking information and performance using financial accounting principles. Cross listed with [[ACC-151]] and [[ENT-151]].

## Course Descriptions

### **BA-152. INTEGRATED MANAGEMENT EXPERIENCE II**

**Credits:** 3

**Terms Offered:** Spring

Integrated Management Experience is a two-semester sequence that takes you through the entrepreneurial process from creating a business concept to planning the venture to launching and operating the business to harvest and closure of the firm. You learn how businesses plan and operate through the study of functional areas such as marketing, management, human resources, accounting and finance, and operations. You develop a clear understanding of the importance of accounting cycles and how financial accounting principles provide not only information but an integrating thread for all types of organizations. Cross listed with [[ACC-152]] and [[ENT-152]].

#### **Pre-Requisites**

[[ACC-151]] / [[BA-151]] / [[ENT-151]] with a minimum grade of 2.0

### **BA-153. MANAGEMENT FOUNDATIONS**

**Credits:** 3

Management Foundations provides the framework for further study in accounting, business administration, and entrepreneurship programs. Functional areas of management are examined. This class is closed to freshmen and to any student who completed ACC/BA/ENT 151 and ACC/BA/ENT 152.

### **BA-319. BUSINESS STATISTICS**

**Credits:** 3

**Terms Offered:** Fall

An introduction to the primary tools of research in business and economics; the collection, summarization, analysis, and interpretation of statistical findings relevant to business decisions. Two hours of lecture and one hour of individualized laboratory. Topics covered will include, but not be limited to, descriptive statistics, probability, sampling theory, hypothesis testing, and regression and correlation analysis. Cross-listed with [[EC-319]]

#### **Pre-Requisites**

[[MTH-101]] or higher

### **BA-335. LAW AND BUSINESS**

**Credits:** 3

This course provides a foundation for understanding how the law functions; the laws protecting consumers and employees; and the law of contracts, sales, and business organizations.

### **BA-336. ADVANCED TOPICS IN BUSINESS LAW**

**Credits:** 3

**Terms Offered:** Spring

This course provides students with an understanding of select advanced topics in law, specifically those that have the greatest impact on business and accounting.

#### **Pre-Requisites**

[[BA-335]] with a minimum grade of 2.0

### **BA-337. LEGAL ASPECTS OF SPORT AND EVENT MANAGEMENT**

**Credits:** 3

Introduces legal issues that confront contemporary organized athletics and sports management. Specific topics which are highlighted include impact of antitrust laws; personal services contracts; labor law; injury and liability; franchise and transfer rules; and tax aspects. Examines the role of legal services within sports organizations and in individual athlete representation.

#### **Pre-Requisites**

[[BA-335]] with a minimum grade of 2.0

### **BA-338. INTERNATIONAL BUSINESS LAW**

**Credits:** 3

**Terms Offered:** On Demand, Spring

The course will focus on international business law applicable to international business transactions. Topics covered will include comparable legal systems in the world and the law relative to 1) international sales, transport, credit and commercial agreements; 2) trade law including imports, customs, tariff regulations/agreements, regional free trade areas; 3) regulation of the marketplace including licensing, patent, advertising, sales representation, foreign investment and business formation, currency risk, anti-trust, employment and environmental law. This course is offered every other fall – odd years.

#### **Pre-Requisites**

[[BA-335]] with a minimum grade of 2.0

### **BA-419. QUANTITATIVE DECISION MAKING**

**Credits:** 3

This course is designed to build on the basics of introductory statistics so that the students understand how a variety of advanced statistical tools are used to support decision-making using business data. Students develop necessary skills to build models that conform the assumptions of the procedures. The course aims to provide more hands on experience. The topics that will be introduced include descriptive statistics, t-tests, ANOVA, simple linear regression, multiple linear regression, logistic regression and their applications on business data.

#### **Pre-Requisites**

[[BA-319]] or [[MTH-150]]

### **BA-461. BUSINESS STRATEGY AND DECISION-MAKING**

**Credits:** 3

The first of a two-semester capstone experience. This course integrates the functional areas of business from the perspective of top management. Emphasis is on the role of management in the formation of strategic and long-range plans.

#### **Pre-Requisites**

[[MKT-221]], [[EC-101]], [[EC-102]], [[FIN-240]], and [[MGT-251]] all with a minimum grade of 2.0

**BA-462. PROFESSIONAL BUSINESS EXPERIENCE****Credits:** 3

This internship course consists of professional business experience in which students apply their accumulated knowledge, skills and abilities in an organization related to the student's academic objectives and career goals. This course requires Cooperative Education approval as well as the approval of the academic advisor, the department chair and the faculty advisor for the course.

**Pre-Requisites**

[[MKT-221]], [[FIN-240]], and [[MGT-251]] all with a minimum grade of 2.0

**BA-463. THE BUSINESS FIELD AND RESEARCH EXPERIENCE****Credits:** 3

This course allows the student to choose from a variety of professional opportunities. The student could perform research and writing in his or her major area. Such research must be approved by the instructor in advance. (The Undergraduate Thesis) The student may participate in a multidisciplinary capstone course that incorporates the application of business creation, development, and planning. It includes the application of business functions such as management, business strategy, marketing, accounting, finance, operations management, and sales. (The Business Incubator) The student could also visit several local organizations to conduct a live case comparison that spans industries and organizations as it pertains to his or her major area and faculty interests. (The Business Field Experience) Action learning gives students the opportunity to develop an understanding of the Sidhu School disciplines and business practices that are ethically and socially responsible.

**Pre-Requisites**

Senior class standing.

**BA-464. INTERNATIONAL BUSINESS EXPERIENCE****Credits:** 3

The course provides an overview of a Western European Society. A ten-day field trip in Western Europe is a major learning experience of the course. Site visits are made in a number of cities in European countries. Site visits include Cities, Regions, and Business and travel centers. Arrangements for travel are made during the fall, and travel in the spring. The purpose of the course is to create a global learning experience using Western Europe as a medium to facilitate the student's understanding of the global business environment. Presentations, discussions, travel, observations, projects, as well as written papers will provide students with the opportunity to demonstrate their understanding and knowledge.

**CAR. CAREERS****CAR-101. LIFE/CAREER PLANNING****Credits:** 1

A study of the components of career decision-making, including the influence of personal goals, values, interests, and perceived skills. The practical application of theory results in a portfolio of information essential to deliberate and effective decision-making.

**CAR-398. CAREER SUCCESS PLANNING****Credits:** 1

A course for junior and senior undergraduates, focusing on the skills and written materials required for successful professional employment or graduate school searches, applications and interviews.

**CHM. CHEMISTRY****CHM-105. CHEMISTRY AND MODERN SOCIETY****Credits:** 3

This course will emphasize consumer applications of chemistry with some emphasis on environmental consequences of the use of various forms of energy (nuclear, coal, petroleum, natural gas) and everyday chemicals (foods, drugs, agricultural chemicals, and chemicals used in pest control).

**CHM-111. FUNDAMENTALS OF CHEMISTRY****Credits:** 4

Designed for students who do not intend to major in science or engineering, this one-semester course presents principles of chemistry. Topics include atomic structure, chemical bonding, gas laws, solutions, acid/base chemistry and an introduction to organic and biochemistry. A laboratory component is required as part of this course, in which students will develop basic principles of laboratory technique. Students may not receive credit for both CHM 111 and CHM 113/115. Three hours of class, one hour of problem session, and two hours of lab per week.

[Click here for course fee.](#)

**Pre-Requisites**

Departmental placement criteria are met.

**CHM-113. ELEMENTS AND COMPOUNDS LAB****Credits:** 1

This is the first chemistry laboratory course in the two-semester general chemistry sequence. Experiments are performed to reinforce the concepts learned in CHM-115. One three-hour laboratory per week.

[Click here for course fee.](#)

**Pre-Requisites**

Departmental placement criteria are met

**Co-Requisites**

[[CHM-115]]

## Course Descriptions

### CHM-114. THE CHEMICAL REACTION LAB

**Credits:** 1

This is the second chemistry laboratory course in the two-semester general chemistry sequence. Experiments are performed to reinforce the concepts learned in CHM-116. One three-hour laboratory per week.

[Click here for course fee.](#)

#### Pre-Requisites

[[CHM-113]] with a grade of 2.0 or better and [[CHM-115]] with a grade of 2.0 or better

#### Co-Requisites

[[CHM-116]]

### CHM-115. ELEMENTS AND COMPOUNDS

**Credits:** 3

Emphasis is placed on the periodic table and stoichiometry, including chemical properties, physical states, and structure. Three hours of class and a one-hour problem session per week.

Corequisite: [[CHM-113]].

#### Pre-Requisites

Departmental placement criteria are met.

### CHM-116. THE CHEMICAL REACTION

**Credits:** 3

A detailed study of chemical equilibria in aqueous solution. Three hours of class and a one-hour problem session per week.

#### Pre-Requisites

[[CHM-113]] with a grade of 2.0 or better and [[CHM-115]] with a grade of 2.0 or better

#### Co-Requisites

[[CHM-114]]

### CHM-117. INTRODUCTORY CHEMISTRY LAB FOR ENGINEERS

**Credits:** 1

This is a one-semester introductory chemistry laboratory course for engineering students. Experiments are performed to reinforce the concepts learned in [[CHM-118]]. One three-hour lab per week.

[Click here for course fee.](#)

#### Pre-Requisites

Departmental placement criteria are met.

#### Co-Requisites

[[CHM-118]]

### CHM-118. CHEMISTRY FOR ENGINEERS

**Credits:** 3

This course covers the foundations of chemistry, matter and measurements, periodicity, atomic and molecular structure, stoichiometry, states of matter, phase changes, kinetics, equilibrium, thermochemistry and electrochemistry. Four hours of lecture per week.

#### Pre-Requisites

Departmental placement criteria are met

#### Co-Requisites

[[CHM-117]]

### CHM-190. FRESHMEN SEMINAR

**Credits:** 1

**Terms Offered:** Spring

Students will be introduced to important skills and content area in our major programs. Students will gain familiarity with the various subdisciplines of chemistry, tools & technologies utilized by chemists, potential career pathways and applications of chemistry in everyday settings. Students will also discuss chemistry and its subdisciplines in the news and modern society.

#### Pre-Requisites

Successful completion of [[CHM-115]] / [[CHM-113]] with grades of 2.00 or higher or instructor permission.

#### Co-Requisites

[[CHM-116]] / [[CHM-114]] or instructor permission.

### CHM-231. ORGANIC CHEMISTRY I

**Credits:** 3

**Terms Offered:** Summer

An introduction to the chemistry of carbon compounds, this course develops the interconnected relationship between bonding, structure, properties and reactivity in organic compounds. Instrumental methods will be presented as a means to determine structure. Three hours of class and a one-hour problem session per week.

#### Pre-Requisites

[[CHM-114]] with a grade of 2.0 or better and [[CHM-116]] with a grade of 2.0 or better

#### Co-Requisites

[[CHM-233]]

### CHM-232. ORGANIC CHEMISTRY II

**Credits:** 3

This course continues [[CHM-231]], with emphasis on organic synthesis. Three hours of class and a one-hour problem session per week.

#### Pre-Requisites

[[CHM-231]] with a grade of 2.0 or better and [[CHM-233]] with a grade of 2.0 or better

#### Co-Requisites

[[CHM-234]]

**CHM-233. ORGANIC CHEMISTRY I LAB****Credits:** 1

After an introduction to standard organic reaction, purification, physical characterization, and spectroscopic techniques, students will investigate concepts discussed in [[CHM-231]]. One three-hour laboratory per week.

[Click here for course fee.](#)

**Pre-Requisites**

[[CHM-114]] with a grade of 2.0 or better and [[CHM-116]] with a grade of 2.0 or better

**Co-Requisites**

[[CHM-231]]

**CHM-234. ORGANIC CHEMISTRY II LAB****Credits:** 1

Weekly labs that parallel the lecture topics in [[CHM-232]] and emphasize organic synthesis and characterization, including multistep synthesis. Three hours per week.

[Click here for course fee.](#)

**Pre-Requisites**

[[CHM-231]] with a grade of 2.0 or better and [[CHM-233]] with a grade of 2.0 or better

**Co-Requisites**

[[CHM-232]]

**CHM-235. ESSENTIALS OF ORGANIC CHEMISTRY****Credits:** 3

A one semester course covering the fundamentals of carbon chemistry. Nomenclature, stereochemistry, functional groups, spectroscopy, and reactions and mechanisms of alcohols, ethers, amines, alkyl halides, carbonyl compounds, and benzene are covered. Four hours of lecture per week.

**Pre-Requisites**

[[CHM-114]] with a grade of 2.0 or better and [[CHM-116]] with a grade of 2.0 or better.

**Co-Requisites**

[[CHM-237]]

**CHM-237. ESSENTIALS OF ORGANIC CHEMISTRY LAB****Credits:** 1

A one semester fundamental organic chemistry laboratory course that introduces organic reactions, purification, physical characterization and spectroscopic techniques.

[Click here for course fee.](#)

**Pre-Requisites**

[[CHM-114]] with a grade of 2.0 or better and [[CHM-116]] with a grade of 2.0 or better.

**Co-Requisites**

[[CHM-235]]

**CHM-246. ANALYTICAL CHEMISTRY LAB****Credits:** 1

Weekly labs that parallel the lecture topics in [[CHM-248]]. One three-hour laboratory per week.

[Click here for course fee.](#)

**Pre-Requisites**

[[CHM-114]] with a grade of 2.0 or better and [[CHM-116]] with a grade of 2.0 or better

**Co-Requisites**

[[CHM-248]]

**CHM-248. ANALYTICAL CHEMISTRY****Credits:** 3

A course in the application of the principles of chemical equilibria to obtain the qualitative and quantitative information about the composition and structure of matter. An introduction to the importance of sampling is included along with methods for the statistical treatment of data. The course focuses primarily on the analyses of elemental and ionic species using electrochemical, spectroscopic, and chromatographic techniques. Three hours of lecture per week.

**Pre-Requisites**

[[CHM-114]] with a grade of 2.0 or better and [[CHM-116]] with a grade of 2.0 or better

**Co-Requisites**

[[CHM-246]]

**CHM-256. POLYMER CHEMISTRY****Credits:** 3

This course covers topics in polymer composition and structure, polymerization mechanisms, stereochemistry of polymerization and reaction of polymers. Three hours of lecture per week.

**Pre-Requisites**

[[CHM-117]] with a grade of 2.0 or better and [[CHM-118]] with a grade of 2.0 or better

**CHM-258. POLYMER CHEMISTRY LABORATORY****Credits:** 1

Experiments are conducted to emphasize the concepts learned in the Polymer Chemistry lecture course, [[CHM-256]].

Students will collect and process experimental data and develop laboratory skills. One three-hour laboratory per week.

[Click here for course fee.](#)

**Pre-Requisites**

[[CHM-117]], [[CHM-118]]

**Co-Requisites**

[[CHM-256]]

## Course Descriptions

### CHM-261. PLANT SAMPLE PREPARATION FOR CHEMICAL ANALYSIS

**Credits:** 2

This is course in plant preparation for analytical chemical analysis, covering plant dehydration, digestion, and extraction of pertinent organic and inorganic chemical analytes for analysis on modern chemical instrumentation. One (1.0) hour per week of lecture/discussion and three (3.0) hours per week of laboratory.

[Click here for course fee.](#)

#### Pre-Requisites

[[CHM-231]] or instructor permission.

#### Co-Requisites

[[CHM-231]] or instructor permission.

### CHM-291. ETHICAL RESPONSIBILITIES IN MODERN SCIENCE

**Credits:** 1

**Terms Offered:** Spring

Students will become familiar with ethical issues facing modern scientists, their role in maintaining an ethical environment, and learn to behave in an ethical fashion when conducting research as an undergraduate and moving forward. Students will also evaluate the role of scientists in society, and their responsibility to ensure the proper dissemination of scientific knowledge. Topics include: what is misconduct, roles in a lab setting and how they affect power dynamics, scientific communication, data ownership, human subjects and the IRB, and the societal responsibilities of scientists. Assignments will be tailored to the major program (including: biochemistry, cannabis chemistry, and other specific chemistry tracks) of the registered students.

#### Pre-Requisites

30 (or more) credits completed

### CHM-322. INORGANIC CHEMISTRY

**Credits:** 3

[[CHM-322]] presents a survey of current topics in Inorganic Chemistry. The first half of the course offers a survey of main group chemistry, including individual group trends. The second half of the course covers Crystal Field Theory, Ligand Field Theory, reaction mechanisms, and organometallic compounds. Three hours of lecture per week.

#### Pre-Requisites

[[CHM-114]] with a grade of 2.0 or better & [[CHM-116]] with a grade of 2.0 or better

### CHM-323. ADVANCED INORGANIC CHEMISTRY LAB

**Credits:** 1

Advanced Inorganic Chemistry Laboratory is the complimentary laboratory to CHM-322 Inorganic Chemistry. Students will build upon the foundational concepts first explored in CHM-322. An emphasis will be placed on the synthesis and characterization of transition metal complexes. Coordination chemistry reactions and mechanisms will be introduced as well as the chemistry of lanthanides. Students will gain experience in the handling of air-sensitive materials. Laboratory, three hours per week.

[Click here for course fee.](#)

#### Pre-Requisites

[[CHM-322]]

### CHM-341. INSTRUMENTAL METHODS FOR CHEMICAL ANALYSIS

**Credits:** 3

A course in the fundamental principles that provide the basis for the design and fabrication of chemical instrumentation. The underlying physical basis for each method is introduced through an exploration of the capabilities, limitations, and applications of a wide range of separations, spectroscopic, and electrochemical methods. Three hours of lecture per week.

#### Pre-Requisites

[[CHM-246]] with a grade of 2.0 or better, [[CHM-248]] with a grade of 2.0 or better, [[MTH-112]], [[PHY-202]]

#### Co-Requisites

[[CHM-343]]

### CHM-343. INSTRUMENTAL METHODS FOR CHEMICAL ANALYSIS LAB

**Credits:** 1

Weekly lab that corresponds to the lecture topics in [[CHM-341]]. One three-hour laboratory per week.

[Click here for course fee.](#)

#### Co-Requisites

[[CHM-341]]

### CHM-346. ADVANCED SEPARATIONS CHEMISTRY

**Credits:** 2

**Terms Offered:** Spring

An analytical chemistry laboratory course in separations chemistry. The course will cover chromatography, including GC-MS, LC, and LC-MS with a focus on their application to cannabis and natural products analysis. The course will also cover the operation and maintenance of the modern chemical chromatography instrumentation. Meets for two-laboratory sessions per week.

[Click here for course fee.](#)

#### Pre-Requisites

[[CHM-341]] , [[CHM-343]] and [[CHM-261]] or instructor permission.

**CHM-351. PHYSICAL CHEMISTRY: QUANTUM AND SPECTROSCOPY****Credits:** 3

This course emphasizes the molecular approach to physical chemistry. It begins discussing the principles of quantum mechanics and their applications in chemistry, leading to atomic and molecular structure, and chemical bonding. These concepts are then used in the development of atomic and molecular spectroscopy. Photochemistry is introduced. Three hours of lecture per week.

**Pre-Requisites**

[[CHM-114]] with a grade of 2.0 or better, [[CHM-116]] with a grade of 2.0 or better, [[MTH-212]] and [[PHY-202]]

**CHM-352. PHYSICAL CHEMISTRY: KINETICS AND THERMODYNAMICS****Credits:** 3

Statistical mechanics is used to formulate thermodynamics in terms of atomic and molecular properties, allowing a molecular interpretation of the laws of thermodynamics. Three hours of lecture a week.

**Pre-Requisites**

[[CHM-114]] with a grade of 2.0 or better, [[CHM-116]] with a grade of 2.0 or better, [[MTH-212]], and [[PHY-202]]

**CHM-353. PHYSICAL CHEMISTRY: QUANTUM AND SPECTROSCOPY LAB****Credits:** 1

Laboratory experiments are performed in order to reinforce concepts in [[CHM-351]]. Bench as well as computational experiments will explore the photoelectric effect, resonance states of a particle in a one-dimensional box, applications of molecular orbital theory, and molecular spectroscopy. Three hours per week.

[Click here for course fee.](#)

**Co-Requisites**

[[CHM-351]]

**CHM-354. PHYSICAL CHEMISTRY: KINETICS AND THERMODYNAMICS LAB****Credits:** 1

Laboratory experiments are performed in order to reinforce concepts in [[CHM-352]]. Bench as well as computational experiments explore calorimetry, phase equilibria, colligative properties, kinetics, and applications of the Monte Carlo method to chemical kinetics. One three-hour lab per week.

**Co-Requisites**

[[CHM-352]]

**CHM-355. PHYSICAL CHEMISTRY FOR LIFE SCIENCES****Credits:** 4

An introduction to traditional physical chemistry topics, including additional topics related to life sciences. Laws of thermodynamics, equilibria, kinetics, and spectroscopy will be discussed in terms of their application to life sciences. Four hours of lecture per week.

**Pre-Requisites**

[[CHM-114]] with a grade of 2.0 or better, [[CHM-116]] with a grade of 2.0 or better, and [[PHY-202]]

**Co-Requisites**

[[CHM-357]]

**CHM-357. PHYSICAL CHEMISTRY FOR LIFE SCIENCES LAB****Credits:** 1

The laboratory experiments emphasize concepts presented in [[CHM-355]]. Course includes experimental work, analysis of a research article, and computer simulations relevant to life sciences. One three-hour laboratory pre week.

**Co-Requisites**

[[CHM-355]]

**CHM-361. BIOCHEMISTRY: STRUCTURE AND FUNCTION****Credits:** 3

This course presents a study of the physical and chemical properties of proteins, nucleic acid, fatty acids, and carbohydrates, emphasizing the relationship between the chemical structure and the biological function. The course includes the physical methods of biochemistry, enzyme kinetics, bioenergetics, and nucleic acid transcription and translation. Three hours of lecture per week.

**Pre-Requisites**

[[CHM-232]] with a grade of 2.0 or better

**CHM-362. BIOCHEMISTRY: METABOLISM****Credits:** 3

This course presents a study of the catabolism and anabolism of carbohydrates, fatty acids, and amino acids. The course emphasizes the regulation and integration of major metabolic pathways, including glycolysis, the Krebs cycle, electron transport, gluconeogenesis, pentose phosphate pathway, fatty acid metabolism, and amino acid metabolism. Three hours of lecture per week.

**Pre-Requisites**

[[CHM-232]] with a grade of 2.0 or better

## Course Descriptions

### CHM-363. BIOCHEMISTRY LABORATORY

**Credits:** 1

Laboratory experiments, which emphasize biochemical techniques used in isolation and characterization of macromolecules. Included in the course are various chromatographic techniques, electrophoresis, spectrophotometry, and classic biochemical methods. Laboratory, three hours a week.

[Click here for course fee.](#)

#### Pre-Requisites

Prerequisite or Corequisite: [[CHM-361]] or permission of instructor.

### CHM-365. MEDICAL BIOCHEMISTRY

**Credits:** 4

Introduction to basic biochemistry concepts, focusing on the structure and function of vitamins, proteins, and lipids, as well as bioenergetics and major catabolic pathways. The catabolism of carbohydrates, fats and amino acids, including reactions and regulation, will be discussed. Common metabolic pathways of drugs, enzyme induction and metabolism down regulation will also be presented. Four hours of lecture per week. Cross-listed with [[PHA-365]] and [[BEGR-465]].

#### Pre-Requisites

[[CHM-232]] or [[CHM-235]] with a grade of 2.0 or better, or permission of the instructor

### CHM-370. CHM 371, CHM 372 INTEGRATED LABORATORIES I, II, III

**Credits:** 1-2 each

Laboratory experiments related to the five major areas of chemistry. Labs will be chosen in order that students might demonstrate proficiency in each of the required areas. Labs will include synthesis, isolation, and characterization of chemical compounds, spectroscopy, kinetics, calorimetry, chromatography, electrophoresis, and other chemical and biochemical methods. Three hours of laboratory per week per credit hour.

[Click here for course fee.](#)

#### Pre-Requisites

[[CHM-232]] with a grade of 2.0 or better, [[CHM-234]] with a grade of 2.0 or better and [[CHM-341]] with a grade of 2.0 or better

### CHM-377. INTRODUCTION TO TOXICOLOGY

**Credits:** 3

**Terms Offered:** Fall

An introduction to toxicology, including its history, types of poisons, their mode of operation and the biochemistry of detoxification. Environmental problems caused by toxic contaminants will be discussed.

*This course is offered in the fall semester of even numbered years.*

#### Pre-Requisites

[[CHM-232]] , [[CHM-234]] and [[BIO-226]] or instructor permission.

### CHM-379. MEDICINAL CHEMISTRY

**Credits:** 3

**Terms Offered:** Fall

The course provides an introduction to drugs, their action and discovery. Topics covered include drug structure & solubility, structure-activity & quantitative structure relationships, drugs from natural sources, the role of biological membranes in drug delivery, the role of receptors & messengers, enzymes, and an introduction to drug and analogue synthesis.

*This course is offered in the fall semester of odd numbered years.*

#### Pre-Requisites

[[CHM-232]] , [[CHM-234]] and [[BIO-226]] or instructor permission.

### CHM-380. NMR SPECTROSCOPY

**Credits:** 3

This course explores the capabilities of the Chemistry Department's NMR spectrometer, and provides a groundwork in NMR theory beyond the level covered in the sophomore organic course. Topics covered include hardware, data processing, chemical shifts and coupling, one- and two-dimensional pulse sequences, dynamic NMR, the NOE effect, and gradient methods. Offered in alternate years.

### CHM-390. JUNIOR SEMINAR

**Credits:** 1

CHM-390 is a one-hour course offered during the spring semester. It is designed to prepare chemistry and biochemistry majors for their careers after graduation and for their capstone research projects, undertaken in the fourth year. The course will cover topics such as résumé preparation, communication of scientific information, internships, job searches, and preparation for graduate school. Students will prepare a topical literature review on their chosen project in conjunction with their selection of a research advisor.

#### Pre-Requisites

45 hours of service to the Chemistry Department. Requirements: Junior standing and declared major in Chemistry or Biochemistry.

**CHM-391. SENIOR RESEARCH I****Credits:** 2

Students will plan and execute a chemistry research project under the direction of a faculty member. It is expected that this will be a laboratory research project. Students will also learn how to search the chemical literature. Students are required to attend weekly Department seminars and present at least one seminar. Requirements: Senior standing in a Chemistry curriculum.

[Click here for course fee.](#)

**Pre-Requisites**

[[CHM-352]] with a grade of 2.0 or better or [[CHM-355]] with a grade of 2.0 or better

**CHM-392. SENIOR RESEARCH II****Credits:** 2

Students will carry out a chemistry research project under the direction of a faculty member. It is expected that the project will be a laboratory research project. The project must culminate in a written report and the results must be presented at a Department poster event. Students are also required to attend any seminars hosted by the Department. Six hours of laboratory / research work per week.

[Click here for course fee.](#)

**Pre-Requisites**

[[CHM-391]] with a grade of 2.0 or better

**CHM-395. INDEPENDENT RESEARCH****Credits:** 1-3

Independent study and research for advanced students in the field of the major under the direction of a staff member. A research paper is required.

**Requirements:** permission of the instructor.

[Click here for course fee.](#)

**CHM-396. INDEPENDENT RESEARCH****Credits:** 1-3

Independent study and research for advanced students in the field of the major under the direction of a staff member. A research paper is required.

**Requirements:** permission of the instructor.

[Click here for course fee.](#)

**CHM-398. TOPICS****Credits:** 1-3

A study of topics of special interest, such as advanced physical chemistry, advanced analytical chemistry, advanced organic chemistry, surface and colloid chemistry, nuclear chemistry, chemical kinetics, polymer chemistry, or spectroscopy.

**Pre-Requisites**

Will vary according to the specific topics course.

**CHM-399. COOPERATIVE EDUCATION****Credits:** 1-6

Professional cooperative education placement in a private or public organization related to the student's academic objectives and career goals. In addition to their work experience, students are required to submit weekly reaction papers and an academic project to a Faculty Coordinator in the student's discipline. See the Cooperative Education section of this bulletin for placement procedures. Requirements: Sophomore standing; minimum 2.0 cumulative GPA; consent of the academic advisor; and approval of placement by the department chairperson. Students without the indicated prerequisites for 200 and 300-level chemistry courses may enroll after written permission of the instructor has been approved by the department chair.

**CE. CIVIL ENGINEERING****CE-231. SOIL MECHANICS****Credits:** 3

Develops the terminology and descriptions common to soil compressibility, fluid flow, response to mechanical compaction, and strength as well as methods of determining geostatic stresses and stress changes due to boundary loadings.

**Pre-Requisites**

[[ME-232]]

[[ME-234]]

**CE-233. SOIL MECHANICS LAB****Credits:** 1

Experiments with and analysis of basic soil mechanics. Three hours of laboratory per week.

[Click here for course fees.](#)

**Pre-Requisites**

[[ME-232]]

[[ME-234]]

**Co-Requisites**

[[CE-231]]

**CE-261. CONSTRUCTION PROJECT MANAGEMENT****Credits:** 2

This course will introduce students to the basics of construction scheduling, resource allocation in schedules, and schedule monitoring and control methods. Introduction to regulations and permitting requirements. Two hours of lecture per week.

**Pre-Requisites**

[[EGM-320]]

## Course Descriptions

### **CE-263. STRUCTURAL ANALYSIS**

**Credits:** 3

Introduction to structural concepts and techniques for analyzing trusses, determinate and indeterminate beams, and frame structures. Apply concepts from statics and mechanics of materials to determine internal forces and deflections of structural members and systems, including loads and load paths. Three hours of lecture per week.

**Pre-Requisites**

[[ME-232]]

### **CE-311. GEOTECHNICAL ENGINEERING**

**Credits:** 3

Analysis and design of earth dams, including seepage, piping, and slope stability analyses. Case history studies involving landslides, settlement, and expansive soil problems, and design of repair methodologies for those problems. Three hours of lecture per week.

**Pre-Requisites**

[[CE-231]]

### **CE-321. OPEN CHANNEL HYDRAULICS**

**Credits:** 3

Application of the conservation of energy and momentum equations to open channel systems, including the analysis of open channel hydraulic structures. Three hours of lecture per week.

**Pre-Requisites**

[[ME-321]]

### **CE-325. SUSTAINABILITY ENGINEERING**

**Credits:** 3

This course entails a study of the concept of sustainability and will examine why knowledge of sustainability principles and initiatives are important engineering tools. Concepts including life cycle thinking and analysis, industrial ecology, and the use of energy and mass balances in sustainable system design will be examined. Three hours of lecture per week.

**Pre-Requisites**

[[EES-240]]

### **CE-327. ADVANCED CIVIL ENGINEERING GRAPHICS**

**Credits:** 2

Advanced use of AutoCAD modeling software focusing on the areas of drafting designed systems, producing documentation, and project workflows. Two hours of lecture per week.

**Pre-Requisites**

[[ME-180]]

### **CE-332. MATRIX STRUCTURAL ANALYSIS**

**Credits:** 3

Analysis of trusses and frames including three-dimensional structures. Use of computer models as a tool for complex structures. Three hours of lecture per week.

**Pre-Requisites**

[[CE-263]]

### **CE-334. TIMBER, STEEL, AND CONCRETE DESIGN**

**Credits:** 3

Covers material behavior, external loads, and the design of tension, compression, and flexural members; simple connections used in design; design of columns and footings. Three hours of lecture per week.

**Pre-Requisites**

[[CE-263]]

### **CE-336. LOADS FOR CIVIL STRUCTURES**

**Credits:** 3

The course focuses on the theory and building code requirements for civil structural loadings that are used in design. The loads and load combinations will include dead loads, occupancy live loads, snow loads, wind loads, and seismic loads. Three hours of lecture per week.

**Pre-Requisites**

[[CE-263]]

### **CE-342. FOUNDATION ENGINEERING**

**Credits:** 3

Procedures used to design footings, piled foundations, retaining walls, marine structures, and slopes. Three hours of lecture per week.

**Pre-Requisites**

[[CE-311]]

### **CE-344. GEOSYNTHETICS ENGINEERING**

**Credits:** 3

Analysis of geosynthetic materials and geotextiles that are widely used in highway, landfill, and embankment design. Develop designs for filters, soil separators, reinforced earth, and impermeable membranes. Three hours of lecture per week.

**Pre-Requisites**

[[CE-231]]

### **CE-346. ROCK ENGINEERING**

**Credits:** 3

Analysis of the applied behavior of rock encountered primarily in civil engineering projects. Topics include rock classification, rock durability, rock mass strength classification, use of stereo nets, rock reinforcement, blasting, rock socket application and bearing capacity on rock. Three hours of lecture per week.

**Pre-Requisites**

[[CE-231]], [[GEO-101]]

### **CE-362. RIVER AND FLOODPLAIN HYDRAULICS**

**Credits:** 3

Analysis of natural channels and designed channels, flow transitions, non-uniform flow, and unsteady flow. Includes erosion control and modeling using HEC-RAS. Three hours of lecture per week.

**Pre-Requisites**

[[CE-321]], [[ENV-321]]

**CE-390. CIVIL ENGINEERING SEMINAR****Credits:** 1

Course will focus on project selection, design concepts and constraints, literature review and preliminary data collection for the senior projects course.

**Pre-Requisites**

Junior standing in Civil Engineering or departmental permission.

**CE-391. SENIOR PROJECTS I****Credits:** 1

Design and development of selected projects in the various fields of engineering under the direction of a staff member. Technical as well as economic factors will be considered in the design. A professional paper and detailed progress report are required. One hour of lecture per week.

[Click here for course fees.](#)

**Pre-Requisites**

[[CE-390]], Department Permission

**CE-392. SENIOR PROJECTS II****Credits:** 2

Design and development of selected projects in the field of engineering under the direction of a staff member. Technical as well as economic factors will be considered in the design. This is a continuation of CE 391. A professional paper to be presented and discussed in an open forum is required. Two hour of lecture per week.

[Click here for course fees.](#)

**Pre-Requisites**

[[CE-391]]

## COM. COMMUNICATION STUDIES

**COM-101. FUNDAMENTALS OF PUBLIC SPEAKING****Credits:** 3

Principles of study, application, and evaluation of public speaking. Emphasis will be upon meeting the needs of students through individualized instruction in oral communication settings. Taught every semester.

**COM-102. PRINCIPLES OF COMMUNICATION****Credits:** 3

This course is an introduction to understanding the role of theory in communication studies. We will study traditions, contexts, and theories of communication and acquaint ourselves with communication as a process. We will also learn how to do research in communication studies and examine formal approaches to research within the communication discipline, including qualitative and quantitative methods. Along the way, we will lay the foundation for further coursework in the discipline and begin to prepare for our professional pursuits in communication fields.

**COM-124. MASS MEDIA LITERACY****Credits:** 3

This is a survey course that takes a literacy approach to the study of mass media and their role in society. This course examines the historical, economic, cultural and political aspects of the mass media, and explores how media influence and shape public opinion and attitude. The class will identify techniques to become more media literate as individuals and a society.

**COM-144. DEPARTMENT PRACTICUM****Credits:** 1-2

**A-**Debate and Forensics; **B-**P.R. Agency; **C-** WCHL Radio; **D-** The Beacon; **E-**Television; **F-** Department. The Department Practicum may be taken for one or two credits per semester with the total not to exceed six credits. Students may earn credit for major roles and positions of major responsibility in the above co-curricular activities. Credit for participation in these activities is optional, and voluntary participation (without credit) is also encouraged. The department, through the advisor or instructor of the activity, has the authority to approve or reject any contract for credit under this designation. Credits earned are applicable toward graduation, but do not count toward the degree requirements of any concentration in Communication Studies. Written approval of credit must be by advisor and Department chairperson. Taught every semester.

**COM-201. ADVANCED PUBLIC SPEAKING****Credits:** 3

In this class, students will improve upon communication skills learned in COM 101. In addition, they will develop an understanding and appreciation of the study and practice of rhetoric and communication in historical and contemporary contexts. Special attention will be paid to the functions and influences of speaking and listening in a democracy. Students' understanding and appreciation of the art of rhetoric, as well as their critical orientation toward it, will be cultivated through in-class discussions of course readings and other materials, the composition and delivery of multiple public presentations, the analysis of public address texts and contexts, and the application of active and mindful listening skills.

**COM-202. INTERPERSONAL COMMUNICATION****Credits:** 3

Interpersonal, or dyadic, relational communication, is a critical component of human social interaction. In this course, we will explore the role of interpersonal communication in our individual lives and in society as a whole. We will not only learn the scholarly concepts and theories of interpersonal communication, we will also examine how we and others engage in interpersonal communication behaviors and practices. In that process, we will develop an understanding of mindfulness and competence, and generate solutions for improving interpersonal communication mindfulness and competence in and across various environments.

**Pre-Requisites**

[[COM-102]] or consent of the instructor.

## Course Descriptions

### **COM-203. SMALL GROUP & TEAM COMMUNICATION**

**Credits:** 3

This course is designed to enable students to improve their decision-making abilities within group and team settings. Emphasis will be placed on team-building, as well as task, leadership and interpersonal skills needed for effective group communication.

#### **Pre-Requisites**

[[COM-102]].

### **COM-204. ARGUMENTATION AND DEBATE**

**Credits:** 3

This course will provide training in the fundamentals of argumentation and debate, with practice in gathering and organizing evidence and support materials. Students will be required to build cases based on policy and parliamentary debate structures. Emphasis will be placed on persuasive techniques including cross examination and research. There will be team building activities that reinforce critical thought, problem solving, and open minded discourse. Students will learn to process information quickly and respond with applied knowledge and excellent communication skills.

#### **Pre-Requisites**

[[COM-101]] or consent of the instructor.

### **COM-206. BUSINESS AND PROFESSIONAL COMMUNICATION**

**Credits:** 3

In this class, students will develop theoretical and practical knowledge of professional communication broadly, critically interrogate the language and practices of "professionalism," and apply course materials and critical thinking skills to the current job market, economy, and globalized context in which we live. Course readings, discussions, and assignments emphasize the significance of communication competence at different stages in the job search process, including preparing pre-interview documents, practicing and applying interview skills, interacting with others in multiple organizational contexts, including small group work, and cultivating and maintaining a professional portfolio in traditional and digital formats.

### **COM-220. INTRODUCTION TO ELECTRONIC MEDIA**

**Credits:** 3

This course is an overview of the history, institutions, and message systems of the radio, television, cable, satellite, and internet industries. Emphasis is placed on electronic media development as public and commercial institutions, and the functions that they serve in society. The class focuses on the technical and managerial aspects of the telecommunications industry.

### **COM-222. BROADCAST PRODUCTION**

**Credits:** 3

**Fees:**

A study of the principles and techniques of audio and video production. A special emphasis is placed on the utilization of these techniques in broadcast settings. Included will be: audio principles & recording, acoustics, camerawork, switching, studio equipment, set design, directing, and producing. After completing this course successfully, students will have the basic knowledge needed to perform a variety of jobs within the broadcasting profession. This course is primarily production oriented, with emphasis on learning by doing. The course progresses from basic concepts and tools of production, to slightly more advanced production techniques and production assignments.

[Click here for course fee.](#)

### **COM-223. THE ART OF FILM**

**Credits:** 3

An introduction to the aesthetics, techniques, and critical analysis of cinematic art through the study of representative films of current and past film directors. The course focuses on key elements in film studies including photography, lighting, editing, sound and acting. Emphasis will be placed on the analysis of films as texts.

### **COM-252. INTERNSHIP**

**Credits:** 3-6

A supervised program of work and study in any of the concentrations. Written permission of the department is required. Offered every semester.

### **COM-260. BASIC NEWSWRITING**

**Credits:** 3

This course explores the fundamentals of newsgathering, newswriting and news judgment for all media; study of news sources; fieldwork; research; and interview techniques. Students will learn how to write basic news stories using inverted pyramid and narrative writing structures. Students will also be expected to find and interview sources for stories, including subject experts from outside of campus. Basic legal terms and AP style will also be introduced.

### **COM-261. MULTIMEDIA COMMUNICATION**

**Credits:** 3

This course offers a skills-focused and theoretical approach to multimedia communication. Through a variety of readings, discussions and practical workshops, students will earn basic skills for navigating through multimedia platforms, including, but not limited to social media, apps, and audio/visual modes of communication. Students will be given the tools and information to adapt their knowledge and expertise as media and software packages change. Students will also critically analyze multimedia platforms to better understand their functions and the repercussions of releasing information on (or through) them.

**COM-262. DIGITAL STORYTELLING AND DESIGN****Credits:** 3

This course offers a hands-on approach to exploring the visual aspects of design and storytelling. Students will be introduced to basic principles of design that are applicable to a variety of career fields. Students also will learn about visual storytelling, the power of visual messages, and the interconnectedness between verbal and visual messages. Through readings, class discussions and workshops, students will gain the knowledge to not only produce effective and quality visual messages, but they will also be challenged to critically analyze visual messages and discuss the ethics behind the messages and the message making process.

**COM-300. COMMUNICATION CRITICISM****Credits:** 3

From the perspective of communication studies, "criticism" is an essential concept that refers to the interpretive work of analyzing and evaluating the publicly addressed messages that humans produce and consume. In this class, we will explore the history and development of the practice and methods of interpreting human communicative acts, a process known as communication criticism or rhetorical criticism. Students will be introduced to and learn multiple modes of criticism, from neo-Aristotelian to feminist, and practice applying those frameworks to selected communicative texts and rhetorical artifacts.

**Pre-Requisites**

[[COM-101]].

**COM-301. PERSUASION****Credits:** 3

Persuasion is an inextricable component of human communication, especially as communication is understood broadly as symbolic influence or inducement. In this class, we will explore and critically analyze the historical development of rhetoric and persuasion, study the process and components of persuasion, examine the particular contexts in which rhetoric and persuasion occur, and consider the ethics of persuasion. These objectives will be pursued via several modes, including developing and orally presenting persuasive arguments and critically analyzing and evaluating persuasive messages.

**Pre-Requisites**

[[COM-101]].

**COM-302. FUNDAMENTALS OF PUBLIC RELATIONS****Credits:** 3

This course is an introduction to the fundamentals of public relations practice, including program planning and evaluation, media relations, writing for PR, and coordinating special events and functions. Students will work in teams to assist clients in creating long- and short-term PR plans, as well as fulfilling pre-determined goals. Students will also become familiar with project management, as well as networking, in terms of client- and self-promotion.

**Pre-Requisites**

[[COM-260]].

**COM-303. ORGANIZATIONAL COMMUNICATION****Credits:** 3

Course focuses on traditional and modern concepts of communication channels in simple and complex organizations. Considerable attention is given to interviewing and conducting communication audits.

**Pre-Requisites**

[[COM-102]] or consent of the instructor.

**COM-304. INTERCULTURAL COMMUNICATION****Credits:** 3

Intercultural Communication is a systematic study of what happens when people from different cultural backgrounds interact face-to-face. The course is a balance between theoretical and practical knowledge, with emphasis on immediately usable knowledge. Guest speakers, in-class simulations, cross-cultural interviews, and research projects ask students to apply communication skills to actual intercultural situations.

**Pre-Requisites**

[[COM-102]] or consent of the instructor.

**COM-305. STUDIES IN PUBLIC ADDRESS****Credits:** 3

This class is a hybrid or comparative approach to the study of public address in the United States. We will study traditional *and* critical rhetorical theories of public address. We will also engage with speakers and texts that both challenge and reinforce the "great speeches" mold. As we pursue these objectives, we will focus our study on selected social movement rhetorics in the United States, including those of women's and feminist movements, civil rights movements, labor movements, and LGBTQ movements.

**Pre-Requisites**

[[COM-102]] or consent of the instructor.

**COM-306. GENDER AND COMMUNICATION****Credits:** 3

Gender is a social construct that is constituted, expressed, and interpreted via the processes of human communication. With that in mind, in this course, we will explore the relationships between gender as a social construct and communication as a symbolic process and critically interrogate the assumption that gender, sex, and sexuality are inextricable categories of personhood. Students will gain theoretical insights and develop analytical skills to identify gendered expectations and interrogate how these expectations impact people of all genders.

**COM-320. MEDIA MANAGEMENT****Credits:** 3

This course will provide a framework for understanding the functions and methods of media managers in both print and non-print media.

**Pre-Requisites**

[[COM-220]] or consent of the instructor.

## Course Descriptions

### COM-321. ADVANCED MULTIMEDIA REPORTING

**Credits:** 3

This course combines advanced reporting techniques with multimedia production to create news 'packages'. Students will discuss audience analysis and determine what makes a solid news package for a particular audience and/or demographic. The class will analyze existing news packages and then split into teams to create their own multimedia news stories that relate not only to the university, but also to the Wilkes-Barre area. Teams will be responsible for all reporting and multimedia work, including, but not limited to, video, online and photo components. Near the end of the semester, students will present their work to a panel of industry and/or academic professionals for feedback.

[Click here for course fee.](#)

#### Pre-Requisites

[[COM-222]]

### COM-322. ADVANCED VIDEO PRODUCTION

**Credits:** 3

The advanced study of the principles and techniques of video production. Scripting, producing, and editing video are subjects covered in this course. Each student will participate in several video productions. Strong focus on "hands-on" experience, including the production of a mini-documentary.

Classroom and studio work places an emphasis on current principles of both multi-camera studio and field production. Creativity, teamwork, time management, distribution or labor, and applied aesthetics are also strongly emphasized.

[Click here for course fee.](#)

#### Pre-Requisites

[[COM-222]] or consent of the instructor.

### COM-323. ADVANCED AUDIO PRODUCTION

**Credits:** 3

This advanced level course builds on the basic skills learned in Broadcast Production with an emphasis on radio and the radio industry. Students will learn the theory and techniques of in depth radio production, including multi-track recording, mixing, signal processing, editing, mastering, creative radio production, and sound design for media. Students will be expected to work independently and within the group to produce broadcast quality production content suitable to be aired on WCLH.

[Click here for course fee.](#)

### COM-324. COMMUNICATION RESEARCH METHODS I

**Credits:** 3

A study of the basic foundations in the theory and practice of communication research. The course will review the varied concepts and methods used in designing and conducting research specific to the discipline of Communication Studies and introduce students to the process of applying to the Institutional Review Board for research permission involving human subjects. Emphasis on ability to hone research topics, identify research sources, and write literature reviews. Required of all majors. Taught every fall semester.

#### Pre-Requisites

[[COM-102]] and [[COM-260]]

### COM-325. COMMUNICATION RESEARCH METHODS II

**Credits:** 3

A focus on the principles and techniques of sampling, data analysis, and data interpretation as applied to communication research. Qualitative and quantitative analyses will be explored, as will fundamental aspects of both descriptive and interpretive statistics. An emphasis is placed on students' ability to work independently to gather, analyze, interpret, and report original research findings. Required of all majors. Taught every spring semester.

#### Pre-Requisites

[[COM-324]]

### COM-352. ADVANCED PUBLIC RELATIONS CAMPAIGNS

**Credits:** 3

An advanced course in public relations, taught in seminar format. Emphasis is placed on planning, researching, budgeting, carrying out and evaluating actual public relations campaigns. The course is both writing and speaking intensive. In cooperation with various community-based businesses and non-profit clients, student 'teams' conduct actual semester-long promotional campaigns. Students should be competent in basic news writing, interviewing, and fundamentals of public relations.

#### Pre-Requisites

[[COM-302]].

### COM-354. INTERNATIONAL FIELD EXPERIENCE IN COMMUNICATION

**Credits:** 1-6

One to six credits International Field Experience in Communication is an international service-learning experience that focuses on social and communication issues. Students will do a service project related to an area of communication studies including, but not limited to, Broadcast and Print Media, Public Relations, or Strategic Communication. Qualifies for Study Tour Experience (STE) credit pricing. Taught as offered.

### COM-361. FEATURE WRITING

**Credits:** 3

The course explores the study of feature articles for newspapers, magazines and specialized publications (online and otherwise). Students will read and write feature stories as they practice research, interviewing and writing techniques, as well as pitching stories to media outlets. Multimedia storytelling will also be discussed and utilized as students create their narrative pieces.

#### Pre-Requisites

[[COM-260]].

### COM-362. MASS COMMUNICATION LAW

**Credits:** 3

The course examines current legal problems, theory of controls in journalism, television, and radio; libel, copyright, privacy law, and other legal issues affecting the mass media and free speech. Using a case study approach, students will study current issues, as well as seminal cases. Students will also write case briefs as part of the learning process.

**COM-372. MANAGING A PUBLIC RELATIONS AGENCY****Credits:** 3

Focus on difference between in-house public relations and agency operators. Students work with several clients.

**Pre-Requisites**

[[COM-302]].

**COM-397. SENIOR SEMINAR/COMMUNICATIONS****Credits:** 3

A focus on the principles and application of ethics within the discipline of Communication Studies. Emphasis is placed on in-depth investigation and discussion of current research and ethical issues to provide students with a foundation for making ethical decisions in their professional careers. Through writing, speaking, and discussion of real-world issues and cases, students will examine how ethical decisions are made and how they apply to the field's numerous ethical codes.

This class is also designed to integrate alumni mentoring into its curriculum in order to provide senior communication studies students a wide variety of learning and networking opportunities. By instilling a fundamental basis for practical, ethical decision-making, this class endeavors to act as a bridge between the undergraduate experience and the professional world by providing instruction and mentoring in a wide variety of skills pertinent to professional success. Course taught every spring semester.

**Pre-Requisites**

Junior or Senior standing.

**COM-398. TOPICS****Credits:** 1-3

A study of topics of special interest not extensively treated in regularly offered courses. As offered.

**COM-399. COOPERATIVE EDUCATION****Credits:** 1-6

Professional cooperative education placement in a private or public organization related to the student's academic objectives and career goals. In addition to their work experience, students are required to submit weekly reaction papers and an academic project to a Faculty Coordinator in the student's discipline. (See the Cooperative Education section of this bulletin for placement procedures.) As offered.

**Pre-Requisites**

Completion of Sophomore year, 2.25 cumulative GPA, consent of academic advisor, and approval of placement by department chairperson.

**CS. COMPUTER SCIENCE****CS-198, CS-298, CS-398. TOPICS IN COMPUTER SCIENCE****Credits:** Variable

Study of one or more special topics in computer science. May be repeated for credit if different topics are emphasized. Offered when demand warrants.

**Pre-Requisites**

Varies with topic

**CS-115. COMPUTERS AND APPLICATIONS****Credits:** 3

An introduction to computers and computing, with emphasis on personal computing in both the Windows and OS X operating systems. Extensive hands-on experience will involve the application of current commercial software (including word processing, database, and spreadsheet). Not open to students who have received credit in any 200-level CS course. Students majoring in either Computer Science or Computer Information Systems will not receive credit for this course.

**CS-125. COMPUTER SCIENCE I****Credits:** 4

Introduction to information technology and programming (history of computing, text editors, word processing, spreadsheets, introduction to programming), basic data types, functions, decision structures, loops, one- and two-dimensional list structures, testing, debugging, and an introduction to computer graphics. Three hours of lecture and two hours of lab per week. Offered every fall and spring.

[Click here for course fee.](#)**Co-Requisites**

[[MTH-100]] or higher

**CS-126. COMPUTER SCIENCE II****Credits:** 4

A study of advanced programming concepts, structures, and techniques (professional and ethical issues, testing and debugging, fundamentals of programming, basic data structures—strings, lists, multidimensional arrays, objects, hashes, inheritance, polymorphism, recursion, divide and conquer, machine representation of data, hardware components, machine instructions). Three hours of lecture and two hours of lab per week. Offered every fall and spring.

[Click here for course fee.](#)**Pre-Requisites**

[[CS-125]] with grade of 2.0 or better OR equivalent programming experience.

## Course Descriptions

### CS-225. COMPUTER SCIENCE III

**Credits:** 3

A study of the use of a high-level language to implement basic data structures such as strings, lists, arrays, objects, and hashes, and their application to searching, sorting, and hashing. Representation of numbers and strings at the machine level. The course will also include an introduction to the concepts of algorithm design and problem solving with an emphasis on algorithm development, analysis, and refinement. Offered every fall.

[Click here for course fee.](#)

#### Pre-Requisites

[[CS-126]] with grade of 2.0 or better

### CS-226. COMPUTER SCIENCE IV

**Credits:** 3

A continuation of [[CS-225]]. Topics include programming language paradigms, advanced use of word processors and spreadsheets, including macros, linked data structures, and an introduction to discrete mathematics, including counting, probability, and graphs. Offered every spring.

[Click here for course fee.](#)

#### Pre-Requisites

[[CS-225]] with grade of 2.0 or better

### CS-246. C AND UNIX

**Credits:** 3

An introduction to using Unix operating systems, including shells, file manipulation, text editors, filters, and regular expressions. Fundamentals of C programming, including loops, arrays, functions, recursion, pointers, structures, unions, input/output, and system calls.

[Click here for course fee.](#)

#### Pre-Requisites

[[CS-125]] with grade of 2.0 or better

### CS-265. MEDICAL INFORMATICS

**Credits:** 3

This course will cover basic principles of computer use and information management in health care (including general medicine, dentistry, optometry, and pharmacy). Topics will include basic computing concepts, the characteristics of medical data, and the use of computers in the administrative, diagnostic, and research oriented medical tasks. The course is primarily directed towards students who intend to pursue careers in health-related fields. Offered every spring.

[Click here for course fee.](#)

### CS-283. WEB DEVELOPMENT I

**Credits:** 3

An introduction to the development of interactive web sites, including HTML, JavaScript, forms and CGI programs; server side includes cookies, web server configuration and maintenance. Offered in the fall semester of odd-numbered years when demand warrants.

[Click here for course fee.](#)

#### Pre-Requisites

[[CS-126]].

### CS-285. MOBILE APPLICATIONS

**Credits:** 3

An introduction to programming mobile application development. Topics will include cross-platform development; user interface design; touchscreen, GPS, and motion sensing input; memory management; cloud services and network utilization; security and trust considerations; data privacy and ethics.

[Click here for course fee.](#)

#### Pre-Requisites

[[CS-126]] and [[CS-246]].

### CS-317. SOFTWARE INTEGRATION

**Credits:** 3

An introduction to the integration of application programs, including email clients, word processors, spreadsheets, and database systems using Microsoft Office and Visual Basic.

[Click here for course fee.](#)

#### Pre-Requisites

[[CS-126]].

### CS-319. PRINCIPLES OF PROGRAMMING LANGUAGES

**Credits:** 3

A study of the principles that govern the design and implementation of programming languages. Topics include language structure, data types, and control structures. Programming projects will familiarize students with features of programming languages through their implementation in interpreters.

[Click here for course fee.](#)

#### Pre-Requisites

[[CS-226]].

### CS-321. SIMULATION AND DATA ANALYSIS

**Credits:** 3

Methods of handling large databases, including statistical analysis and computer simulations. The emphasis will be upon discrete simulation models with a discussion of relevant computer languages: ARENA, GPSS, and SIMSCRIPT.

[Click here for course fee.](#)

#### Pre-Requisites

[[CS-125]] and [[MTH-111]].

### CS-323. THEORY OF COMPUTATION

**Credits:** 3

This course formalizes many topics encountered in previous computing courses. Topics include languages, grammars, finite automata, regular expressions and grammars, context-free languages, push-down automata, Turing machines, and computability.

[Click here for course fee.](#)

#### Pre-Requisites

[[CS-126]] and [[MTH-231]].

**CS-324. SYSTEMS ANALYSIS****Credits:** 3**Fees:**

A study of the design and implementation of large computer projects. Special emphasis is placed on applications to business systems. Students will use a CASE tool for automated systems analysis and design.

[Click here for course fee.](#)

**Pre-Requisites**

[[CS-225]].

**CS-325. DATABASE MANAGEMENT****Credits:** 3**Terms Offered:** Winter

Practical experience involving the fundamental concepts of database systems including data modeling; query languages; database management system implementation; management of semi-structured and multimedia data; distributed and noSQL databases

[Click here for course fee.](#)

**Pre-Requisites**

[[CS-126]].

**CS-326. OPERATING SYSTEM PRINCIPLES****Credits:** 3

Analysis of the computer operating systems, including Batch, Timesharing, and Realtime systems. Topics include sequential and concurrent processes, processor and storage management, resource protection, processor multiplexing, and handling of interrupts from peripheral devices.

[Click here for course fee.](#)

**Pre-Requisites**

[[CS-226]].

**CS-327. COMPILER DESIGN****Credits:** 3

A study of compiler design, including language definition, syntactic analysis, lexical analysis, storage allocation, error detection and recovery, code generation, and optimization problems.

[Click here for course fee.](#)

**Pre-Requisites**

[[CS-226]].

**CS-328. ALGORITHMS****Credits:** 3

Theoretical analysis of various algorithms. Topics are chosen from sorting, searching, selection, matrix multiplication of real numbers, and various combinatorial algorithms.

[Click here for course fee.](#)

**Pre-Requisites**

[[CS-226]] and [[MTH-232]].

**CS-330. COMPUTER ARCHITECTURE****Credits:** 3

A study of the design, organization, and structure of computers, ranging from the microprocessors to the latest 'supercomputers.' An emphasis will be placed on machine language, instruction formats, addressing modes, and machine representation of numbers.

[Click here for course fee.](#)

**Pre-Requisites**

[[CS-226]].

**CS-334. SOFTWARE ENGINEERING****Credits:** 3

A course in 'programming in the large.' Topics include software design, implementation, validation, maintenance, and documentation. There will be one or more team projects.

[Click here for course fee.](#)

**Pre-Requisites**

[[CS-226]].

**CS-335. DATA SCIENCE AND INFORMATION RETRIEVAL****Credits:** 3

Practical experience involving unstructured data collections. Topics cover big data, data mining, predictive modeling, decision analysis and indexing and retrieval including probabilistics, clustering, thesauri and passage based retrieval strategies.

[Click here for course fee.](#)

**Pre-Requisites**

[[CS-325]] or [[CS-340]]

**CS-340. ARTIFICIAL INTELLIGENCE****Credits:** 3

This course will provide an overview of artificial intelligence (AI) application areas and hands-on experience with some common AI computational tools. Topics include search, natural language processing, theorem proving, planning, machine learning, robotics, vision, knowledge-based systems (expert systems), and neural networks.

[Click here for course fee.](#)

**Pre-Requisites**

[[CS-126]].

**CS-350. OBJECT-ORIENTED PROGRAMMING****Credits:** 3

Object-oriented concepts and their application to human-computer interaction. Concepts to be covered include objects, classes, inheritance, polymorphism, design patterns, GUI interface guidelines, and design of interfaces. There will be programming projects in one or more object-oriented languages using one or more GUI interface guidelines.

[Click here for course fee.](#)

**Pre-Requisites**

[[CS-226]].

## Course Descriptions

### CS-355. COMPUTER NETWORKS

**Credits:** 3

This course introduces basic concepts, architecture, and widely used protocols of computer networks. Topics include the Open System Interconnection (OSI) model consisting of physical link layer, data layer, network layer, transport layer, session layer, presentation layer, and application layer, the medium access sublayer and LAN, various routing protocols, Transmission Control Protocol (TCP), and Internet Protocol (IP) for internetworking.

[Click here for course fee.](#)

#### Pre-Requisites

[[CS-225]] and [[CS-246]]

### CS-363. OPERATIONS RESEARCH

**Credits:** 3

A survey of operations research topics such as decision analysis, inventory models, queuing models, dynamic programming, network models and linear programming. Cross-listed with [[MTH-363]].

[Click here for course fee.](#)

#### Pre-Requisites

[[CS-125]], and [[MTH-111]].

### CS-364. NUMERICAL ANALYSIS

**Credits:** 3

An introduction to numerical algorithms as tools to providing solutions to common problems formulated in mathematics, science, and engineering. Focus is given to developing the basic understanding of the construction of numerical algorithms, their applicability, and their limitations. Cross-listed with [[MTH-364]]. Offered Spring odd years.

#### Pre-Requisites

[[MTH-211]] and [[CS-125]] (or equivalent programming experience).

### CS-366. 3 DIMENSIONAL ENVIRONMENTS AND ANIMATION

**Credits:** 3

This course will explore the foundations of 3-dimensional animation processes as they apply to multiple mediums. Students will build computer-based models and environments, texture, light, animate, and render content for Integrative Media projects or as stand-alone pieces. Cross-listed with [[IM-350]].

[Click here for course fee.](#)

#### Pre-Requisites

[[CS-126]] or [[IM-201]].

### CS-367. COMPUTER GRAPHICS

**Credits:** 3

**Fees:**

Introduction to equipment and techniques used to generate graphical representation by computer. Discussion of the mathematical techniques necessary to draw objects in two- and three-dimensional space. Emphasis on application programming and the use of a high-resolution color raster display.

[Click here for course fee.](#)

#### Pre-Requisites

[[CS-226]].

### CS-368. 3 DIMENSIONAL GAME DEVELOPMENT

**Credits:** 3

An overview of simulation, engine-based, and real-time game systems with a focus on theory, creation, and animation of three-dimensional models used within a game context. Cross-listed with [[IM-368]].

[Click here for course fee.](#)

#### Pre-Requisites

[[CS-366]]/IM 350 or [[CS-367]].

### CS-370. SPECIAL PROJECTS

**Credits:** variable

Requirements: Senior standing and approval of the department chairperson.

### CS-383. WEB DEVELOPMENT II

**Credits:** 3

An introduction to the development of dynamic, database-driven sites, including active server pages, PHP, authentication, session tracking and security, and the development of shopping cart and portal systems.

[Click here for course fee.](#)

#### Pre-Requisites

[[CS-283]]. [[CS-325]].

### CS-391. SENIOR PROJECTS I

**Credits:** 1

Design and implementation of a software project under the direction of a faculty member. Students will normally work in teams. Detailed requirements and design documents are required and will be presented at the end of the semester. Offered every fall.

[Click here for course fee.](#)

#### Pre-Requisites

[[CS-334]] or [[CS-324]].

**CS-392. SENIOR PROJECTS II****Credits:** 2

Design and implementation of a software project under the direction of a faculty member. Students will normally work in teams. Production of a finished product, including software and documentation, is required. There will be an open forum presentation of the project at the end of the semester. Offered every spring.

[Click here for course fee.](#)

**Pre-Requisites**

[[CS-391]].

**CS-399. COOPERATIVE EDUCATION****Credits:** 1-6

Professional cooperative education placement in a private or public organization related to the student's academic objectives and career goals. In addition to their work experiences, students are required to submit weekly reaction papers and an academic project to a Faculty Coordinator in the student's discipline. See the Cooperative Education section of this bulletin for placement procedures. Requirements: Sophomore standing; minimum 2.0 cumulative GPA; consent of the academic advisor; and approval of placement by the department chairperson.

**DAN. DANCE****DAN-100. DANCE APPRECIATION: COMPREHENSIVE DANCE FORMS****Credits:** 3

This course provides a general introduction to classical ballet, modern dance and jazz dance. It is designed to provide a structured, personal engagement in dance whose objective is the acquisition, at each individual student's pace, of the qualities of grace, physical stamina, muscular and ligament flexibility, and movement musicality.

**DAN-120. TAP DANCE****Credits:** 3

In this course, students will acquire and develop tap dance technique through drills and exercises, and will develop an appreciation of the rich history of tap dance in America through lectures, videos, demonstrations and readings.

**DAN-210. MODERN DANCE I****Credits:** 3

This course provides the student with the fundamentals of modern dance based on the methodology of Lester Horton. It is designed to provide an experimentation structure and professionally-informed exploration of the art of modern dance. Its objective is the acquisition, at each individual student's pace, of the qualities of grace, physical stamina, muscular alignment, flexibility, and movement musicality. This course also introduces fundamentals of contemporary dance allowing the student to investigate how this genre of dance has pulled elements of movement from classical, modern and jazz styles.

**DAN-211. MODERN DANCE II****Credits:** 3

This course is the sequel to DAN-210, providing the truly committed student with the opportunity, at an intermediate level, for an even more substantive and diversified participatory engagement in modern and contemporary dance. It engages the student-dancer in highly individualized movements based on personalized, multi-faceted, and changing artistic standards.

**Pre-Requisites**

[[DAN-210]] or permission of instructor.

**DAN-220. ADVANCED TAP****Credits:** 3

In this course, students will acquire and develop advanced tap dance technique through drills and exercises, and will develop an appreciation of the rich history of tap dance in America through lectures, videos, demonstrations and readings.

**Pre-Requisites**

[[DAN-120]] or permission of instructor.

**DAN-230. JAZZ DANCE I****Credits:** 3

The first course involving an intensive and progressively challenging engagement in jazz technique and performance utilizing a fusion of methodologies all of which are ballet based. This course is designed for the student with limited dance experience, still having a basic understanding of ballet terminology and body placement. Core skills as well as body conditioning are emphasized, investigating different genres within the context of the jazz discipline. Classical Jazz, Musical Theatre Jazz, Video Style Jazz, and Lyrical Styles of Jazz will be introduced.

**DAN-231. JAZZ DANCE II****Credits:** 3

The second in the progressively demanding courses in the four-semester sequence in which students are intensively engaged in learning and executing jazz techniques and performance skills by utilizing a fusion of methodologies, all of which are ballet based. Through the study of jazz dance techniques as systematized using various methods, students are encouraged to perceive the nature of dance movement and to acquire some proficiency in its application to stage performance and achieve greater awareness of body structure and function. Select choreographers, directors, and teachers will play a significant role in the material chosen for this course.

**Pre-Requisites**

[[DAN-230]] or permission of instructor.

**DAN-250. CLASSICAL BALLET I****Credits:** 3

The first course in the study of the theory and techniques of Russian classical ballet, as pursued in the curricula of the schools of the Bolshoi and Kirov Ballets and derived from the methodology devised by Agrippina Vaganova and Cecchetti.

## Course Descriptions

### **DAN-251. CLASSICAL BALLET II**

**Credits:** 3

This course is designed to build on the foundation acquired in [[DAN-250]] for an intensive intellectual, emotional, and physical engagement in the study of the theory and techniques of Russian classical ballet, as pursued in the curricula of the schools of the Bolshoi and Kirov Ballets and derived from the methodology devised by Agrippina Vaganova and Cecchetti.

**Pre-Requisites**

[[DAN-250]] or permission of instructor.

### **DAN-310. MODERN DANCE III**

**Credits:** 3

This is an advanced course in modern dance, affording the student the opportunity to engage, experientially, in some of the more technically and choreographically demanding and innovative aspects of modern dance. In the exploration of these movement elaborations, the aesthetic vision of the choreographers may be perceived, especially in terms of how they adapted much of the disciplined technique of classical ballet in an exciting syncretic fusion.

**Pre-Requisites**

[[DAN-211]] or permission of instructor.

### **DAN-311. MODERN DANCE IV**

**Credits:** 3

An advanced level course in Modern Dance technique. In addition to continued study of the concepts from [[DAN-310]], specific contemporary styles will be explored.

**Pre-Requisites**

[[DAN-310]] or permission of instructor.

### **DAN-320. DANCE COMPOSITION**

**Credits:** 3

An introduction to the craft of making dance works. Class emphasis is on developing movement material, structuring solid dance works and documenting the creative process. A writing component is required.

**Pre-Requisites**

Permission of instructor.

### **DAN-330. JAZZ DANCE III**

**Credits:** 3

Jazz Dance III is third in the progressively demanding courses in the four-semester elective sequence in which students are intensively engaged in learning and executing jazz techniques and performance skills using various methodologies, all of which are ballet based. Students at this level are expected to have a greater understanding of ballet terminology and body placement. Emphasizing a blending of theory and practice, this course is intended to encourage students to explore another dimension of personal fulfillment while cultivating realistically their potential as physically coordinated, aesthetically sensitive, poised, and graceful persons, with a deeper understanding of dance as recreation vs. dance in a professional environment relating to theatre studies. Within this course, the student will investigate the intent of the choreographer and director as well as experience the choreographic process itself. Creativity, logic, and reasoning skills will be enhanced, with the intention of aiding the student in transferring these aspects to their chosen major. Select choreographers, directors, and teachers will play a significant role in the material presented, with the expectation of the student delving more deeply into the creative process of dance.

**Pre-Requisites**

[[DAN-231]] or permission of instructor.

### **DAN-331. JAZZ DANCE IV**

**Credits:** 3

The fourth level in the progressively demanding courses in the four-semester elective sequence in which students are intensively engaged in learning and executing jazz techniques and performance skills per various methodologies, all of which are ballet based. At this level, the student is expected to have an adequate knowledge of ballet terminology, body placement, and body conditioning, with a focus on transferring these skills to choreography, improvisation, class structure, and the creative process itself. This course is intended to take the dance student to a higher level of physical and creative awareness. A greater understanding of physics, as it relates to dance, kinesiology, anatomy, and the processing of more intricate exercises and combinations are a major focus. Once again, select choreographers, directors, and teachers, will play a significant role in the material presented. A deeper understanding of a person's creative potential will be investigated, using life experiences of selected persons.

**Pre-Requisites**

[[DAN-330]] or permission of instructor.

**DAN-350. CLASSICAL BALLET III****Credits:** 3

This course is designed to build on the foundation laid in [[DAN-251]]. Course presentation will employ lecture, demonstration, and studio exercises designed to explore the movement dynamics that are especially appropriate to the classical dance genre. The objective of this course is the continued individually paced development of the qualities of grace, physical stamina, muscular and ligament flexibility, and movement musicality, especially via direct and active engagement in classical dance technique.

**Pre-Requisites**

[[DAN-251]] or permission of instructor.

**DAN-351. CLASSICAL BALLET IV****Credits:** 3

This course is designed to continue to build on the foundation laid in [[DAN-350]]. Special emphasis will be given in this course to the development of sound classical ballet technique (per a modified Vaganova methodology) as the foundation for the cultivation of poise, stage presence, kinetic flexibility, and physical stamina.

**Pre-Requisites**

[[DAN-350]] or permission of instructor.

## **EES. EARTH AND ENVIRONMENTAL SCIENCES**

**EES-198/298/398. TOPICS IN EES****Credits:** Varies with topic

Departmental courses on topics of special interest, not extensively treated in regularly scheduled offerings, will be presented under this course number on an occasional basis. May be repeated for credit.

[Click here for fee for courses with a lab.](#)

**Pre-Requisites**

Varies with topic studied.

**EES-105. PLANET EARTH****Credits:** 3

The nature of our planet and how it works are examined in the context of Earth as a constantly changing dynamic system. An emphasis on global scale processes and the interaction of humans and their physical environment is coupled with in-depth coverage of how science is done and the scientific principles that influence our planet, its rocks, mountains, rivers, atmosphere, and oceans. Major sub-topical areas in the Planet Earth series may include geology (Forces of Geologic Change), oceanography (The Restless Ocean), astronomy (The Cosmic Perspective), geography (Global Regions and Geography), and the relationship between people and their physical surroundings (The Global Environment). Intended for students who are not majoring in science, engineering, pre-pharmacy, nursing, or B.S. programs in mathematics or computer science. Two hours of lecture and two hours of lab per week.

[Click here for course fees.](#)

**Pre-Requisites**

No previous background in science or college-level mathematics is required.

**EES-201. ENVIRONMENTAL ETHICS AND SUSTAINABILITY****Credits:** 1

This course entails an examination of the central topics of environmental ethics and sustainability as viewed from the perspectives of science. Ethical and sustainability paradigms that all environmental scientists should be aware of will be studied. Course is delivered online.

**Pre-Requisites**

[[EES-240]] and [[EES-241]], or permission of the instructor.

**EES-210. GLOBAL CLIMATE CHANGE****Credits:** 3

The nature and function of earth's global climate are examined from a unified system perspective. Major questions focus on scientific versus public understanding of trends in global temperature, precipitation, and sea level. The course emphasizes negative and positive feedback processes that force key changes in the earth's climate system: past, present, and future. Topics include fundamentals of global and regional heat and water balance, the role of elemental cycles in controlling climate (e.g., the carbon cycle), descriptive climate classification, long-term, short-term, and catastrophic climatic change (e.g., ice ages and bolide impacts), and human effects on climate (e.g., enhanced greenhouse, rising sea level). This course integrates a scientific understanding of climatic change and explores contemporary social and economic policy responses to change scenarios. Three hours of lecture per week.

## Course Descriptions

### EES-213. CLIMATE MODELING

**Credits:** 1

Students will utilize software to construct basic models of Earth Systems. No prior knowledge of the software is assumed or required. Weekly assignments will consist of computer-based modeling exercises, each progressively building upon previous assignments. Specifically, students will utilize software to construct relatively simple models of world population growth, fossil fuel consumption, the global carbon cycle, and the Earth's energy balance. The final modeling exercise couples the population growth, carbon cycle, and Earth energy balance assignments in an effort to explore the effect of future population growth and carbon dioxide emissions on global mean temperature. Two hours of lab per week.

**Co-Requisites**

[[EES-210]]

### EES-218. ENVIRONMENTAL ETHICS

**Credits:** 3

An examination of the central problems of environmental ethics as viewed from the perspectives of science and of philosophy. The value of nature and 'natural objects,' differing attitudes toward wildlife and the land itself, implications of anthropocentrism, individualism, ecocentrism, and ecofeminism, bases for land and water conservation, and other topics will be examined within a framework of moral and scientific argument. Cross-listed with [[PHL-218]].

**Pre-Requisites**

[[PHL-101]] or [[EES-240]] and [[EES-241]], or permission of the instructor.

### EES-230. OCEAN SCIENCE

**Credits:** 4

An interdisciplinary approach to the study of the fundamentals of oceanography emphasizing physical, chemical, and biological interrelationships. Three hours of lecture and three hours of lab. Requirements: For CS, Engineering, Math, and Science majors only

[Click here for course fees.](#)

### EES-240. PRINCIPLES OF ENVIRONMENTAL ENGINEERING & SCIENCE

**Credits:** 3

A study of physical, chemical, and biological components of environmental systems and a discussion of processes involved in water quality management, air quality management, waste management, and sustainability. Three hours of lecture per week.

**Pre-Requisites**

[[MTH-111]] or permission of the instructor. Requirements: for CS, Engineering, Math, and Science majors only.

### EES-241. PRINCIPLES OF ENVIRONMENTAL ENGINEERING & SCIENCE LAB

**Credits:** 1

Experiments with and analysis of the physical, chemical, and biological components of environmental systems.

[Click here for course fees.](#)

**Co-Requisites**

[[EES-240]] concurrent or prior.

### EES-242. ENVIRONMENTAL HEALTH

**Credits:** 3

To provide students with an understanding of man's impact on the environment and how those impacts can be controlled or mitigated. Students completing this course should be able to recognize environmental problems and understand control and preventative measures. Three hours of lecture.

**Pre-Requisites**

Introductory physics and chemistry. Students who have taken [[EES-240]] will be admitted only with the consent of the instructor.

### EES-251. SYNOPTIC METEOROLOGY

**Credits:** 4

Topics include surface and upper air weather systems, weather phenomena, climate, and local weather influences. Synoptic map analysis and interpretation are emphasized. Three hours of lecture and three hours of lab per week. Requirements: For CS, Engineering, Math, and Science majors only

[Click here for course fees.](#)

### EES-261. REGIONAL GEOGRAPHY

**Credits:** 3

Topics covered include maps and charts and basic elements of physical, cultural, historical, and economic geography as applied to specific geographic regions. Three hours of lecture per week.

### EES-280. PRINCIPLES OF ASTRONOMY

**Credits:** 4

Topics include orbital mechanics, results of planetary probes, spectra and stellar evolution, and cosmology. Three hours of lecture and three hours of lab per week. Requirements: For Science majors only

[Click here for course fees.](#)

**EES-302. SCIENCE RESEARCH AND COMMUNICATION****Credits:** 1

The aim for this course is to provide students with the necessary foundation to think critically about scientific research and communication. The course introduces students to the (1) philosophy of science, (2) design, execution, and evolution of scientific projects, (3) exploration, evaluation, and management of scientific literature, (4) methods and ethics of scientific communication, and (5) proposal design for a project to be continued into Senior Project (EES/GEO 391/392) that includes a literature review, definition of research questions, objectives, or testable hypotheses, and the methods used to carry out the project. The broader social and political context in which scientific research is situated and must respond to and interact with is also explored. More than that, this course explores the important connections between research design and communication by having students focus on the application of learned theory and skills to projects with Senior Project advisor.

**Pre-Requisites**

Junior standing.

**EES-304. ENVIRONMENTAL DATA ANALYSIS****Credits:** 2

To acquaint students majoring in earth and environmental sciences with the techniques and methods of data acquisition and analysis, including environmental sampling methodology and data management. Emphasis will be placed on examination of real data sets from various areas of the earth and environmental sciences with particular emphasis placed on using and applying graphical and statistical procedures used in [[EES-391]]-392 (Senior Projects). Two hours of lecture per week.

**Pre-Requisites**

[[MTH-150]] and Junior standing or permission of the instructor.

**EES-340. CONSERVATION BIOLOGY****Credits:** 3

This course covers the major topics of conservation biology including an introduction to biodiversity, threats to biodiversity, and solutions to diminish extinctions and population declines. Lecture: three hours per week. Offered each year. Cross-listed with [[BIO-340]].

**Pre-Requisites**

[[BIO-225]] - [[BIO-226]] or permission of the instructor.

**EES-341. FRESHWATER ECOSYSTEMS****Credits:** 3

A study of the biological and ecological aspects of streams, lakes, and wetlands from a watershed perspective. An initial introduction to physical, chemical, and geological principles of limnology is followed by a focus on freshwater biology. Laboratories include field-based watershed investigations and lake management assessments using geographic information systems techniques. Cross-listed with [[BIO-341]]. Two hours of lecture and three hours of lab per week. Offered in alternate years.

[Click here for course fees.](#)**Pre-Requisites**

[[GEO-101]] - [[GEO-103]], or [[EES-240]] - [[EES-241]], or [[BIO-121]] - [[BIO-122]] or permission of the instructor.

**EES-343. MARINE ECOLOGY****Credits:** 3

An examination of the biology of marine life within the context of modern ecological principles. The structure and physiology of marine organisms will be studied from the perspectives of adaptation to the ocean as habitat, biological productivity, and interspecific relationships. Emphasis will be placed on life in intertidal zones, estuaries, surface waters, and the deep sea. Two hours of lecture and three hours of lab per week. Cross-listed with [[BIO-343]]. Offered in alternate years.

[Click here for course fees.](#)**Pre-Requisites**

[[EES-230]] and [[BIO-121]] - [[BIO-122]] or permission of the instructor. Students must have formal course experiences in oceanography and biology at the science major level or have completed their sophomore year as a biology major.

**EES-344. ECOLOGY****Credits:** 4

Ecology examines contemporary ecological thinking as it pertains to the interrelationships of organisms and their environments. Interactions at the populations and community level are emphasized. Two hours of lecture and three hours of lab per week. Cross-listed with [[BIO-344]]. Offered in alternate years.

[Click here for course fees.](#)**Pre-Requisites**

[[BIO-121]] - [[BIO-122]] or permission of the instructor.

**EES-366. FIELD BOTANY****Credits:** 3

This is a specialized summertime field course, which emphasizes a taxonomic, phylogenetic, and ecological survey of higher plants indigenous to Northeastern Pennsylvania. Due to the extensive field work, enrollment is somewhat more restricted than in other courses; therefore, written permission from the instructor is the primary prerequisite for those upperclassmen who wish to register for the course. Cross-listed with [[BIO-366]]. Offered in alternate years.

[Click here for course fees.](#)**Pre-Requisites**

[[BIO-121]] - [[BIO-122]] or permission of the instructor.

## Course Descriptions

### EES-390. ENVIRONMENTAL SCIENCE SEMINAR

**Credits:** 3

This course is presented seminar-style, focusing on Environmental Science topics relevant to current problems, trends, and news. The course serves as an open and constructive venue where students will have an opportunity to delve into themed topics and more holistically discuss environmental science issues. The theme of the course will change each term, but will remain within the Environmental Sciences: ecology, environmental chemistry, sustainability, climate change, hazardous waste, etc. Students are required to read and actively discuss scientific literature, assemble and analyze relevant data, formulate and criticize quantitative/qualitative theories, and explore case studies. Three hours of seminar per week. Requirement: students with senior standing only.

### EES-391. SENIOR PROJECTS I

**Credits:** 1

Design and development of selected projects in earth and environmental sciences and other related fields under the direction of a staff member. Technical as well as economical factors will be considered in the design. A professional paper and detailed progress report are required.

[Click here for course fees.](#)

#### Pre-Requisites

Department permission

### EES-392. SENIOR PROJECTS II

**Credits:** 2

Design and development of selected projects in earth and environmental sciences and other related fields under the direction of a staff member. Technical as well as economical factors will be considered in the design. A professional paper to be presented and discussed in an open forum is required.

[Click here for course fees.](#)

#### Pre-Requisites

[[EES-391]] or department permission. (See the department for more details about the department permission.)

### EES-394. FIELD STUDY

**Credits:** 1-3

On-site study of an earth or environmental problem or situation incorporating field documentation and investigative techniques. May be repeated for credit when no duplication of experience results. One hour of lecture, plus field trips.

[Click here for course fees.](#)

#### Pre-Requisites

[[EES-240]], [[EES-241]], [[GEO-101]] and [[GEO-103]].

### EES-395. AND 396. INDEPENDENT RESEARCH

**Credits:** Varies with topic 1-3 credits.

Independent study or research of specific earth or environmental science topic at an advanced level under the direction of a departmental faculty member.

[Click here for course fees.](#)

#### Pre-Requisites

Upper class standing and approval of academic advisor, research advisor, and department chairperson.

### EES-399. COOPERATIVE EDUCATION

**Credits:** 1-6

Professional cooperative education placement in a private or public organization related to the student's academic objectives and career goals. In addition to their work experience, students are required to submit weekly reaction papers and an academic project to a Faculty Coordinator in the student's discipline. See the Cooperative Education section of this bulletin for placement procedures.

#### Pre-Requisites

Sophomore standing; minimum 2.0 cumulative GPA; consent of the academic advisor; and approval of placement by the department chairperson.

### EES-498. TOPICS

**Credits:** Varies with topic

Departmental courses on advanced topics of special interest, not extensively treated in regularly scheduled offerings, will be presented under this course number on an occasional basis. Available for either undergraduate or graduate credit. May be repeated for credit. [Click here for fee for courses with a lab.](#)

#### Pre-Requisites

Senior or graduate standing

## EC. ECONOMICS

### EC-101. PRINCIPLES OF ECONOMICS

**Credits:** 3

Presents basic economic problems and shows how these problems are solved in a free enterprise economy; the effects of the increasing importance of the economic role of government; the nature of national income and the modern theory of determination; how money and banking, fiscal policy, and monetary policy fit in with income analysis and keep the aggregate system working. The course deals mainly with macroeconomic problems.

### EC-102. PRINCIPLES OF ECONOMICS II

**Credits:** 3

Based upon a broad microeconomic foundation concentrating on such units as the consumer, the firm, and the industry. A general view of the free market system; the economics of the firm and resource allocation under different market structures; production theory; pricing and employment resources; economic growth and development.

### EC-230. MONEY AND BANKING

**Credits:** 3

A study of money, credit, and banking operations. Monetary standards, development of the American monetary and banking system. Recent developments in other financial institutions. Central banking and the Federal Reserve System; instruments of monetary control; international monetary relationships. (Cross-listed with [[BA-230]].)

**EC-320. THE ECONOMICS OF CRIME****Credits:** 3

A study of the economic approach to crime and crime prevention. The course will apply economic analysis to such areas of interest as deterring crime, the impact of criminal activity, the allocation of crime-fighting resources, crimes against people, property crime, and victimless crimes. Controversial issues such as the desirability of the death penalty and gun control legislation will be featured.

**Pre-Requisites**

[[EC-102]].

**EC-330. PUBLIC FINANCE****Credits:** 3

Fundamental principles of public finance, government expenditures, revenue, financial policies and administration, taxation, principles of shifting and incidence of taxation, public debts and the budget, fiscal problems of federal, state, and local government, the relation of government finance to the economy.

**Pre-Requisites**

[[EC-101]] and 102.

**EC-340. INTERNATIONAL TRADE AND FINANCE****Credits:** 3

Classical and Neo-classical theories of trade; qualifications of the pure theory; new theories of trade; the transfer of international payments and the determination of foreign exchange rates; the balance of international payments; tariffs and other trade barriers; United States commercial policy and the General Agreement on Trade and Tariffs; current issues.

**Pre-Requisites**

[[EC-101]] and 102.

**EC-399. COOPERATIVE EDUCATION****Credits:** 1-6

Professional cooperative education placement in a private or public organization related to the student's academic objectives and career goals. In addition to their work experience, students are required to submit weekly reaction papers and an academic project to a Faculty Coordinator in the student's discipline. (See the Cooperative Education section of this bulletin for placement procedures.)

**Pre-Requisites**

Sophomore standing, minimum 2.0 cumulative GPA, consent of academic advisor, approval of placement by department chairperson.

**ED. EDUCATION****ED-180. EDUCATIONAL PSYCHOLOGY (FORMERLY ED 200)****Credits:** 3

This course is designed to present Education Psychology as a distinct discipline concerned with understanding the processes of learning and teaching and developing ways of improving these processes. In this course, students will identify and apply knowledge derived from the behavioral sciences to the solutions of educational problems. The course focuses on the psychology and the development of learners, psychosocial principles of learning and motivation, and their applications, and research based classroom management techniques. Emphasis is placed on effective classroom communication and interpersonal relationships. Offered fall and spring semesters.

**ED-190. EFFECTIVE TEACHING WITH FIELD EXPERIENCE****Credits:** 3

Education 190 emphasizes concepts and skills for effective teaching. These skills include instructional techniques, research, writing, and field experiences. Students will be involved in their first 40-hour field experience. [[ED-190]], Effective Teaching, provides a critical overview of historical, intellectual, social and political foundations of American education. Analysis of differing views on the relationship of public schools and American society is stressed. The course explores current controversies and issues that will impact schools and teachers in the years ahead. Departmental permission required. Offered fall and spring semesters.

**ED-191. INTEGRATING TECHNOLOGY INTO THE CLASSROOM (FORMERLY ED 215)****Credits:** 3

This course is designed to build upon a basic foundation in educational technology. Future teachers develop knowledge and skills in selection, evaluation, and utilization of various instructional technologies. The application of new technologies to teaching and learning will be emphasized, along with performance-based activities in instructional design. A major portion of the course is devoted to the integration of technology-based instructional activities in the PK-12 curriculum.

**Pre-Requisites**

[[ED-190]]. Offered fall and spring semesters.

## Course Descriptions

### **ED-220. TEACHING CULTURALLY AND LINGUISTICALLY DIVERSE LEARNERS (OPO COURSE)**

**Credits:** 3

This course will address the urgent need for multicultural education by covering topics such as racism, bias, and cultural information in order to help students develop strategies for creating within their classrooms knowledge of, appreciation of, and respect for diversity. Teaching strategies for English Language Learners and issues relevant to ELLs, particularly immigration and globalization, will be discussed. The course will also help students develop the knowledge base and instructional skills necessary to teach their future students basic world geography in order to understand the cultural and political effects that geography has had on the diverse cultural groups included in the American educational system.

#### **Pre-Requisites**

[[ED-190]]. Offered fall and spring semesters.

### **ED-264. CHILD DEVELOPMENT AND COGNITION -- CLASSROOM APPLICATION**

**Credits:** 3

Through this course, students must learn and be able to apply major concepts and theories related to the development of young children and they must be able to develop, implement, assess, and modify curriculum and lessons. Students must demonstrate understanding of the way in which classroom environments influence children's learning. Students must demonstrate proficiency with Pennsylvania's Early Childhood Learning Standards. A 30-hour field experience accompanies this course. Departmental permission is required.

#### **Pre-Requisites**

[[ED-190]] and [[ED-263]]. Offered spring semesters.

### **ED-300. TEACHING OF FOREIGN LANGUAGE WITH FIELD EXPERIENCE**

**Credits:** 3

This course is a study of instructional methodology in foreign language acquisition at the secondary education level. A 40-hour field experience is required. Departmental permission is required.

#### **Pre-Requisites**

Admission to the Teacher Education Program. Offered fall semesters.

### **ED-321. LITERACY FOUNDATIONS I**

**Credits:** 3

This course will provide students with basic concepts of literacy instruction: emphasis on the nature of literacy development; the nature of the learner; and literacy development as an interactive process. This course requires completion of a 30-hour field experience. Departmental permission is required.

#### **Pre-Requisites**

Admission to the Teacher Education Program. Offered fall semesters.

### **ED-322. LITERACY FOUNDATIONS II**

**Credits:** 3

The course is designed to investigate and analyze major instructional methods for teaching literacy. The material is based upon current research theories and findings and includes topics recognized by theorists and practitioners as being most critical to developing effective school literacy programs. The course will include literature based reading programs, classroom organization, and assessment. The class will also require students to become more familiar with Pennsylvania standards and anchors and apply that knowledge to their planning.

#### **Pre-Requisites**

Admission to the Teacher Education Program. Offered spring semesters.

### **ED-323. DIFFERENTIATED READING**

**Credits:** 3

The purpose of this course is to develop knowledge and skill in classroom-based reading assessment to diagnose students' reading strengths and needs. A range of assessment devices and their use in the diagnosis of reading difficulties will be studied. An analysis of data and the determination of instructional interventions will be emphasized.

#### **Pre-Requisites**

Admission to the Teacher Education Program and [[ED-321]]. Offered fall semesters.

### **ED-324. CHILDREN'S LITERATURE**

**Credits:** 3

This course will involve students in actively reading a wide range of children's and adolescent literature accompanied with an analysis of literary elements and genre. Emphasis will be placed on instructional methods that incorporate the use of literature across the curriculum with attention given to the careful selection of books to match the instructional levels of young readers.

#### **Pre-Requisites**

Admission to the Teacher Education Program. Offered fall and spring semesters.

### **ED-325. APPLIED READING STRATEGIES**

**Credits:** 3

This course is designed to extend the foundational knowledge of reading instruction learned in [[ED-321]: Literacy Foundations I, with an emphasis on the application of this knowledge in the design of instructional planning and delivery. Application of the course content is demonstrated in the teaching of children enrolled in the Wilkes University Reading Academy or in a regional school. The ability to develop effective reading plans and activities and apply these strategies with children in an interactive setting is the essence of this course.

#### **Pre-Requisites**

Admission to the Teacher Education Program, [[ED-321]], [[ED-323]] and permission of the instructor. Offered spring and summer semesters.

**ED-330. MATHEMATICS IN EARLY CHILDHOOD AND ELEMENTARY EDUCATION****Credits:** 3

This course is designed to present a study of research, concepts and methodologies pertinent to the teaching of mathematics from the PK through 4th grade levels. In this course, emphasis is placed on 1) the knowledge necessary to guide children to become mathematically literate, 2) the implementation of planning and instructional techniques based on the NCTM Curriculum Standards, the PA Academic Standards and the PDE Assessment Anchors as well as principles of the NAEYC, and 3) the use of concrete manipulation to facilitate the learning process.

**Pre-Requisites**

Admission to the Teacher Education Program. Offered fall semesters.

**ED-341. LANGUAGE ARTS IN EARLY CHILDHOOD AND ELEMENTARY EDUCATION (OPO COURSE)****Credits:** 3

The purpose of this course is to inform and actively involve prospective teachers in the most developmentally effective methods for teaching language arts at the early childhood and elementary school levels. The course focuses on the language arts skills of writing, speaking, listening, viewing, and reading with emphasis on the writing process, literature-based lesson planning, and integrated language arts approaches. The incorporation of children's literature and the study of various genres are fundamental to this course.

**Pre-Requisites**

Admission to the Teacher Education Program. Offered spring semesters.

**ED-344. ASSESSMENT IN EARLY CHILDHOOD AND ELEMENTARY EDUCATION****Credits:** 3

This course acquaints students with guidelines for use of developmentally appropriate formal and informal assessment for early childhood education and early intervention programs. Feature are commonly used standardized evaluation instruments, tests aligned with PA Early Learning Standards, as well as systems of authentic assessment.

**Pre-Requisites**

Admission to the Teacher Education Program. Offered fall semesters.

**ED-345. ASSESSMENT IN EDUCATION****Credits:** 3

This course will address a number of different professional areas both of theoretical importance and practical significance. Assessment concepts will provide a framework to critically analyze any assessment, whether commercial or teacher-made. Practical skills will enable the pre-service teacher to assess a wide variety of learning goals and teaching experiences within cognitive, affective, and psychomotor domains. Finally, these assessment concepts and skills will be examined within the context of Pennsylvania Academic Standards and the Pennsylvania mandated assessment (PSSA).

**Pre-Requisites**

Admission to the Teacher Education Program. Offered fall and spring semesters.

**ED-350. THE ARTS IN EARLY CHILDHOOD AND ELEMENTARY EDUCATION****Credits:** 3

This course is designed as an exploration of the importance of the arts in the development of children in the cognitive, affective, and psychomotor domains. Students will discover how the arts are related to our natural and manmade environments and learn specific teaching methodologies that foster creativity and the integration of the arts with other subject areas.

**Pre-Requisites**

Admission to the Teacher Education Program. Offered fall and summer semesters.

**ED-360. SOCIAL STUDIES IN EARLY CHILDHOOD AND ELEMENTARY EDUCATION****Credits:** 3

In this course, students will gain an understanding of teaching Social Studies at the early childhood and elementary school levels. Students will develop their personal philosophy of the purpose of Social Studies, review National curriculum guidelines and PA state standards, and explore a variety of teaching strategies.

**Pre-Requisites**

Admission to the Teacher Education Program. Offered fall semesters.

**ED-370. SCIENCE IN EARLY CHILDHOOD AND ELEMENTARY EDUCATION****Credits:** 3

This course presents a study of the methods and curriculum for teaching science to young children. Emphasis is placed on instruction that is activity oriented and leads to the development of science process skills, problem-solving strategies, and well-developed conceptual frameworks.

**Pre-Requisites**

Admission to the Teacher Education Program. Offered spring semesters.

## Course Descriptions

### **ED-371. TEACHING METHODS IN SCIENCE WITH FIELD EXPERIENCE**

**Credits:** 4

The activities required for this course are aimed to meet the pedagogical needs of the middle level and the secondary science teacher. Emphasis is on content organization, teaching strategies, evaluation of existing curricular materials, literature research, and understanding the cognitive components of science learning, familiarity and competence with current teaching technology and current national and state standards. Additional emphasis will be placed on specific strategies for classroom management to aid the participants in becoming effective middle level and secondary classroom teachers. Department permission is required.

#### **Pre-Requisites**

Admission to the Teacher Education Program. Offered fall semesters.

### **ED-375. MIDDLE LEVEL AND SECONDARY EDUCATION METHODS WITH FIELD EXPERIENCE**

**Credits:** 4

This course will address the educational perspectives that pertain to middle level (grades 4-8) and secondary (grades 7-12) instructional methodologies, curriculum, and classroom management, including strategies for transition, inclusion, and differentiation as recommended by the National Middle School Association and the Pennsylvania Department of Education. A 40-hour practicum is required. Departmental permission is required.

#### **Pre-Requisites**

Admission to the Teacher Education Program. Offered spring semesters.

### **ED-380. CONTENT AREA LITERACY**

**Credits:** 3

This course is designed to provide literacy instruction theory and skills for teaching content area subjects in grades 4 through 12. The course's strategy-based approach includes developing vocabulary, evaluating reading materials, constructing meaning in texts, developing comprehension skills, and learning techniques for the adaptation and development of study materials to address the diverse reading levels of students in middle level and secondary schools.

#### **Pre-Requisites**

Admission to the Teacher Education Program. Offered fall semesters.

### **ED-381. TEACHING METHODS IN SOCIAL STUDIES**

**Credits:** 4

**Terms Offered:** Fall

This course provides a study of instructional methodology in the concentration area of Social Studies at the middle and secondary level with a 40-hour field practicum. Departmental permission is required.

#### **Pre-Requisites**

Admission to the Teacher Education Program. Offered fall semesters.

### **ED-385. CLASSROOM MANAGEMENT**

**Credits:** 3

This course is designed for students to establish and maintain a positive social context for learning in Pre-K through grade 4 education by applying developmentally appropriate motivational and management strategies. Researchers and theories will be identified, analyzed, evaluated, and demonstrated.

#### **Pre-Requisites**

Admission to the Teacher Education Program. Offered fall and spring semesters.

### **ED-390. STUDENT TEACHING WITH SEMINAR [PK-4], [4-8], [7-12], AND [K-12] (OPO COURSE)**

**Credits:** twelve

Student teaching is the capstone learning experience for prospective teachers. Student teachers are assigned to work with experienced classroom teachers. Under supervision, they assume responsibility for teaching and for managing a classroom. Conferences are regularly scheduled with cooperating teachers and college supervisors. In addition to fieldwork, students attend regularly scheduled seminars designed to facilitate the integration of theory and practice. As part of the seminar experience, the student teachers receive workshop training in areas such as classroom management strategies and techniques, health and emergency guidelines, legal, ethical, and professional issues, and in career and certification procedures. In addition, the Gardner's Issues in Education Forum Series offers candidates workshops and lectures based on current topics in teaching and learning. Departmental permission is required.

[Click here for course fees.](#)

#### **Pre-Requisites**

Admission to the Teacher Education Program, and completion of all ED course requirements. Co-requisite will be completed in conjunction with [[EDSP-388]]. Offered fall and spring semesters.

## **EDSP. EDUCATION: SPECIAL EDUCATION**

### **EDSP-210. TEACHING STUDENTS WITH SPECIAL NEEDS (FORMERLY ED 210)**

**Terms Offered:** Fall, Spring

This course is designed to enable pre-service teachers to develop the knowledge base and instructional skills necessary to meet the educational needs of students with special needs in the classroom. This course is designed to familiarize pre-service teachers with varied exceptionalities, including behavioral disorders, learning disabilities, mental retardation, Attention-Deficit-Hyperactivity-Disorder, and physical and sensory disabilities. The course will incorporate useful pedagogical information that addresses the learning abilities of exceptional students and enhances instruction across all subject areas.

#### **Pre-Requisites**

[[ED-190]].

**EDSP-225. TEACHING STUDENTS WITH HIGH INCIDENCE DISABILITIES WITH FIELD EXPERIENCE****Credits:** 3**Terms Offered:** Fall, Spring

This 3-credit course is designed to address the development, implementation, and monitoring of individualized management, instruction, curricular, and environmental strategies and adaptations for students with special needs.

Emphasis is placed on a needs-based model incorporating the cognitive, language, attentional, affective, physical, and sensory needs of higher incidence populations within a variety of settings. A field experience component facilitates direct interaction with learners with special needs, supplemented by cooperative discussions of experiential application to course content. Course experiences and assignments are differentiated to support the candidate's certification area. Cross-list [[EDSP-501]]

**Pre-Requisites**

[[ED-190]], [[EDSP-210]].

**EDSP-226. TEACHING STUDENTS WITH LOW INCIDENCE DISABILITIES WITH FIELD EXPERIENCE****Credits:** 3**Terms Offered:** Fall, Summer

This 3-credit course addresses the development, implementation, and monitoring of individualized management, instructional, curricular, and environmental strategies, and adaptations for students with special needs.

Emphasis is placed on a needs-based model incorporating the cognitive, language, attentional, affective, physical, and sensory needs of lower incidence populations (multiple disabilities, hearing/vision impairments, orthopedic and health conditions) and pervasive development disorders/autism within a variety of settings. A field experience component facilitates direct interaction with learners with special needs, supplemented by cooperative discussions of experiential applications to course content. [[EDSP-502]]

**Pre-Requisites**

[[ED-190]] and [[EDSP-210]].

**EDSP-227. BEHAVIOR INTERVENTION AND SUPPORT WITH FIELD EXPERIENCE****Credits:** 3**Terms Offered:** Spring

This course will present a working framework of assessment and social, behavioral, environmental, individualized, and collective management techniques for students with behavioral challenges. Techniques practiced in the course will focus on approaches for classroom organization, constructive discipline, and proactive responses to intervention, including applied behavioral analysis and functional behavioral assessments. A 20-hour field experience component facilitates direct interaction with learners with special needs, supplemented by cooperative discussions of experiential applications to course content. Cross-list[[EDSP-503]]

**Pre-Requisites**

[[ED-190]], [[EDSP-210]].

**EDSP-250. HEALTH, PE, ADAPTED PHYS. ED, & SAFETY****Credits:** 3

This three-credit course is a study of the methods and materials appropriate for teaching health, physical education, adapted physical education, and safety. Emphasis is on understanding the typical and atypical developmental levels, needs and interests of children in these areas from infancy to early adolescence.

**EDSP-263. INFANTS, TODDLERS, AND YOUNG CHILDREN WITH SPECIAL NEEDS****Credits:** 3

This course focuses on birth and early intervention services as well as special education in PK-12 systems. Educational policies, programs, practices, and services for infants, toddlers, and young children with delays or disabilities are the focus of this class. The course covers historical and legal perspectives, family systems theory, evidence-based interventions and services, theoretical foundations, assessment, curriculum, and current issues and challenges in early childhood special education. 30-hour field experience is required.

**EDSP-300. SPECIAL EDUCATION ASSESSMENT AND EVALUATION****Credits:** 3**Terms Offered:** Spring, Summer

This three-credit course will provide direct experience with selecting, administering, and interpreting formal and informal assessment measures for analysis of student learning profiles. Assessments will include ecological inventories, norm-referenced, performance-based and curriculum-based testing, standardized achievement and intelligence measures, and vocational/transition-related evaluations. Cooperative discussions and use of case studies will focus on instructional decision-making based upon student learning profiles. Departmental permission is required.

**Pre-Requisites**

Admission to the Teacher Education Program.

**EDSP-302. SECONDARY TRANSITION IN SPECIAL EDUCATION****Credits:** 3**Terms Offered:** Fall

This course focuses on models of effective, research-based special education teaching practices in literacy and content areas as well as universal design and differentiation for students with diverse needs and disabilities in a variety of academic settings. Emphasis will be placed on language, literacy, technologies, and transition processes.

**Pre-Requisites**

Admission to the Teacher Education Program.

**EDSP-319. PRINCIPLES OF LAW AND SPECIAL EDUCATION LAW****Credits:** 3

This course is a presentation of special education law within the context of overall school law. It will present the Federal and State legal basis of educational practices for students with disabilities and demonstrate the practical and effective implementation of the law.

## Course Descriptions

### EDSP-363. FAMILY, SCHOOL, & COMMUNITY

**Credits:** 3

This course focuses on current research and best practices in developing skills, techniques, and attitudes needed to form successful collaboration with diverse family systems and communities in an early childhood education setting.

### EDSP-388. INCLUSIONARY PRACTICES

**Credits:** 3

**Terms Offered:** Fall, Spring

This course is designed for student teachers in [[ED-390]] to apply knowledge of accommodations and adaptations for students with disabilities in an inclusive academic setting. Emphasis will be placed on literacy and cognitive skill development for students with various exceptionalities.

#### Pre-Requisites

Admission to the Teacher Education Program. Co-requisite will be completed in conjunction with [[ED-390]].

## EE. ELECTRICAL ENGINEERING

### EE-140. SCIENTIFIC PROGRAMMING

**Credits:** 3

This course presents an introduction to computer programming with an emphasis on the techniques needed for data analysis and numerical problem solving for scientific and engineering applications. Basic programming idioms are presented including control structures, data types, methods for handling input and output as well as numerical methods such as array computing and vectorization. Emphasis is placed on proper software engineering practice as well as data analysis and presentation. Two hours of lecture and two hours of lab per week.

[Click here for course fees.](#)

#### Pre-Requisites

**Or Concurrent** [[MTH-100]] or [[MTH-111]]

### EE-211. ELECTRICAL CIRCUITS AND DEVICES

**Credits:** 3

Basic DC and sinusoidal AC analysis of circuits. Introductory principles of electronic circuits, operational amplifiers, filters, digital logic, energy conversion devices, and energy conversion schemes.

#### Co-Requisites

[[EE-283]] and [[MTH-112]] **Or Concurrent**

### EE-216. CIRCUIT ANALYSIS I

**Credits:** 3

Analysis of dc and sinusoidal ac circuits and power calculations. Network theorems. 2-hour lecture and 2-hour lab per week.

[Click here for course fee.](#)

#### Pre-Requisites

**Or Concurrent** [[MTH-111]]

### EE-217. CIRCUIT ANALYSIS II

**Credits:** 3

Three-phase circuits, mutually coupled circuits, filter circuits, transient circuits, two-port parameters. Introduction to electronic circuits.

#### Pre-Requisites

[[MTH-112]] or Concurrent and [[EE-216]] or [[EE-211]]

### EE-222. MECHATRONICS

**Credits:** 3

Electronic design automation for mechatronics system design, test, debug, control, and monitor; Sensor conditioning and digital conversion; Introduction to embedded software, sensor integration and modeling. Two hours of lecture and 3-hour lab per week.

[Click here for course fee.](#)

#### Pre-Requisites

[[EE-140]], [[EE-217]], [[EE-285]], [[PHY-202]]

### EE-241. DIGITAL DESIGN

**Credits:** 4

Boolean Algebra. Numbering Systems. Combinational logic design and minimization. Sequential system fundamentals, state machine and programmable logic. Three hours of lectures and one two-hour lab per week.

[Click here for course fees.](#)

#### Pre-Requisites

[[EE-283]] or [[EE-285]]

### EE-247. PROGRAMMING FOR EMBEDDED APPLICATIONS

**Credits:** 3

Microcontroller hardware structures. Basic software concepts such as constants, variables, control structures and subroutine calls, based on the 'C' language and as translated to machine language. Mapping of compiled software to the memory of a microcontroller. Embedded programming principles. Basic interactions with peripherals. Interrupts and their use. Debugging. Three hours of lecture and lab per week.

[Click here for course fee.](#)

#### Pre-Requisites

[[EE-140]] or [[CS-125]].

### EE-251. ELECTRONICS I

**Credits:** 3

Circuit concepts involving nonideal components, particularly diodes, bipolar transistors, and MOS transistors. Bias, load line and signal amplification principles. Analysis and design of power supply and amplifier circuits, including power amplifiers. Simulation of circuits for design and analysis.

#### Pre-Requisites

[[EE-211]] or [[EE-216]]

**EE-252. ELECTRONICS II****Credits:** 4

Analysis and design of analog integrated circuits at the transistor level. Single-stage, multistage amplifiers, and cascode stage; differential amplifier analysis; operational amplifiers & applications; feedback structures, output stages, and power amplifiers. Three hours of lecture and 3-hour lab per week.

[Click here for course fees.](#)

**Pre-Requisites**

[[EE-251]], [[MTH-112]], [[PHY-202]]

**EE-271. SEMICONDUCTOR DEVICES****Credits:** 4

Basic properties of semiconductors and their conduction processes, with special emphasis on silicon and gallium arsenide. Physics and characterizations of p-n junctions.. Homojunction and heterojunction bipolar transistors. Unipolar devices including MOS capacitor and MOSFET. Microwave and photonic devices. Three hours of lecture and one two-hour lab per week.

[Click here for course fees.](#)

**Pre-Requisites**

[[CHM-117]], [[CHM-118]], [[PHY-202]], [[MTH211]]

**EE-283. ELECTRICAL ENGINEERING LAB****Credits:** 1

Exercises on DC and AC circuits, resonant and filter circuits, operational amplifiers, and digital logic circuits. One two-hour lab per week.

[Click here for course fees.](#)

**Co-Requisites**

Or Concurrent [[EE-211]]

**EE-285. ELECTRICAL CIRCUITS LAB****Credits:** 1

Exercises on DC and AC circuits, three-phase circuits, operational amplifiers, resonant and filter circuits, and basic electronic circuits. One two-hour lab per week.

[Click here for course fees.](#)

**Pre-Requisites**

Or Concurrent [[EE-217]]

**EE-298. TOPICS IN ELECTRICAL ENGINEERING****Credits:** 1-3

Selected topics in the field of electrical engineering. Requirements: Sophomore standing and permission of the instructor.

[Click here for course fee for lab courses.](#)

**Pre-Requisites**

Sophomore standing and permission of the instructor.

**EE-314. CONTROL SYSTEMS****Credits:** 3

Laplace transforms and matrices. Mathematical modeling of physical systems. Block diagram and signal flow graph representation. Time-domain performance specifications. Stability analysis, Routh-Hurwitz criterion. Steady state error analysis. Root-locus and frequency response techniques. Design and compensation of feedback systems. Introductory state space analysis. Two hours of lecture and one two-hour laboratory per week.

[Click here for course fees.](#)

**Pre-Requisites**

[[PHY-214]] and [[EE-217]] (or [[EE-211]])

**EE-325. ENERGY CONVERSION DEVICES****Credits:** 3

Magnetic circuit calculations. Principle of operation and applications of transformers, DC machines, synchronous machines, and induction motors. Applications of power electronics. Energy conversion schemes.

**Pre-Requisites**

[[EE-251]] and [[EE-217]]

**EE-337. ENGINEERING ELECTROMAGNETICS I****Credits:** 3

Waves and phasors; concepts of flux and fields; transmission line, Smith chart, and impedance matching; vector calculus; Maxwell's equations for electrostatic and magnetostatic fields.

[Click here for course fees.](#)

**Pre-Requisites**

[[MTH211]], [[MTH212]], [[PHY-202]].

**EE-339. ENGINEERING ELECTROMAGNETICS II****Credits:** 4

Obtain an understanding of Maxwell's equations and be able to apply them to solving practical electromagnetic field problems. Fundamental concepts covered will include laws governing electrodynamics, plane wave propagation in different media, power flow, polarization, transmission and reflection at an interface, microwave networks, waveguides, radiation, and antennas. Experiment and computer simulation based laboratories are used to reinforce the course material. Three hours of lecture and one three-hour lab per week.

[Click here for course fee.](#)

**Pre-Requisites**

[[EE-337]].

## Course Descriptions

### EE-342. EMBEDDED SYSTEM DESIGN

**Credits:** 3

Principles of embedded computing systems: architecture, hardware/software components, interfacing, hardware/software co-design, and communication issues. Three hours of lecture and project per week.

[Click here for course fee.](#)

#### Pre-Requisites

#### Or Concurrent

[[EE-222]], [[EE-241]], [[EE-247]] or [[CS-126]]

### EE-345. COMPUTER ORGANIZATION

**Credits:** 3

Computer architecture and design, CPU, memory system, cache, data, input/output devices, bus architecture and control units. Processor types, instruction set and assembly language programming. Three hours of lecture and project per week.

[Click here for course fees.](#)

#### Pre-Requisites

[[EE-140]] or [[CS-125]], [[EE-222]], [[EE-241]].

### EE-381. MICROFABRICATION LAB

**Credits:** 3

The theoretical and practical aspects of techniques utilized in the fabrication of bipolar junction transistors (BJTs). Includes crystal characteristics, wafer cleaning, oxidation, lithography, etching, deposition, diffusion, metallization, process metrics, and device characterization. One-and-a-half hour lecture and one three-hour lab per week.

[Click here for course fee.](#)

#### Pre-Requisites

**Or Concurrent** [[EE-271]], [[EE-251]]

### EE-382. MODERN COMMUNICATION SYSTEMS

**Credits:** 4

Fundamentals of analog and digital modulation, modeling random signals and noise in communication systems, and elements of digital receivers. Laboratory exercises provide hands-on experience with circuits and measurement instruments as well as an introduction to communication system simulation. Three hours of lecture and 3-hour lab per week.

[Click here for course fee.](#)

#### Pre-Requisites

[[EE-252]], [[PHY-214]], [[MTH-212]]

### EE-391. SENIOR PROJECTS I

**Credits:** 1

Design and development of selected projects in the field of electrical engineering under the direction of a staff member. Technical as well as economic factors will be considered in the design. A professional paper and detailed progress report are required. Requirement: Senior standing in engineering.

[Click here for course fees.](#)

#### Pre-Requisites

[[PHY-202]], [[EE-241]], [[EE-222]], [[EE-252]], [[EE-271]], [[PHY-214]], [[EGM-320]]

#### Co-Requisites

Concurrent or after [[EE-381]], [[EE-314]], [[EE-325]], [[EE-337]]

### EE-392. SENIOR PROJECTS II

**Credits:** 2

Design and development of selected projects in the field of selected projects in the field of electrical engineering under the direction of a staff member. Technical as well as economic factors will be considered in the design. This is a continuation of the [[EE-391]]. A professional paper to be presented and discussed in an open forum is required.

[Click here for course fees.](#)

#### Pre-Requisites

[[EE-391]].

### EE-398. TOPICS IN ELECTRICAL ENGINEERING

**Credits:** 3

Requirement: Junior standing in engineering.

[Click here for course fees.](#)

### EE-399. COOPERATIVE EDUCATION-ELECTRICAL ENGINEERING

**Credits:** 0-6

Professional cooperative education placement in a private or public enterprise related to the student's academic objectives and career goals. In addition to their work experiences, students are required to submit weekly reaction papers, have discussions with the Faculty Coordinator in the student's discipline on a periodic basis, prepare a final report and prepare and give a presentation to the Faculty Coordinator on an academic project completed at the enterprise. The co-op option for credit can only be taken one time for up to 6 credits, depending on the quantity of work hours, the complexity of the work and report and presentation requirements.

#### Pre-Requisites

Junior standing in engineering and Faculty Coordinator approval required.

## EGY. ENERGY STUDIES

### EGY-105. INTRODUCTION TO ENERGY

**Credits:** 3

This course discusses energy issues from a number of perspectives, including its physical and biological basis, heat transformation and space heating, energy audits, history, policy, economics, and presentation in the fine arts. The benefits and drawbacks of each type of fossil fuel and major form of alternative energy will be discussed, along with transmission and utilization patterns.

[Click here for course fee.](#)

### EGY-202. ENVIRONMENTAL IMPACTS OF ENERGY DEVELOPMENT

**Credits:** 3

This course will understand the often-complex environmental issues associated with development, transport, and utilization of different forms of energy. The primary focus will be on impacts to land, water, and air caused by individual energy sources. Students will understand the scientific basis behind those impacts, procedures for measuring them, and attempts for amelioration / reclamation.

[Click here for course fee.](#)

#### Pre-Requisites

[[EGY-105]]

### EGY-204. DATA MINING, GEOSPATIAL ANALYSIS, AND REMOTE SENSING: METHODS TO ASSESS ENERGY DEVELOPMENT

**Credits:** 3

This course will encompass a “hands-on” approach to data mining, geospatial analysis, and remote sensing data on land use and land cover relative to assessing the ecological footprint and impact of several energy technologies and related operations in our region.

[Click here for course fee.](#)

#### Pre-Requisites

[[EGY-105]], [[EES-272]], [[MTH-150]] or permission of instructor.

### EGY-205. SOLID EARTH ENERGY AND MINERAL RESOURCES

**Credits:** 3

This course aims to improve literacy about earth’s energy and mineral resources—the materials that form much of the foundation of modern life. As the demand for energy and mineral resources continues to increase, so does the need for informed decision-making in the search, extraction, use and management of these critical resources. Achievement of a deeper understanding of where these resources come from and how they are used will help students navigate the resource challenges in their future.

[Click here for course fee.](#)

#### Pre-Requisites

[[EGY-105]] or instructor permission

### EGY-211. INTRODUCTION TO ENERGY POLICY

**Credits:** 3

This course is a survey of energy policy that focuses mainly on the US with occasional references to global or international policies where appropriate. Energy, as used in this course, encompasses all forms: renewable and fossil fuels. We will examine how energy policies emerge, and the forces that both support and oppose efforts to generate energy or extract different types of fossil fuels. This requires some basic knowledge of the American political system and the policy making process. As important as the formal governmental system is to the policy process, the informal or extra-governmental actors, systems, and processes are equally critical. We will review the history of energy development internationally and domestically to understand how technological changes affect energy production, policy and the public’s perception and use of energy.

[Click here for course fee.](#)

### EGY-212. THE DEVELOPMENT AND TRANSFORMATION OF THE INTERNATIONAL OIL INDUSTRY

**Credits:** 3

The development and transformation of the international oil industry is one of the great vehicles for studying the intertwining web of empire, business, international rivalry and environmental concern. Spreading from its roots in the United States, the oil industry circled the globe in search of the petroleum with which to power the economies of the developed world. But what initially began as a story of Western dominance over the developing world was transformed through the growth of political and resource nationalism. This occurred as the developed economies became increasingly ‘addicted to oil’ and made the quest for secure sources of supply a political and diplomatic necessity. This course will trace this evolution and study the impact it had on decolonization, Cold War politics, consumer culture and the globalization of business.

[Click here for course fee.](#)

### EGY-213. COMMUNICATING ENERGY ISSUES

**Credits:** 3

This course offers a skills-focused and theoretical approach to communicating energy issues from rhetorical, journalistic and public relations standpoints. Through a variety of readings, discussions and practical workshops, students will learn how to access energy information, critically analyze its content and convey that information to the public. Students will also explore, through case studies, past energy campaign success and failures and learn the basics to creating their own messages.

[Click here for course fee.](#)

### EGY-221. THE BUSINESS OF ENERGY

**Credits:** 3

This is a survey course that examines the business side of the much broader field of energy studies. Topics include the economics and economic impact of energy; the regulatory landscape for the energy industry; energy markets and managing the energy value chain and industry structure; and marketing and serving energy customers. Students will engage these topics through readings, research, interviews, and team projects.

[Click here for course fee.](#)

## Course Descriptions

### EGY-291. CAPSTONE COURSE IN ENERGY

**Credits:** 3

Students taking this course will work as an interdisciplinary team to address a specific energy-related issue that has scientific, policy, business, and communications dimensions. Students will be expected to conduct background research on the topic, and then perform appropriate analyses leading to deliverable product (e.g., report, design process) that will incorporate multiple perspectives.

[Click here for course fee.](#)

## EGR. ENGINEERING

### EGR-200. MATERIALS SCIENCE

**Credits:** 3

Application of materials properties to engineering design. Introduction to atomic arrangements, crystal structures, imperfection, phase diagrams, and structure-property relations. Fundamentals of iron, steel, and non-ferrous materials. The behavior of materials in environmental conditions.

#### Pre-Requisites

[[CHM-118]] or [[CHM-115]].

### EGR-201. PROFESSIONALISM AND ETHICS

**Credits:** 1

Responsibility of an engineer as a professional; ethics in science and engineering; role of professional societies; recent trends in technological innovations; career planning. Review of professional exam. Requirement: Junior standing in engineering.

### EGR-202. ENGINEERING PROFESSIONAL DEVELOPMENT I

**Credits:** 1

The subjects the student will learn and develop in this course are important in securing an internship, a spot in graduate school, or a professional position. This professional development course will allow the student to experience a variety of communicative activities that prepare a student to be an experienced, informed, and professional engineer. The student will be introduced to networking with professionals as well as provided with the ability to communicate skills to employers at job fairs or on-campus mentoring events. Emphasis will be placed on professional interactions as well as attendance at events and mastering the fundamentals of written resumes, cover letters, and creating professional profiles.

#### Pre-Requisites

Permission of the instructor.

### EGR-203. ENGINEERING PROFESSIONAL DEVELOPMENT II

**Credits:** 1

Emphasis will be placed on development of enhanced interview skills with effective interview strategies. Students will attend professional panel interview discussions to engage with industry mentors. They will attend professional collaborations as well as campus hosted events such the Career and Intern Fair. Students will seek to master the essentials of job searches, written resumes, cover letters, elevator speeches, applying to grad schools, networking, and creating professional profiles on LinkedIn.

#### Pre-Requisites

Permission of the instructor.

### EGR-219. INTRODUCTION TO WEAPONS SYSTEMS

**Credits:** 3

Introduction to military weapons and warfare, with a focus on how the modern period has resulted in greater complexity and the development of weapons systems. Basic principles of explosives, internal and exterior ballistics, calculation of probabilities of hit given randomness, fire control, guidance algorithms, radar and other sensors, detection and tracking, nuclear weapons and their effects.

#### Co-Requisites

[[PHY-202]] concurrent or before

### EGR-222. MECHATRONICS

**Credits:** 3

Introduction to mechatronics system design with emphasis on using sensors to convert engineering system information into an electrical domain, signal conditioning and hardware integration, programming, and using actuators to effect system changes.

[Click here for course fees.](#)

#### Pre-Requisites

[[EE-211]], [[EE-283]], [[ME-140]] and [[PHY-202]]

### EGR-391. SENIOR PROJECTS I

**Credits:** 1

Design and development of selected projects in the field of engineering under the direction of a staff member. Technical as well as economic factors will be considered in the design. A professional paper and detailed progress report are required.

[Click here for course fees.](#)

#### Pre-Requisites

Senior standing in engineering

### EGR-392. SENIOR PROJECTS II

**Credits:** 2

Design and development of selected projects in the field of engineering under the direction of a staff member. Technical as well as economic factors will be considered in the design. This is a continuation of [[EGR-391]]. A professional paper to be presented and discussed in an open forum is required.

[Click here for course fees.](#)

#### Pre-Requisites

[[EGR-391]]

**EGR-399. COOPERATIVE EDUCATION****Credits:** 0-6

Professional cooperative education placement in a private or public organization related to the student's academic objectives and career goals. In addition to their work experiences, students are required to submit weekly reaction papers and an academic project to a Faculty Coordinator in the student's discipline. See the Cooperative Education section of this bulletin for placement procedures.

**Requirements:** Junior standing; minimum 2.0 cumulative GPA; consent of the academic advisor; and approval of placement by the department chairperson.

**EGM. ENGINEERING MANAGEMENT****EGM-310. PROJECT DECISION PROCESSES****Credits:** 3

An Introduction to Economic Decisions processes and techniques relating to technical processes and projects. This course will show how to properly define economic decision parameters and make project decisions based on economic guidelines such as revenue, cost and product or process performance. Concepts of engineering economy are reviewed briefly with respect to estimated value, projected cash flow, and risk associated with engineering projects.

**Pre-Requisites**

[[EGM-320]] or instructor permission.

**EGM-315. QUALITY MANAGEMENT****Credits:** 3

This course provides students with an overview of important topics relating to Quality Assurance systems and processes directly related to engineering functions. Topics range from voice of the customer to the history and application of TQM. Cornerstone features include coverage of topics essential to any industry: customer focus creation, value creation, leadership, process improvement and management, strategic planning, measures of performance, supply chain management, human resources management, knowledge and information management, project management and business process.

**Pre-Requisites**

[[EGM-320]] or instructor permission.

**EGM-320. ENGINEERING PROJECT MANAGEMENT****Credits:** 3

Project management and evaluation based on economic considerations, project selection models, and fundamentals of project planning are covered. Specific topics include Work Breakdown Structure (WBS), Organizational Breakdown Structure (OBS), Earned Value Analysis (EVA), risk and opportunity analysis, project scheduling, and other project analysis techniques.

**Pre-Requisites**

[[MTH-111]] or instructor permission.

**EGM-321. QUANTITATIVE ANALYSIS****Credits:** 3

Discussion of various quantitative analysis and optimization methodologies. Analytical numerical approaches are used in solving linear and nonlinear optimization problems. Emphasizes the development of ability in analyzing problems, solving problems by using software, and post solution analysis.

**Pre-Requisites**

Instructor permission.

**EGM-322. OPERATIONS ANALYSIS****Credits:** 3

Introduction to Operations Analysis and Resource Allocation offers topics relating to technical processes and projects required in engineering, manufacturing, and service-related industrial applications. The course covers those engineering subjects from forecasting analysis methods to manufacturing line balancing, queuing, and operation locations selections. Students will model and assess production flows and asset utilization for purposes of reducing production bottlenecks while maintaining/increasing facility utilization.

**Pre-Requisites**

[[EGM-320]] or instructor permission.

**EGM-325. PROJECT ANALYSIS****Credits:** 3

This course offers experience in managing a project. Topics relating to project planning, costing, resources, and critical path and other analyses relating to manufacturing, research, and service-related industrial applications are discussed. The course covers engineering subjects from project definition and planning methods to earned value planning and analysis.

**Pre-Requisites**

[[EGM-320]] or instructor permission.

**EGM-336. ENGINEERING AND MANAGEMENT MODELS****Credits:** 3

Discussion of the techniques in and the art of modeling practical problems encountered by engineers and managers.

**Pre-Requisites**

Instructor permission.

**EGM-340. SIX SIGMA & LEAN MANUFACTURING****Credits:** 3

This course focuses on developing the knowledge and skills of a typical industry-based Six Sigma Green Belt candidate. The course includes the descriptive statistics and project management skills necessary to Define, Measure, Analyze, Improve and Control processes. Lecture topics include Six Sigma problem-solving techniques, continuous improvement, mistake proofing, Lean Six Sigma, Lean manufacturing, determining the cost of quality and more.

**Pre-Requisites**

Instructor permission.

## Course Descriptions

### EGM-391. SENIOR PROJECTS I

**Credits:** 1

Design and development of selected projects in the various fields of engineering under the direction of a staff member. Technical as well as economic factors will be considered in the design. A detailed progress report is required.

[Click here for course fee.](#)

#### Pre-Requisites

Senior standing in Engineering Management or departmental permission.

### EGM-392. SENIOR PROJECTS II

**Credits:** 2

Design and development of selected projects in the field of engineering management under the direction of a staff member. Technical as well as economic factors will be considered in the design. A professional paper to be presented and discussed in an open forum is required.

[Click here for course fee.](#)

#### Pre-Requisites

[[EGM-391]]

### EGM-399. COOPERATIVE EDUCATION

**Credits:** 0-6

Professional cooperative education placement in a private or public organization related to the student's academic objectives and career goals. In addition to their work experiences, students are required to submit biweekly reports, a final report, and present to an audience of peers and faculty. The co-op option for credit can only be taken one time for either 3 or 6 credits.

#### Pre-Requisites

Instructor permission.

## ENG. ENGLISH

### ENG-098. ACADEMIC WRITING

**Credits:** 3

Intensive practice in grammar, syntax, vocabulary, reading and writing.

### ENG-101. COMPOSITION

**Credits:** 4

Practice in writing for specific purposes and audiences to develop a coherent voice for engaging in academic and professional discourse; practice in writing with the support of digital technology; study of primary texts, models, and principles of expository and argumentative writing to develop critical reading, writing, and thinking skills; introductory bibliographic instruction and practice in writing that incorporates library research.

### ENG-120. INTRODUCTION TO LITERATURE AND CULTURE

**Credits:** 3

An introduction to literature through critical reading, writing, and discussion of the major forms of literary and cultural expression. Students will explore works in various literary traditions and engage in a deep consideration of the diversity of human experience and identities. Major subtopic areas for the course will include: Reading Classical Traditions; Reading Great Works; Reading Cultural Crossroads; and Reading American Experience. Reading Classical Traditions: A study of major works from the ancient world to the Renaissance, emphasizing the impact these texts have had on our literary tradition and our culture. Reading Great Works: A study of major works since the Renaissance, emphasizing the principal modes of literary expression (poetry, drama, fiction and film). Reading Cultural Crossroads: A study of works emphasizing a variety of cultural values, intercultural relationships, global perspectives, and aesthetic experiences. Reading American Experience: A study of works from American literature, emphasizing the multicultural heritage and nature of American writers and cultures.

#### Pre-Requisites

[[ENG-101]].

### ENG-190. PROJECTS IN WRITING AND EDITING

**Credits:** 1-3

Independent projects in writing, editing, publication design and layout, and peer consulting connected to the English program newsletter (ENG 190 A – Inkwell Quarterly), the student literary magazine (ENG 190 B – Manuscript), the University Writing Center (ENG 190 C – Writing Methods), and our annual best essays publication (ENG 190 D - Kirby Canon).

### ENG-201. WRITING ABOUT LITERATURE AND CULTURE

**Credits:** 4

An introduction to conventions, theoretical approaches, research methods, and practice of literary and cultural studies. Application of contemporary critical perspectives and research methodology in reading and writing about literary and cultural texts.

#### Pre-Requisites

[[ENG-101]].

### ENG-202. TECHNICAL AND PROFESSIONAL WRITING

**Credits:** 3

Practice in "real world writing." Students write on subjects associated with their major or intended careers. Students learn to perform as self-aware writers who have something to say to someone, to adapt their roles and voices to various audiences, and to marshal and present persuasively data that is relevant to a particular purpose and context.

#### Pre-Requisites

[[ENG-101]].

**ENG-203. INTRODUCTION TO CREATIVE WRITING****Credits:** 3

The analysis and practice of various forms of creative writing including the study of the writer's tools and choices in creating poetry, short fiction, and dramatic scenes.

**Pre-Requisites**

[[ENG-101]].

**ENG-222. INTRODUCTION TO DIGITAL HUMANITIES****Credits:** 3

An introduction to the field of Digital Humanities with an emphasis on how digital processes and products impact the development and study of literature, language, and the disciplines of the humanities.

**ENG-225. COMPARATIVE GRAMMAR****Credits:** 3

A comparative and critical study of prescriptive, descriptive and transformational-generative grammar.

**Pre-Requisites**

[[ENG-101]].

**ENG-228. PROFESSIONAL AND WORKPLACE WRITING****Credits:** 3

The study and practice of effective writing techniques related to writing at work for the professional world that focuses on producing polished documents, enhancing research techniques, and fine-tuning oral communication skills.

**Pre-Requisites**

[[ENG-101]].

**ENG-233. SURVEY OF ENGLISH LITERATURE I****Credits:** 3

A study of the major works and movements in English literature from the Anglo-Saxon period through the eighteenth century.

**Pre-Requisites**

[[ENG-101]].

**ENG-234. SURVEY OF ENGLISH LITERATURE II****Credits:** 3

A study of the major works and movements in English literature from the Romantic movement to the present.

**Pre-Requisites**

[[ENG-101]].

**ENG-281. SURVEY OF AMERICAN LITERATURE I****Credits:** 3

A study of writers, works, and movements in the Americas from the 1490s to the Civil War.

**Pre-Requisites**

[[ENG-101]].

**ENG-282. SURVEY OF AMERICAN LITERATURE II****Credits:** 3

A study of major American writers, works, and movements from the Civil War to the present.

**Pre-Requisites**

[[ENG-101]].

**ENG-303. ADVANCED WORKSHOP IN CREATIVE WRITING****Credits:** 3**Terms Offered:** Fall

A seminar experience where students write and critique poetry, fiction, nonfiction, or scripts. Specific genre designated in each course.

**Pre-Requisites**

[[ENG-203]] or permission of instructor.

**ENG-308. RHETORICAL ANALYSIS AND NONFICTIONAL PROSE WRITING****Credits:** 3

The study and practice of strategies for producing responsibly written public information, including persuasive and argumentative propositions for particular audiences.

**Pre-Requisites**

[[ENG-101]].

**ENG-311. TECHNOLOGIES OF THE BOOK****Credits:** 3

A study in the production, evolution, and circulation of the book as a material form, from its inception through the digital age, with an emphasis on textual criticism and bibliographic analysis.

**Pre-Requisites**

[[ENG-101]]

**ENG-324. HISTORY OF THE ENGLISH LANGUAGE****Credits:** 3

A chronological study of the origins of the English language and the systematic changes that have made it the language we speak and write today.

**Pre-Requisites**

[[ENG-101]].

**ENG-331. STUDIES IN MEDIEVAL ENGLISH LITERATURE****Credits:** 3

A study of Medieval literature to 1485, exclusive of Chaucer.

**Pre-Requisites**

[[ENG-101]].

**ENG-333. STUDIES IN RENAISSANCE LITERATURE****Credits:** 3

A study of Renaissance texts focused on literary, dramatic, and cultural works from 1485 to 1660.

**Pre-Requisites**

[[ENG-101]].

## Course Descriptions

### **ENG-334. STUDIES IN EIGHTEENTH-CENTURY LITERATURE**

**Credits:** 3

A study of eighteenth-century authors and culture from about 1660-1820.

**Pre-Requisites**

[[ENG-101]].

### **ENG-335. STUDIES IN ROMANTIC LITERATURE**

**Credits:** 3

A study of major writers, works, and topics of the British Romantic Period.

**Pre-Requisites**

[[ENG-101]].

### **ENG-336. STUDIES IN VICTORIAN LITERATURE**

**Credits:** 3

A study of major writers, works, and topics of the Victorian Age.

**Pre-Requisites**

[[ENG-101]].

### **ENG-337. STUDIES IN AMERICAN ROMANTIC LITERATURE**

**Credits:** 3

A study of nineteenth-century American literature, including novels, essays, short fiction, and poetry.

**Pre-Requisites**

[[ENG-101]].

### **ENG-340. STUDIES IN CHAUCER**

**Credits:** 3

A study of selected works by Chaucer.

**Pre-Requisites**

[[ENG-101]].

### **ENG-342. STUDIES IN SHAKESPEARE**

**Credits:** 3

A study of selected plays and poems by Shakespeare.

**Pre-Requisites**

[[ENG-101]].

### **ENG-350. STUDIES IN THE ENGLISH NOVEL**

**Credits:** 3

A study of the novel in English, excluding American writers.

**Pre-Requisites**

[[ENG-101]].

### **ENG-351. STUDIES IN POSTMODERNISM**

**Credits:** 3

A study of postmodern writers from the 1960s to the present.

**Pre-Requisites**

[[ENG-101]].

### **ENG-352. STUDIES IN THE AMERICAN NOVEL**

**Credits:** 3

A study of the American novel from its eighteenth-century beginnings to the present.

**Pre-Requisites**

[[ENG-101]].

### **ENG-353. STUDIES IN POSTCOLONIAL LITERATURE**

**Credits:** 3

A study of literature emerging from the British empire and its former colonies with an emphasis on major issues within postcolonial studies.

**Pre-Requisites**

[[ENG-101]].

### **ENG-356. STUDIES IN AFRICAN AMERICAN LITERATURE**

**Credits:** 3

A study of African American literature from the Antebellum era to the present.

**Pre-Requisites**

[[ENG-101]].

### **ENG-357. STUDIES IN GOTHIC LITERATURE**

**Credits:** 3

A study of major writers, works, and topics of gothic literature from about 1764 to the present.

**Pre-Requisites**

[[ENG-101]].

### **ENG-358. STUDIES IN CONTEMPORARY FICTION**

**Credits:** 3

A study of fiction, including the novel, short story, and novella, written since World War II. Works from English, American, and world literature may be included to reflect the diversity of contemporary literature and the emergence of post-modernist themes and forms.

**Pre-Requisites**

[[ENG-101]].

### **ENG-361. STUDIES IN MEDIEVAL AND RENAISSANCE DRAMA**

**Credits:** 3

A study of drama from the tenth century to 1642; reading of plays by medieval and early modern dramatists exclusive of Shakespeare.

**Pre-Requisites**

[[ENG-101]].

### **ENG-365. STUDIES IN MODERN BRITISH DRAMA**

**Credits:** 3

A study of major playwrights, works, and topics of modern British drama.

**Pre-Requisites**

[[ENG-101]].

**ENG-366. STUDIES IN AMERICAN DRAMA****Credits:** 3

A study of major playwrights, works, and movements in American drama.

**Pre-Requisites**

[[ENG-101]].

**ENG-370. STUDIES IN MODERN BRITISH POETRY****Credits:** 3

A study of major British poetry of the twentieth century.

**Pre-Requisites**

[[ENG-101]].

**ENG-376. STUDIES IN MODERN AMERICAN POETRY****Credits:** 3

A study of major movements and representative figures in American poetry from about 1900 to 1960.

**Pre-Requisites**

[[ENG-101]].

**ENG-391. (ENG-392 SPRING) SENIOR PROJECTS: CAPSTONE****Credits:** 1

An independent project in the area of the student's concentration culminating in a formal written and oral presentation. Advised by a member of the English department faculty, the project demonstrates the student's learning in the major.

**Pre-Requisites**

Open only to senior English majors.

**ENG-393. THE TEACHING OF ENGLISH IN MIDDLE-LEVEL AND SECONDARY SCHOOLS****Credits:** 4

A study of the theory and practice of teaching composition, literature, and English language studies in the middle and secondary school level (grades 7 through 12). Topics include planning, methodology, presentation, and assessment of lessons. The course includes 40 hours of field experience.

**Pre-Requisites**

Junior standing in English and admission to the Teacher Education Program.

**ENG-395. (ENG-396 SPRING) INDEPENDENT RESEARCH****Credits:** 1 - 3**Terms Offered:** On Demand

Independent study and research for advanced students in the field of the major under the direction of a faculty member. A research paper at a level significantly beyond a term paper is required.

**Pre-Requisites**

Approval of department chair is required.

**ENG-397. SEMINAR****Credits:** 3

Presentations and discussions of selected topics.

**ENG-399. COOPERATIVE EDUCATION****Credits:** 1-6

Professional cooperative education placement in a private or public organization related to the student's academic objectives and career goals. In addition to their work experience, students are required to submit weekly reaction papers and an academic project to a Faculty Coordinator in the student's discipline. (See the Cooperative Education section of this Bulletin for placement procedures.)

**Pre-Requisites**

Sophomore standing, minimum 2.0 cumulative GPA, consent of academic advisor, and approval of placement by the department chairperson.

**ESL. ENGLISH AS A SECOND LANGUAGE****ESL-100. READING AND WRITING****Credits:** 3

This course focuses on the connection between critical thinking and academic reading and writing skills necessary to analyze academic texts and produce collegiate level compositions. It emphasizes the utilization of reading comprehension strategies and writing process skills to respond to various readings and to develop vocabulary expansion. This course also requires a research paper which utilizes the basic formatting and referencing of sources using MLA style documentation.

**ESL-102. LISTENING AND SPEAKING****Credits:** 3

This course is a cohesive, integrated, and structured approach, to developing and expanding upon key listening and speaking skills of transitioning, English language learners (ELLs), as to ensure successful matriculation to a collegiate, academic environment. Therein, students will address defined, critical abilities, as a way in which to increase their capacities to engage in academic processes that include and demand superior listening and speaking skills within higher educational institutions and curricula.

**ESL-103. TEST PREP****Credits:** 3

This course has been designed to serve as an integrated and structured approach to providing and expanding upon critical test preparation strategies and study skills for transitioning, English language learners (ELLs), as to ensure successful matriculation to a collegiate, academic environment. Utilizing a multifaceted configuration of classroom instruction and independent, online study, students will be provided with extensive practice of the most key academic skills and methodologies, as a way in which to increase their capacities to engage in academic processes that include and demand a superior skill set within higher educational institutions and curricula.

### **ENT. ENTREPRENEURSHIP**

#### **ENT-151. INTEGRATED MANAGEMENT EXPERIENCE I**

**Credits:** 3

**Terms Offered:** Fall

Integrated Management Experience is a two-semester sequence that takes you through the entrepreneurial process from creating a business concept to planning the venture to launching and operating the business to harvest and closure of the firm. You learn how businesses plan and operate through the study of functional areas such as marketing, management, human resources, accounting and finance, and operations. Most importantly, you will learn and experience how the pieces fit together through integrating the functional areas tracking information and performance using financial accounting principles. Cross listed with [[ACC-151]] and [[BA-151]]

#### **ENT-152. INTEGRATED MANAGEMENT EXPERIENCE II**

**Credits:** 3

**Terms Offered:** Spring

Integrated Management Experience is a two-semester sequence that takes you through the entrepreneurial process from creating a business concept to planning the venture to launching and operating the business to harvest and closure of the firm. You learn how businesses plan and operate through the study of functional areas such as marketing, management, human resources, accounting and finance, and operations. You develop a clear understanding of the importance of accounting cycles and how financial accounting principles provide not only information but an integrating thread for all types of organizations. Cross listed with [[ACC-152]] and [[BA-152]]

#### **Pre-Requisites**

[[ACC-151]] / [[BA-151]] / [[ENT-151]] with a minimum GPA of 2.0.

#### **ENT-201. NATURE AND ESSENCE OF ENTREPRENEURSHIP**

**Credits:** 3

**Terms Offered:** Fall

An introduction to entrepreneurs and self-career creation in small and large entrepreneurial organizations. The importance of entrepreneurs in the local, national, and world economies and personal characteristics of successful entrepreneurs will be studied. Guest speakers and a case study are included.

#### **Pre-Requisites**

[[ENT-152]] or [[BA-153]] with a minimum GPA of 2.0.

#### **ENT-203. OPPORTUNITY IDENTIFICATION: INNOVATION AND CREATIVITY**

**Credits:** 3

**Terms Offered:** Fall

An introduction to the creative and innovative processes. Emphasis on forms of creativity and how they are interrelated, psychology and behavioral aspects of creativity, recognizing creativity, and the practice of managing innovation and creativity in different environments. Direct experience with two or more forms of creativity.

#### **ENT-252. THE ENTREPRENEURIAL LEADER**

**Credits:** 3

**Terms Offered:** Spring

Examines leadership characteristics and behaviors of entrepreneurs. Emphasis on authentic and integrity-based leadership, role of emotional intelligence, and effective leadership strategies in entrepreneurial environments.

#### **ENT-321. ANALYZING MARKETS AND COMPETITION**

**Credits:** 3

**Terms Offered:** Fall

In-depth study of identification and assessment of markets and competition. Sources of information, key analytical techniques, and evaluation strategies are examined.

#### **Pre-Requisites**

[[MKT-221]] with a minimum GPA of 2.0.

#### **ENT-342. ENTREPRENEURIAL FINANCE**

**Credits:** 3

**Terms Offered:** Spring

The study of the financial dimensions of launching and growing ventures. Topics include financial characteristics and requirements of growth, venture capital, angel capital and private investment, equity markets and public offerings, and specialized funding programs.

#### **Pre-Requisites**

[[FIN-240]] with a minimum GPA of 2.0.

#### **ENT-384. SMALL BUSINESS CONSULTANCY**

**Credits:** 3

**Terms Offered:** Spring

Teams of students diagnose, analyze, and recommend solutions for problems defined by small business clients. Course requires students to apply a range of classroom skills in a real situation and present oral and written reports to the client firm. Requirements: Senior standing and permission of the instructor.

#### **ENT-385. OPPORTUNITY ASSESSMENT: TECHNICAL, ECONOMIC AND MARKET FEASIBILITY**

**Credits:** 3

**Terms Offered:** Spring

Theory and practice of assessing market, economic, and technical feasibility. Use of project management techniques to develop an in-depth feasibility analysis plan for expected outcomes.

#### **ENT-399. COOPERATIVE EDUCATION**

**Credits:** 1-6

Professional cooperative education placement in a private or public organization related to the student's academic objectives and career goals. In addition to their work experience, students are required to submit weekly reaction papers and an academic project to a Faculty Coordinator in the student's discipline. See the Cooperative Education section of this bulletin for placement procedures. Requirements: Sophomore standing; minimum 2.0 cumulative GPA; consent of the academic advisor; and approval of placement by the department chairperson.

**ENT-461. PRACTICING ENTREPRENEURSHIP****Credits:** 3**Terms Offered:** Fall

Advanced essentials and elements of becoming an entrepreneur, or intrapreneur, will be examined through current classic 'real life' entrepreneurial case readings and entrepreneur and guest faculty lectures. Students will create their own entrepreneurial enterprise as a team project.

**Pre-Requisites**

Senior standing, [[ENT-201]] with a minimum GPA of 2.0, or permission of the instructor.

**ENT-462. ENTREPRENEURIAL INTERNSHIP****Credits:** 3

The course content provides an on-the-job multi-discipline experience assisting a working local entrepreneur in the development and operation of a business enterprise.

## ENV. ENVIRONMENTAL ENGINEERING

**ENV-198/298/398. TOPICS IN ENV****Credits:** Varies with topic

Selected topics in the field of engineering and related areas. The may include the following topics: mechanical engineering; civil engineering; engineering management; geotechnology; and radiation.

[Click here for fee for courses with a lab.](#)

**Pre-Requisites**

Permission of the instructor.

**ENV-201. PROBABILITY AND STATISTICS FOR ENGINEERS****Credits:** 2

This course provides an introduction to the central ideas of probability and statistics and their application in the analysis of engineering and environmental data including control charts and specification error. Sampling and data gathering techniques are also discussed. One hour of lecture and one hour of discussion per week.

**Pre-Requisites**

[[CHM-115]] or [[CHM-118]], [[MTH-111]], or instructor's permission

**ENV-202. ENVIRONMENTAL ENGINEERING SYSTEMS: ANALYTICAL AND COMPUTATIONAL ANALYSIS****Credits:** 2**Terms Offered:** On Demand

This course focuses on basic methods for obtaining numerical solutions of algebraic and transcendental equations, simultaneous linear equations, and curve fitting techniques; examples provided are relevant to environmental engineering processes; will include an introduction to problem-solving using Excel and MATLAB. Two hours of lab per week.

**Pre-Requisites**

[[MTH-111]], [[MTH-112]] or instructor's permission.

**ENV-205. ENVIRONMENTAL MICROBIOLOGY****Credits:** 3

The foundation concepts in microbiology that are important in environmental systems will be explored in this course. This will include the function and formation of cellular components starting from basic molecules (carbohydrates, fatty acids, amino acids, nucleotides) to the cellular structures that are formed (membranes, proteins, and the nucleic acids RNA & DNA); carbon, energy, and nutrient sources required for cellular growth; and the metabolic pathways for substrates common in environmental systems will be shown. Biodegradation and growth kinetic models will be introduced. Global cycles of major elements (i.e. carbon, nitrogen, oxygen, phosphorus, etc.) will be explored.

**ENV-305. SOLID WASTE MANAGEMENT****Credits:** 3

Assessment of the scope of the solid waste problem and engineering and management strategies. Lecture topics include the following: solid waste sources; characterization and generation rates; collection and transportation technologies and management options; sanitary landfill design and operation; and recycling strategies and technologies. Three hours of lecture per week.

**Pre-Requisites**

[[EES-240]], [[CHM-116]] or [[ENV-201]] or instructor's permission.

**ENV-315. SOILS****Credits:** 3

Study of the structure, properties, and classification of soils. Fundamental concepts of soils science are applied to the environmental management of terrestrial ecosystems. Topics include soil genesis, the classification, and physical properties of soils, soil chemistry, and soil moisture relationships. Two hours of lecture and three hours of lab per week.

[Click here for course fees.](#)

**Pre-Requisites**

[[GEO-101]], [[CHM-116]] or [[ENV-201]].

**ENV-321. HYDROLOGY****Credits:** 3

A quantitative analysis of the physical elements and processes that constitute the hydrologic cycle. Topics include precipitation, infiltration, evaporation, runoff, streamflow, and ground water flow. Ground water modeling and advanced treatment of Darcy's Law is presented within the context of migration of ground water pollutants. Three hours of lecture per week.

**Pre-Requisites**

[[GEO-101]], [[MTH-111]], [[ENV-201]] or [[MTH-150]].

## Course Descriptions

### ENV-322. WATER RESOURCES ENGINEERING

**Credits:** 3

Design and development of selected projects in the various fields of engineering under the direction of a staff member. Technical as well as economic factors will be considered in the design. A detailed progress report is required. Three hours of lecture per week.

**Pre-Requisites**

[[ENV-321]].

### ENV-323. HYDROLOGY LAB

**Credits:** 1

Components of the hydrologic cycle are studied experimentally. Three hours of lab per week.

**Co-Requisites**

[[ENV-321]] concurrent or before.

### ENV-330. WATER QUALITY

**Credits:** 4

The physical, chemical, and biological processes that affect the quality of water in the natural environment. The measurement of water quality parameters in water and wastes. The behavior of contaminants in ground and surface water. Three hours of lecture and three hours of lab per week. [Click here for course fees.](#)

**Pre-Requisites**

[[EES-240]], [[CHM-116]] or [[ENV-201]]

### ENV-332. AIR QUALITY

**Credits:** 3

Study of atmospheric pollutants, their sources and effects; measurement and monitoring techniques for air pollutants; atmospheric chemical transformations; regulatory control of air pollution; meteorology of air pollution; transport and dispersion of air pollutants; and introduction to indoor air pollution. Lab work includes both problem-oriented and hands-on exercises. Exercises include basic gas concepts, volume measuring devices, flow, velocity, and pressure measuring devices, calibration of such devices, and various sampling techniques. Two hours of lecture and three hours of lab per week. [Click here for course fees.](#)

**Pre-Requisites**

[[EES-240]], [[CHM-116]] or [[ENV-201]].

### ENV-352. HYDRAULIC ENGINEERING

**Credits:** 3

Water distribution, sewage collections, pipe network models, piping materials, pumps and pumping stations, valves and tanks. Design and operation. Three hours of lecture per week.

**Pre-Requisites**

[[ME-321]].

### ENV-353. AIR POLLUTION CONTROL

**Credits:** 3

This course provides the philosophy and procedures for design of air pollution control systems. Methods used for controlling air-borne emissions of gases, aerosols, and organic vapors are covered. Designs are carried out based on data for typical systems. Evaluations of alternatives with cost comparisons are also presented. Three hours of lecture per week.

**Pre-Requisites**

[[ENV-332]] or [[ME-321]].

### ENV-354. HAZARDOUS WASTE MANAGEMENT

**Credits:** 3

An overview and application of engineering principles to management of hazardous wastes and the remediation of contaminated sites. Introduction to regulatory compliance and environmental laws. Three hours of lecture per week.

**Pre-Requisites**

[[ENV-330]] or permission of the instructor.

### ENV-356. PHYSICAL AND CHEMICAL TREATMENT PROCESSES

**Credits:** 3

Design of physical/chemical processes in aqueous treatment systems. Focus will be mostly on the drinking water treatment processes but industrial treatment processes will be included. Estimation of demand and sludge disposal also will be addressed. Three hours per week classroom instruction

**Pre-Requisites**

[[ENV-330]]

### ENV-357. BIOLOGICAL TREATMENT PROCESSES

**Credits:** 3

Design of biological processes in aqueous treatment systems. Topics will include typical municipal wastewater treatment as well as industrial treatment processes. Generation of biogas will be addressed as well as sludge handling and disposal.

**Pre-Requisites**

[[ENV-330]]

### ENV-373. OCCUPATIONAL HEALTH

**Credits:** 3

Appraisal of environmental health hazards, sampling techniques, instrumentation and analytic methods. Principles of substitution, enclosure, and isolation for the control of hazardous operations in industry. Three hours of lecture and demonstration per week. Requirement: Junior or senior standing in engineering.

### ENV-390. JUNIOR SEMINAR

**Credits:** 1

Course will focus on project management, design concepts and constraints, literature review and preliminary data collection for senior projects course.

**ENV-391. SENIOR PROJECTS I****Credits:** 1

Design and development of selected projects in the various fields of engineering under the direction of a staff member. Technical as well as economic factors will be considered in the design. A professional paper and detailed progress report are required.

[Click here for course fees.](#)

**Pre-Requisites**

Department permission

**ENV-392. SENIOR PROJECTS II****Credits:** 2

Design and development of selected projects in the field of engineering under the direction of a staff member. Technical as well as economic factors will be considered in the design. This is a continuation of [[ENV-391]]. A professional paper to be presented and discussed in an open forum is required.

[Click here for course fees.](#)

**Pre-Requisites**

[[ENV-391]].

**ENV-395. AND 396. INDEPENDENT RESEARCH****Credits:** Varies with topic1-3 credits.

Independent study or research for advanced students in the field of their major under the direction of a departmental faculty member.

[Click here for course fees.](#)

**Pre-Requisites**

Approval of department chair and academic advisor.

**ENV-397. SEMINAR****Credits:** 1-3

Presentations and discussions of selected topics and projects. Requirement: Senior standing in environmental engineering.

**ENV-398. TOPICS****Credits:** Varies with topic

Selected topics in the field of engineering and related areas. The may include the following topics: mechanical engineering; civil engineering; engineering management; geotechnology; and radiation.

[Click here course fee.](#)

**Pre-Requisites**

Permission of the instructor.

**ENV-399. COOPERATIVE EDUCATION****Credits:** 1-6

Professional cooperative education placement in a private or public organization related to the student's academic objectives and career goals. In addition to their work experiences, students are required to submit weekly reaction papers and an academic project to a Faculty Coordinator in the student's discipline. See the Cooperative Education section of this bulletin for placement procedures.

**Pre-Requisites**

Sophomore standing; minimum 2.0 cumulative GPA; consent of the academic advisor; and approval of placement by the department chairperson.

**FIN. FINANCE****FIN-201. PERSONAL FINANCE****Credits:** 3**Terms Offered:** On Demand

This course in personal financial management is designed to help students understand and develop competence and confidence in using the knowledge and skill of the discipline of personal money management. Students develop competence and confidence through reading about personal financial management and through working with problems and cases that include real life experiences with the subject. This course is designed to benefit business and non business majors.

**FIN-219. FINANCIAL ANALYSIS****Credits:** 3

This course is an introductory course on the fundamentals of financial analysis techniques. It aims to help students develop analytical skills for making investment decisions. Furthermore, it focuses on less well-established techniques and knowledge that is alien to and ignored by efficient market hypothesis (EMH) or modern portfolio theory (MPT). The emphasis is on: technical analysis, Microsoft Excel tools in a financial context and Bloomberg terminals.

**Pre-Requisites**

[[BA-119]], [[FIN-240]] with a minimum grade 2.0

**FIN-230. MONEY & BANKING****Credits:** 3

A study of money, credit, and banking operations. Monetary standards, development of the American monetary and banking system. Recent developments in other financial institutions. Central banking and the Federal Reserve System, instruments of monetary control, international monetary relationships. Cross-listed with [[EC-230]]

**FIN-240. INTRODUCTION TO FINANCE****Credits:** 3

This course introduces basic principles of finance including cash flow, financial ratios, time value of money, stock and bond valuation, capital structure and cost of capital.

**FIN-319. FINANCIAL DERIVATIVES****Credits:** 3

Financial securities and markets are changing rapidly. This course gives students an understanding of financial derivative instruments and their applications to corporate strategy and risk management. Students learn how the finance derivatives are priced and used in risk management and trading or speculative strategies by individuals and companies. We cover options, forwards, futures, and swaps to help our students to be better prepared to enter a career in finance.

**Pre-Requisites**

[[ACC-162]], [[BA-119]], [[FIN-240]], [[FIN-341]], [[FIN-343]] all with a minimum grade of 2.0

## Course Descriptions

### **FIN-341. MANAGERIAL FINANCE**

**Credits:** 3

This course provides advanced study of financial theories, decision-making models relating to: financial analysis and planning; working capital management; cash budgeting; capital asset acquisitions; capital asset financing; cost of capital; capital structuring; acquisitions; divestitures; and reorganizations.

**Pre-Requisites**

[[FIN-240]] with a minimum grade of 2.0

### **FIN-342. PROPERTY AND LIFE INSURANCE**

**Credits:** 3

A study of principles of life, health, property, and liability insurance applied to the needs of individuals and organizations.

**Pre-Requisites**

[[FIN-341]] with a minimum grade of 2.0

### **FIN-343. INVESTMENTS AND PORTFOLIO MANAGEMENT**

**Credits:** 3

A survey of the features and characteristics of investment instruments, the operation and regulation of security markets, the techniques of security analysis and valuation, financial intermediaries, and modern and traditional portfolio theory and management.

**Pre-Requisites**

[[FIN-240]] with a minimum grade of 2.0

### **FIN-345. LONG-RANGE FINANCIAL PLANNING**

**Credits:** 3

A survey of the tools and techniques currently employed by financial decision-makers when evaluating organizational performance and developing future courses of action. Emphasis will be placed upon long-range planning and capital budgeting techniques.

**Pre-Requisites**

[[FIN-341]] and [[FIN-343]] with a minimum grade of 2.0

### **FIN-358. INTERNATIONAL FINANCE**

**Credits:** 3

This course will provide the conceptual framework necessary for financial decision-making in a multinational corporation (mnc). We focus on implementing analytical tools and theory through problems and analysis of real-world global decision-making. Students explore the following traditional areas of corporate finance: investments, capital budgeting, cost of capital, capital structure, evaluation and control of operations, merger and acquisition, and risk management from a global perspective.

### **FIN-397. SEMINAR**

**Credits:** 1-3

One to three credits

### **FIN-462. FINANCE INTERNSHIP**

**Credits:** three or six

This internship course consists of professional business experience in which students apply their accumulated knowledge, skills and abilities in an organization related to the students' academic objectives and career goals. This course requires Cooperative Education approval as well as approval of the academic advisor, the department chair and the faculty advisor for the course.

**Pre-Requisites**

[[ACC-202]] with a minimum grade of 2.0

## **FYF. FIRST-YEAR FOUNDATIONS**

### **FYF-101. FIRST-YEAR FOUNDATIONS**

**Credits:** 3

The mission of the First-Year Foundations Program is to provide rigorous learning experiences that challenge first-year students to develop the strategies essential for a successful transition into the Wilkes campus community. Each section of FYF is unique in content and constitutes a special topics course in which faculty members are encouraged to explore topics that are of special interest to them. All sections of FYF, regardless of specific topic, share a common core of objectives that facilitate significant learning experiences (inside and beyond the classroom) by which first-year students develop self-knowledge as learners and members of an academic community, intellectual curiosity, openness to diversity, and a capacity for lifelong learning and civic responsibility. Activities designed to foster and develop effective writing, critical thinking, and information literacy skills are integral components of all FYF courses. In addition, the FYF Program connects students to a wide variety of University resources, including the advising and tutoring services of University College, the extensive holdings and services of the Farley Library, and the rich array of cultural events sponsored by the University.

## **FR, GR, LAT, MAN, RUS. FOREIGN LANGUAGES**

### **GR-101-102. ELEMENTARY GERMAN**

**Credits:** 3 each

Fundamentals of spoken and written German and introduction to German culture. Emphasis is placed on communicative proficiency.

### **MAN-101-102. ELEMENTARY MANDARIN CHINESE**

**Credits:** 3 each

Fundamentals of spoken and written Mandarin and introduction to Chinese culture. Emphasis is placed on communicative proficiency.

### **LAT-101-102. ELEMENTARY LATIN**

**Credits:** 3 each

An introduction to the fundamentals of Latin (vocabulary, translation skills and grammatical concepts) with emphasis on the role of Latin in the history of western intellectual tradition.

**RUS-101-102. ELEMENTARY RUSSIAN****Credits:** 3 each

Fundamentals of spoken and written Russian and introduction to Russian culture. Emphasis is placed on communicative proficiency.

**FR-101-102. ELEMENTARY FRENCH****Credits:** 3 each

Fundamentals of spoken and written French and introduction to French culture. Emphasis is placed on communicative proficiency. Students who have studied French for more than two years in high school (or the equivalent) should enroll in FR 102.

## **GIS. GEOGRAPHIC INFORMATION SCIENCE**

**GIS-298/398. TOPICS IN GEOGRAPHIC INFORMATION SCIENCE****Credits:** Varies with topic studied.

Course on GIS topics of special interest, not extensively treated in regularly scheduled offerings, will be presented under this course number on an occasional basis. May be repeated for credit.

**Pre-Requisites**

Varies with topic studied.

**Co-Requisites**

Varies with topic studied.

**GIS-271. INTRODUCTION TO GPS & GIS****Credits:** 3

An introduction to Global Positioning Systems (GPS), Geographic Information Systems (GIS), and geospatial mapping concepts and applications. Topics include coordinate systems, reference ellipsoids, geodetic datums, map projections, history of GIS, relational database management, quality control, GIS as a decision support tool, and data manipulation, processing, and analysis. Practical field use of GPS is emphasized within the context of understanding system components, satellite signal processing, selective availability, base station differential correction, and data export to GIS. Geospatial data science is discussed within the context of real-world locational phenomena. This course is designated as computer intensive (CI). Two hours of lecture and three hours of lab per week.

[Click here for course fees.](#)

**GIS-272. ADVANCED GIS & REMOTE SENSING****Credits:** 3

An advanced course on Geographic Information Systems (GIS) and Remote Sensing. GIS topics build upon introductory-level coursework in GIS 271, and introduce more advanced applications of GIS software such as density mapping and interpolation of point data (geostatistical methods), surface analysis and 3D modeling of geospatial data, open source alternatives to ArcGIS, and web map design and development design. Remote sensing topics include aerial and satellite visual imagery, digital image processing, photogrammetry, Light Detection and Ranging (LiDAR), and multispectral remote sensing systems and theory. The course will also include case studies of remote sensing and GIS techniques applied in a variety of studies. Field use of GPS is emphasized, in addition to the use of small Unmanned Aerial Systems (sUAS) to capture aerial digital imagery. Laboratory component emphasizes practical skills and tools in achieving desired results in processing geospatial data, particularly raster data types. This course is designated as computer intensive (CI). Two hours of lecture and three hours of lab per week.

[Click here for course fees.](#)

**Pre-Requisites**

[[GIS-271]], or permission of the instructor.

**GIS-301. GIS APPLICATIONS & COLLOQUIA****Credits:** 3

This course will further explore fundamental and advanced GIScience topics through solving real-world problems. It will provide a practical, hands-on approach to learning about GIS applications for a selection of different fields such as security, criminology, business/marketing, human and health services, epidemiology, environmental systems, geology, political science, natural resources, urban planning, and agriculture, among others. Additionally, the course includes a colloquia component (required for students enrolled in the course), where students will have the opportunity to industry and academic experts in GIScience applications to various fields. The colloquia component would also be open to the public. This course is designated as computer intensive (CI). Three hours of lecture per week.

[Click here for course fees.](#)

**Pre-Requisites**

[[GIS-272]] or permission of the instructor.

## Course Descriptions

### GIS-310. GIS PROGRAMMING AND CUSTOMIZATION

**Credits:** 3

The course introduces students to methods of solving geospatial problems by creating automated Geographic Information System (GIS) software through programming. Python programming language – with its simple syntax and powerful set of libraries – will be used to write and edit scripts that add functionality to existing GIS desktop tools and to automate geospatial analytic processes. No previous programming experience is required. Python programming topics will include object-oriented programming, object model diagrams, loops, if-then statements, and modular code design within the context of geospatial analytics and workflows to solve geospatial problems. This course is designated as computer intensive (CI). Two hours of lecture and three hours of lab per week equivalent.

[Click here for course fees.](#)

#### Pre-Requisites

[[GIS-271]], or permission of the instructor.

### GIS-315. WEB GIS

**Credits:** 3

In this course, students will have hands-on experience creating web applications with interactive maps combining different types of geospatial data. The fundamental technology behind web maps – including capabilities and limitations – will be explained, including relevant geospatial systems, server software, data sources, and web development languages (i.e., HTML, CSS, JavaScript). No prior programming language experience is needed for this course. Students will gain valuable experience in creating web GIS applications, and will be ready to apply their knowledge in academic and professional fields. This course is designated as computer intensive (CI). Two hours of lecture and three hours of lab per week equivalent.

[Click here for course fees.](#)

#### Pre-Requisites

[[GIS-271]], or permission of the instructor.

### GIS-320. INTRODUCTION TO GEOSPATIAL MODELING

**Credits:** 3

This course introduces how GIS can be used to construct and simulate dynamic models of geospatial phenomena, which involve variation over space and/or time. This course provides foundations on geospatial modeling, and an understanding of various issues related to geospatial modeling and simulation. Students will learn concepts, tools, and techniques commonly used in GIS modeling, including approaches from continuous representation of system dynamics to the discrete interactions of individual, agent-based models. This course is designated as computer intensive (CI). Two hours of lecture and three hours of lab per week.

[Click here for course fees.](#)

#### Pre-Requisites

[[MTH-150]] or higher, [[GIS-272]], or permission of the instructor.

## GEO. GEOLOGY

### GEO-101. INTRODUCTION TO GEOLOGY

**Credits:** 3

Description, analysis, and studies of earth materials, structures, and processes, including Earth's surface, interior, age, and origin. Three hours of lecture per week.

### GEO-103. INTRODUCTION TO GEOLOGY LAB

**Credits:** 1

This lab entails lab and field experiences where rocks and minerals are studied. The interpretation of topographic and geologic maps and exercises in the fundamental procedures of geologic investigations are also included. Three hours of lab per week.

[Click here for course fees.](#)

#### Co-Requisites

[[GEO-101]]

### GEO-206. SOLID EARTH ENERGY AND MINERAL RESOURCES

**Credits:** 3

The distribution in both space and time of fossil fuel (crude oil, natural gas, and coal), nuclear fuel minerals, and geothermal sources in the earth's crust; the formation, accumulation and extraction of these energy resources, and historical, current and projected consumption trends. Additionally, the occurrences and formational processes of metal and non-metal deposits are examined in the context of plate tectonics, earth's geologic history and energy flow. Three hours of lecture per week. Open to majors and non-majors. GEO-206 qualifies for the Energy Minor and is cross-listed with [[EGY-206]].

### GEO-212. HISTORICAL GEOLOGY

**Credits:** 3

A study of the geologic record of the earth's formation and evolution, including methods of dating. Two hours of lecture and three hours of lab per week.

[Click here for course fee.](#)

#### Pre-Requisites

[[GEO-101]] and [[GEO-103]] or permission of the instructor.

### GEO-281. MINERALOGY

**Credits:** 4

The systematic study of the major classes of the mineral kingdom utilizing the department's collection. Concepts in crystal chemistry, crystal structure, mineral behavior, crystallography and optical mineralogy are studied and advanced techniques in mineral analysis are used. Three hours of lecture and three hours of lab per week.

[Click here for course fee.](#)

#### Pre-Requisites

[[GEO-101]] and [[CHM-115]].

**GEO-282. PETROLOGY****Credits:** 3

A study of the identification, classification, composition, genesis, and alteration of igneous, sedimentary, and metamorphic rocks and their relation to crustal processes and tectonic environments. Two hours of lecture and three hours of lab per week.

[Click here for course fee.](#)

**Pre-Requisites**

[[GEO-281]]

**GEO-345. STRATIGRAPHY AND SEDIMENTATION****Credits:** 4

The study of the formation and interpretation of sedimentary systems, from sediment grains to depositional basins. The course starts from the grain scale and moves up to basin and global scales. Three hours of lecture and three hours of lab per week.

[Click here for course fee.](#)

**Pre-Requisites**

[[GEO-101]] and [[GEO-103]], or permission of the instructor.

**GEO-349. STRUCTURE AND TECTONICS****Credits:** 4

The study of rock deformational processes and resulting structures in the Earth's crust with application to global and regional tectonics. Lab work and field trips emphasize the use of methods to assist in the geometric and kinematic interpretation of rock structures. Three hours of lecture and three hours of lab per week.

[Click here for course fee.](#)

**Pre-Requisites**

[[GEO-282]], [[GEO-345]], [[MTH-111]], [[PHY-171]] or permission of the instructor

**GEO-351. PALEOCLIMATOLOGY****Credits:** 3

The goal of this course is to present an overview of the methods used to reconstruct the earth's climate history and the techniques used to determine the timing of environmental changes. Paleoclimate data from proxy records, such as ice cores or tree rings, provides a longer perspective on climatic variability than is possible from instrumental or historical records. Particular emphasis will be given to the natural controls on Earth's climate across a variety of timescales, including plate tectonic, orbital, and millennial, to centennial and sub-decadal variations. The course will focus on the climatic changes during the late Cenozoic – the time of the ice ages. Topics to be discussed will include: paleoclimatic reconstruction, climate and climatic variation, dating methods, ice cores, marine and lake sediments, corals, speleothems, soils, pollen, dendrochronology, documentary data, and paleoclimate models. Two hours of lecture and three hours of lab.

[Click here for course fee.](#)

**Pre-Requisites**

[[GEO-101]] and [[GEO-103]], or permission of the instructor.

**GEO-352. HYDROGEOLOGY****Credits:** 3

An introduction to the study of groundwater: groundwater flow, well hydraulics, groundwater quality and pollution, and resource exploration, evaluation, and management. Lab activities use a mix of field, wet lab, computer and mapping skills. Two hours of lecture and three hours of lab per week.

[Click here for course fee.](#)

**Pre-Requisites**

[[GEO-101]] and [[GEO-103]], or permission of the instructor.

**GEO-365. INTRODUCTION TO PALEONTOLOGY****Credits:** 3

This course examines the history of life on Earth as reflected in the fossil record. The course covers the oldest known forms of life from over three billion years ago through the origin of marine communities, the invasion of land, dinosaurs, and the age of mammals. Emphasis will be placed on common fossil groups and the interaction of organisms with their diverse environments. Two hours of lecture and three hours of lab per week.

[Click here for course fees.](#)

**Pre-Requisites**

[[GEO-101]], [[GEO-103]], and [[GEO-212]]

**GEO-370. GEOMORPHOLOGY****Credits:** 3**Fees:**

Land forms, their evolution, and the human role in changing the surface of the earth, utilization of geologic and hydrologic information, and field investigations. Two hours of lecture and three hours of lab per week.

[Click here for course fee.](#)

**Pre-Requisites**

[[GEO-101]] and [[GEO-103]], or permission of the instructor.

**GEO-375. GEOLOGICAL HAZARDS****Credits:** 3**Fees:**

This course examines geologic processes that are a natural consequence of plate tectonics and hazardous to life and property. After establishing a framework for geologic hazards study, principle geologic hazards will be investigated. Emphasis will be placed on current scientific understanding, event frequency, forecasting and monitoring and mitigation. Several case studies will be included. Three hours of lecture per week.

**Pre-Requisites**

[[GEO-101]], [[GEO-103]], and [[GEO-212]].

## Course Descriptions

### **GEO-380. GEOLOGY FIELD CAMP**

**Credits:** 4

**Fees:**

A four-week summer field course designed to train students in traditional and modern methods of geologic investigations. Students learn to develop research strategies, collect field observations and measurements, compile detailed rock descriptions, measure stratigraphic sections and construct geologic maps and cross sections. Field locations may range from local/regional to western U.S. depending on course emphasis and resources.

[Click here for course fee.](#)

#### **Pre-Requisites**

[[GEO-281]], [[GEO-282]], [[GEO-345]], [[GEO-349]]

### **GEO-383. GEOCHEMISTRY**

**Credits:** 3

**Fees:**

Application of chemistry to study the distribution and cycling of elements in the crust of the earth. Includes chemical bonding and crystallization, phase rules and phase diagrams, chemical equilibria, radiogenic and stable isotopes and origin of elements. Geochemical environments of study include low-temperature aqueous solutions and high-temperature magmatic systems. Two hours of lecture and three hours of lab per week.

[Click here for course fee.](#)

#### **Pre-Requisites**

[[CHM-115]], [[CHM-116]], [[GEO-101]], [[GEO-103]], [[GEO-281]], and [[GEO-282]]

### **GEO-388. REGIONAL STUDIES**

**Credits:** 2

This capstone course is an in-depth geological study of a region (global, or more local) that requires students to apply fundamental knowledge and skills acquired through the course of their college education. The region of study will be selected by the instructor in advance of the course, taking into consideration student interest, accessibility, and unique field opportunities. The course furthers student scientific research skills and enhances learning through the involvement of advanced studies of primary rock/geologic/geophysical relationships in a field setting, critical reading of published geological literature, and interpretation and synthesis in oral/written formats. Topics and scale of examination will vary from local to global scales, but focus heavily on the regional scale. Students will be encouraged to think scientifically and creatively - to think from unique perspectives and explore versatile solutions. Field study will play a significant role in this course, and students will assist in organizing an optional research trip over spring break to locations within the region of interest, enhancing their overall geologic knowledge, research and interpretation skills, and application of principles and theories.

#### **Pre-Requisites**

Senior status and with permission from the course instructor.

### **GEO-390. APPLIED GEOPHYSICS**

**Credits:** 3

**Fees:**

An introduction to the application of geophysical methods to geological and environmental investigations. Topics include fundamentals of geophysics and hands-on instrument training and measurement. Instruments may include ground penetrating radar, seismic reflection and refraction, electrical resistivity and electromagnetic induction. Two hours of lecture and three hours of lab per week.

[Click here for course fee.](#)

#### **Pre-Requisites**

[[GEO-101]], [[GEO-103]], [[MTH-112]], [[PHY-174]], or permission of the instructor

### **GEO-391. SENIOR PROJECTS I**

**Credits:** 1

**Fees:**

Design and development of selected research projects in geology under the direction of a faculty member. Capstone research deliverables include a proposal, detailed progress reports and a formal mid-year report.

[Click here for course fee.](#)

#### **Pre-Requisites**

Department permission

### **GEO-392. SENIOR PROJECTS II**

**Credits:** 2

**Fees:**

Second semester continuation of Senior Projects I. Capstone research deliverables include detailed progress reports, a professional-grade poster, a final written report, and a formal oral presentation of research project.

[Click here for course fee.](#)

#### **Pre-Requisites**

[[GEO-391]]

### **GEO-395. INDEPENDENT STUDY**

**Credits:** Varies with topic

**Fees:**

Departmental courses on advanced topics of special interest, not extensively treated in regularly scheduled offerings, will be presented under this course number on an occasional basis. Available for either undergraduate or graduate credit. Maybe repeated for credit

#### **Pre-Requisites**

Senior or graduate standing

### **GEO-396. INDEPENDENT STUDY**

**Credits:** Varies with topic

**Fees:**

Departmental courses on advanced topics of special interest, not extensively treated in regularly scheduled offerings, will be presented under this course number on an occasional basis. Available for either undergraduate or graduate credit. Maybe repeated for credit.

#### **Pre-Requisites**

Senior or graduate standing

## GC. GLOBAL CULTURES

### GC-253. MALAYSIA'S MODERNITY

**Credits:** 3

Examine and experience Malaysia's unique brand of modernity, which is the result of a national push towards fully developed nation status. Technologically advanced, yet steeped in diverse traditional beliefs, Malaysia is the ideal place to study a modern, non-western culture through an exploration of the diverse and often contrasting beliefs and values, a task made easier by the fact that English is widely spoken and western ways are well-accepted. This three-credit course includes an optional two-week trip to Malaysia at an extra fee.

### GC-301. GLOBAL CULTURES: ISSUES AND PERSPECTIVES

**Credits:** 3

A broad interdisciplinary introduction to the issues and theory underlying the study of global cultures, this course will address the global forces that contribute to the shaping of cultures, including: migration and diaspora, colonization, religion and spirituality, rights of women and children, health and poverty, privilege and class, indigenous peoples of the world, globalization, terrorism, war and trauma, environmental and cultural sustainability, cultural identity development, and the arts. Particular attention will be given to ethics and global citizenship. This course will serve as a foundation for students in choosing to further their studies in one global culture or issue of interest, in order to integrate this knowledge into their future careers.

## HST. HISTORY

### HST-101. THE HISTORICAL FOUNDATIONS OF THE MODERN WORLD

**Credits:** 3

A thematic survey of the forces shaping the modern world. Topics studied include the following: world religions; science; rationalism; industrial capitalism; liberalism; socialism; global discovery; imperialism; nationalism; and totalitarianism.

### HST-102. EUROPE BEFORE 1600

**Credits:** 3

A survey of European history from Ancient times through the Reformation.

### HST-125. AMERICAN HISTORY I

**Credits:** 3

A survey of North American and U.S. history from European-Native American contact to the Civil War.

### HST-126. AMERICAN HISTORY II

**Credits:** 3

A survey of U.S. history from the Civil War to the present

### HST-211. INTRODUCTION TO PUBLIC HISTORY

**Credits:** 3

An introduction to the debates, issues and practice of public history. Students will explore specific careers in public history, learn the research tools and methods used by public historians, and apply public history methodology to larger historical questions.

### HST-252. THE CHANGING FACE OF EASTERN EUROPE

**Credits:** 3

This course explores the theoretical and empirical problems related to the process of transition to democracy in Central and Eastern Europe. Topics such as privatization, human rights, transitional justice, security dilemmas and institutional deadlock are addressed in this course.

### HST-297. HISTORICAL RESEARCH AND METHODS SEMINAR

**Credits:** 3

An introduction to the skills and methods needed for successful research and writing about history. Enrollment is limited to history majors and minors except by permission of the instructor.

### HST-311. ORAL HISTORY (A)

**Credits:** 3

This is a 'hands on' course in which we will examine the use of structured interviews by both professional and amateur historians. Students will both conduct oral history interviews and plan oral history projects. This course is ideal for teachers, church and other local historians, as everyone should end the semester with the ability to design and execute their own oral history project. No prior historical or technical knowledge is assumed or needed.

### HST-312. AMERICAN MATERIAL CULTURE (A)

**Credits:** 3

An introduction to the theories and methods of material culture. By studying objects and employing interdisciplinary approaches, students will investigate American material life and attempt to uncover attitudes and beliefs of the individuals and culture that produced those objects.

### HST-321. AMERICAN CULTURAL AND SOCIAL HISTORY (A)

**Credits:** 3

An examination of differences and divisions within American society through such topics as social movements, demographic trends, gender, ethnicity, and class, the effect of industrialization and immigration, cultural expressions, religion, and the family.

### HST-324. AMERICAN ECONOMIC HISTORY (A)

**Credits:** 3

A survey of the evolution of the American economy from colonial dependency to modern industrial maturity. Emphasis will be placed upon the development of the United States as an industrial world power since about 1850.

### HST-325. DIVERSITY IN PENNSYLVANIA HISTORY (A)

**Credits:** 3

A study of the history of the Commonwealth with particular focus on ethnic and racial diversity.

## Course Descriptions

### **HST-328. HISTORY OF THE FOREIGN POLICY OF THE UNITED STATES (A)**

**Credits:** 3

A selective treatment of major themes in American foreign policy from the founding of the Republic to the present.

### **HST-329. AMERICAN WOMEN'S HISTORY (A)**

**Credits:** 3

A study of the role, status, and culture of women in America beginning with the First Americans and European contact to the present time.

### **HST-331. COLONIAL AMERICA (A)**

**Credits:** 3

Discovery, exploration, and settlement; development of social, political, religious, and intellectual institutions; independence and political reorganization.

### **HST-332. THE NEW NATION (A)**

**Credits:** 3

A study of America's social, cultural, economic and political development in the first generations of nationhood, 1783-1840.

### **HST-333. VICTORIAN AMERICA (A)**

**Credits:** 3

A study of the development of the United States from the end of the Civil War through the end of World War I. Special attention will be paid to urbanization and industrialization and their effects on everyday life.

### **HST-334. THE UNITED STATES, 1900-1945 (A)**

**Credits:** 3

The emergence of the United States as a world power and the corresponding development of its political, economic, social, and religious institutions.

### **HST-335. THE UNITED STATES SINCE 1945 (A)**

**Credits:** 3

An examination of the political, social, and economic changes in the United States since World War II. Special attention is paid to America's dominant role in the immediate post-war world and how changing conditions over the past forty years have altered this role.

### **HST-341. HISTORY OF GREAT BRITAIN AND THE BRITISH EMPIRE AND COMMONWEALTH**

**Credits:** 3

A study of British history from the Neolithic period to present times. The first semester will cover social, economic, and political developments to 1783, including expansion overseas. The second semester, [[HST-342]], will cover the consequences of the industrial revolution and the evolution of the Empire into the Commonwealth.

### **HST-342. HISTORY OF GREAT BRITAIN AND THE BRITISH EMPIRE AND COMMONWEALTH**

**Credits:** 3

A study of British history from the Neolithic period to present times. The first semester, [[HST-341]], will cover social, economic, and political developments to 1783, including expansion overseas. The second semester will cover the consequences of the industrial revolution and the evolution of the Empire into the Commonwealth.

### **HST-345. HISTORY OF NORTHEASTERN EUROPE (N)**

**Credits:** 3

A study of the cultural, political and intellectual history of the Poles, Czechs, Slovaks, Croats, Slovenes and Hungarians, who occupy the northern tier of Eastern Europe. Special attention is given to the roles of the Habsburg and Russian empires in shaping the historical destinies of these peoples, and to the roots and consequences of the forces of nationalism in the region.

### **HST-346. HISTORY OF THE BALKANS (N)**

**Credits:** 3

A study of the cultural, political and intellectual history of the Bulgarians, Serbs, Croats, Slovenes, Albanians, Greeks, Romanians and Turks, who occupy the southern, or Balkan, tier of Eastern Europe. Special attention is given to the roles of the Ottoman Turkish, Habsburg and Russian empires in shaping the historical destinies of these peoples, and to the roots and consequences in the region of such forces as Christian-Muslim cultural interrelationships and nationalism.

### **HST-348. HISTORY OF RUSSIA (N)**

**Credits:** 3

A study of the political, social, and intellectual history of Russia. Emphasis is placed upon the emergence of Russia as a major power after 1700.

### **HST-352. THE RENAISSANCE AND GLOBAL CONNECTIONS (N)**

**Credits:** 3

The course examines the growing interconnectivity of the globe from the fourteenth to sixteenth centuries brought about by the Columbian Exchange, trade in Asia and religious and cultural reform. It pays particular attention to the impact these connections had upon culture, trade, religious ideas and political conflict. The precise geographic perspective of the course is contingent upon instructor.

### **HST-353. GLOBAL EMPIRES OF THE EIGHTEENTH CENTURY (N)**

**Credits:** 3

The political, social, economic, intellectual, and cultural development of the world from the early seventeenth through late eighteenth centuries. The precise geographic perspective of the course is contingent upon instructor.

**HST-354. THE AGE OF REVOLUTIONS IN A GLOBAL CONTEXT (N)**

**Credits:** 3

This course will examine the circumstances which resulted in the political and economic revolutions of the late eighteenth and early nineteenth centuries and their impact on the wider world. The precise geographic perspective of the course is contingent upon instructor.

**HST-355. THE NINETEENTH CENTURY GLOBAL ORDER (N)**

**Credits:** 3

This course will examine the political, social, economic and cultural development of the world as impacted by Imperialism and the birth of the capitalist global economy from the mid-nineteenth to early twentieth centuries. The precise geographic perspective of the course is contingent upon instructor.

**HST-356. WORLD WAR I AND INTERWAR PERIOD (N)**

**Credits:** 3

This course will examine the international causes of World War I, the Treaties of Versailles, and the new world that resulted, leading to the outbreak of World War II in 1939.

**HST-357. THE WORLD SINCE 1945 (N)**

**Credits:** 3

This course examines many important events and developments in the modern world since 1945. It considers incidents of largely historical significance, such as the Cold War between the United States and the Soviet Union, and those of continuing relevance, like the globalization and privatization of the economy.

**HST-370. INTRODUCTION TO LEGAL HISTORY**

**Credits:** 3

The law is a complex system that has developed over time and in reaction to societal and cultural trends. This course will look at the history of the law and the legal professions in England and the United States over the last fifteen hundred years from a variety of perspectives.

**HST-371. HISTORY OF INTERNATIONAL LAW**

**Credits:** 3

This course will examine the historical development of public international law globally over the last five hundred years with an emphasis on the period from 1850 to the present. Topics include the state, treaties, peaceful conflict resolution, the law of the sea, human rights, and the law of international organizations.

**HST-376. WORLD WAR II (C)**

**Credits:** 3

Consideration of the causes of the war, military strategy and tactics, diplomatic interests of the participants, and resulting cold war problems.

**HST-397. SEMINAR**

**Credits:** 3

Presentations and discussions of selected topics.

**Pre-Requisites**

Approval of instructor is required.

**HST-399. COOPERATIVE EDUCATION**

**Credits:** 1-6

Professional cooperative education placement in a private or public organization related to the student's academic objectives and career goals. In addition to their work experience, students are required to submit weekly reaction papers and an academic project to a Faculty Coordinator in the student's discipline. (See the Cooperative Education section of this bulletin for placement procedures.)

**Pre-Requisites**

Sophomore standing, minimum 2.0 cumulative GPA, consent of academic advisor, and approval of placement by the department chairperson.

**Honors Program. HONORS PROGRAM**

**HNR-395/396. HONORS PROGRAM INDEPENDENT RESEARCH**

**Credits:** 1 to 3

Independent study and research for advanced Honors Program students under the direction of a faculty member from any department, with the opportunity to work with interdisciplinary content and/or methods which incorporate Honors-related components integrally into the curriculum. A culminating, comprehensive research product is required. Requirements: permission of the instructor.

**HNR-198/298/398. HONORS PROGRAM TOPICS SEMINARS**

**Credits:** 1

Seminar-style courses for Honors Program students that cover topics of special interest not extensively treated in regularly-offered courses. Such courses would provide faculty from all departments the opportunity to teach interdisciplinary content and/or methods which incorporate Honors-related components integrally into the curriculum.

**HNR-390. HONORS CAPSTONE SEMINAR**

**Credits:** 1

This one-credit interdisciplinary capstone research seminar serves as a culminating experience for all prospective Honors Program graduates. The course is intended to explicitly engage students in reflection on what they have learned at Wilkes and how they can advance those skills and insights along their future personal and professional trajectories. Consequently, the course depends on students' consistent investment in critically assessing what they have learned during their undergraduate education, how that can be communicated to others, and what that makes possible for future endeavors.

## HL. HOSPITALITY LEADERSHIP

### HL-198/298/398. TOPICS

**Credits:** 3

**Terms Offered:** On Demand

In-depth examination of selected issues and problems in hospitality. Specific topics alternate depending on hospitality trends in areas such as travel and tourism, introduction to wine, club and resort management, hospitality information systems, and hospitality seminar.

### HL-201. INTRODUCTION TO HOSPITALITY

**Credits:** 3

**Terms Offered:** Fall, Spring

The course is designed to introduce students to an overview of the hospitality industry with various managerial aspects and numerous career opportunities in lodging, food and beverage, gaming, tourism, cruises, airlines, managed services for clubs and institutions, and the convention and meeting industry. The course supports the Hospitality Leadership program by developing individuals who have chosen the hospitality industry as their career path.

#### Pre-Requisites

[[BA-152]] or [[BA153]] with a minimum grade of 2.0

### HL-325. ADVANCED HOSPITALITY MARKETING

**Credits:** 3

This course is designed to provide students with a better understanding of service marketing exploring the selected issues in the hospitality and tourism industry. Marketing plays a significant role for all firms, and understanding how to best utilize marketing resources is a critical skill in real-world applications.

#### Pre-Requisites

[[HL-201]] with a minimum grade of 2.0

### HL-341. HOSPITALITY FINANCE

**Credits:** 3

This course is designed to overview fundamental knowledge of financial management, managerial accounting, and operational cost controls for the hospitality industry. It applies principles of finance and accounting for decision-making that can be applied to the hospitality industry.

#### Pre-Requisites

[[HL-201]] and [[FIN-240]] with a minimum grade of 2.0

### HL-353. HUMAN RESOURCE MANAGEMENT IN THE SERVICE INDUSTRY

**Credits:** 3

**Terms Offered:** Fall

This course is designed to provide students with a better understanding of how employees learn, communicate, lead, and deal with stress, conflict, and change. Understanding themselves better will allow students to better understand how to manage others. Students will also discuss various management theories in an attempt to identify the most effective management strategy for employees.

#### Pre-Requisites

[[HL-201]] with a minimum grade of 2.0

### HL-355. EVENT MANAGEMENT

**Credits:** 3

This course is designed to provide an introduction to the principles of event management. Students will learn how to formulate event tourism strategies for destinations. The planning, development, management, and implementation of festivals, entertainment events, corporate events, cultural events, and sports events will be the focus of study.

#### Pre-Requisites

[[HL-201]] with a minimum grade of 2.0

### HL-356. HOSPITALITY LAW & LEADERSHIP ETHICS

**Credits:** 3

This course is designed to cover the functions of the law, legal environment, and ethical leadership analysis within the hospitality industry. Students will examine ethical issues in the hospitality industry as they relate to legal reasoning regarding contracts, torts, property, and the impact of law on economic enterprises in the hospitality industry.

#### Pre-Requisites

[[HL-201]] and [[BA-335]] with a minimum grade of 2.0

### HL-381. HOTEL OPERATIONS MANAGEMENT

**Credits:** 3

**Terms Offered:** On Demand

This course is designed to introduce students to the principals and practices of managerial functions relating to the operation of hotel facilities. Students will gain an understanding of how work is performed with each major departments in a hotel property. Students will also be exposed to each role of the department operations in completing a practicum at the local hotels.

#### Pre-Requisites

[[HL-201]] with a minimum grade of 2.0

**HL-382. FOOD AND BEVERAGE MANAGEMENT**

**Credits:** 3

**Terms Offered:** On Demand

This course is designed to introduce the basics of the roles and responsibilities of management in food and beverage operations. Students will discuss topics that include: organization of the food and beverage operation, food and beverage marketing, menu planning, cost controls, proper inventory procedures, purchasing, storage, front of house management, maintaining profitable operations, and liquor handling and training.

**Pre-Requisites**

[[HL-201]] with a minimum grade of 2.0

**HL-386. GAMING AND CASINO MANAGEMENT**

**Credits:** 3

**Terms Offered:** On Demand

This course introduces the student to the history of the gaming industry and the basics of casino management. The course emphasizes ethics in the gaming industry, the economics of the industry, and its interface with hotel and restaurant organizations. Students will also overview the basic gaming regulations, profit and organizational structures of casino operations, and an introduction to some popular casino games.

**HL-461. CAPSTONE IN HOSPITALITY**

**Credits:** 3

**Terms Offered:** Fall, Spring

This course integrates the functional areas of business from the perspective of top management. Emphasis is on the role of management in the formation of strategic and long-range plans.

Cross listed with BA 461.

**Pre-Requisites**

[[EC-101]], [[EC-102]], [[FIN-240]], and [[HL-325]] with a minimum grade of 2.0

**HL-462. HOSPITALITY INTERNSHIP**

**Credits:** 3

**Terms Offered:** Fall, Spring, Summer

A work-based learning experience that focuses on an area of interest in the hospitality industry. Students will experience the opportunity to apply the theory learned in the program within a hospitality business setting.

**Pre-Requisites**

[[HL-201]] with a minimum grade of 2.0

**HL-466. ADVANCED HOSPITALITY INTERNSHIP**

**Credits:** 3

**Terms Offered:** Fall, Spring, Summer

Students will have a supervised managerial work experience in a hospitality setting. Students will also experience the opportunity to apply the theory learned in the program within a hospitality business setting.

**Pre-Requisites**

[[HL-201]], [[HL-381]] (or [[HL-382]]) with a minimum grade of 2.0

**IM. INTEGRATIVE MEDIA**

**IM-198/289/398. TOPICS IN INTEGRATED MEDIA**

**Credits:** Varies with topic.

A study of topics of special interest not extensively treated in regularly offered courses.

[Click here for course fee.](#)

**IM-101. INTEGRATIVE MEDIA FOUNDATIONS I**

**Credits:** 3

This course is an introduction to a survey of artists, styles, and techniques influential in the development of contemporary media. Through screenings, readings, projects, and exercises, the creative process will be analyzed, developed, and elevated. Course exercises will stimulate, inspire, and expand personal aesthetic vision. Through intensive thought, analysis, and critique we will explore media as it affects our society and our responsibility as media content generators.

[Click here for course fees.](#)

**IM-120. FOUNDATIONS OF GAME DESIGN**

**Credits:** 3

This course provides an introductory overview of the video game design by focusing on development principles, techniques, process, and tools. Students will explore and investigate the history and evolution of video games and a variety of game genres. Students will also learn team collaboration as well as using game development software to create simple conceptual prototypes during the course.

[Click here for course fees.](#)

**Pre-Requisites**

None

**IM-201. INTEGRATIVE MEDIA FOUNDATIONS II**

**Credits:** 3

This course is an introduction to the foundational design principles as they apply to digital new media applications. Students will produce digital projects through the introductory application of various digital tools with a continued focus on the constant evolution of a personal aesthetic vision. A survey of new media applications, terminology, and techniques will be researched and discussed, along with our responsibility as communicators to mass media markets.

[Click here for course fees.](#)

**Pre-Requisites**

[[IM-101]].

## Course Descriptions

### **IM-210. INTRODUCTION TO GAME DEVELOPMENT (2D)**

**Credits:** 3

A project-based course emphasizes applying game design principles to produce interactive visual storytelling and simple 2D games. Students will learn basic coding, 2D animation and physics, and be introduced to a variety of game engines to create fun and interactive games through the coursework.

[Click here for course fees.](#)

#### **Pre-Requisites**

[[IM-120]]

[[CS-125]]

### **IM-240. CROSS-MEDIA TYPOGRAPHY**

**Credits:** 3

This course takes a critical look at type and its proper usage in multiple forms of media. In addition to type identification and usage, we will take a critical look at seminal works of typography and understand their impact and effectiveness. This course is offered in the Spring semester of each academic year.

[Click here for course fees.](#)

#### **Pre-Requisites**

[[IM-101]]

### **IM-255. INTEGRATIVE MEDIA PRACTICUM**

**Credits:** 1-2

The Department Practicum may be taken for one to two credits per semester. Students may earn credit for major roles and positions of major responsibility in the co-curricular activities in the Creative Production Studio, Studio 020. Credit for participation in these activities is optional, and voluntary participation (without credit) is also encouraged. The department, through the advisor or instructor of the activity, has the authority to approve or reject any contract for credit under this designation. Credits earned are applicable toward graduation, but do not count toward the requirements of the IM core. Written approval for credit must be by advisor or department chairperson.

### **IM-301. INTEGRATIVE MEDIA PRINCIPLES OF MOTION AND LAYERING**

**Credits:** 3

This course will address the foundational concepts of assembling digital imagery, relational to short format projects, focusing on historical and contemporary principles of montage, timing, and pacing. In addition, the technical and aesthetic principles of compositing will be covered producing multi-layered projects for a variety of media.

[Click here for course fees.](#)

#### **Pre-Requisites**

[[IM-201]].

### **IM-302. INTEGRATIVE MEDIA PRINCIPLES OF INTERACTIVITY**

**Credits:** 3

Technical and aesthetic principles of interactivity will be conveyed and practiced to produce a range of interactive media. Addressing issues of human static and dynamic interactive ergonomics as they apply to contemporary commercial and artistic applications.

[Click here for course fees.](#)

#### **Pre-Requisites**

[[IM-201]].

### **IM-303. ADVANCED PRINCIPLES OF INTERACTIVITY**

**Credits:** 3

In this course students will gain an advanced understanding of how to design and develop online material. Students will become familiar with HTML and CSS web-based languages as well as on-line interface and digital media design requirements. Students will design and code responsive web pages using the CSS syntax. Industry standard computer graphics programs and Internet based programs to create original and unique on-line material will be used by students. Functionality and aesthetics will be stressed as students gain exposure to the digital media design process.

[Click here for course fees.](#)

#### **Pre-Requisites**

[[IM-302]]

### **IM-304. 2D APP DEVELOPMENT**

**Credits:** 3

This course focuses on the creation of mobile app solutions. Students will learn mobile app concept design and prototyping as well as basic programming to implement the design process using industry-standard software. Topics include mobile device architecture, user interface design, app prototyping programming languages, and app deployment.

[Click here for course fees.](#)

#### **Pre-Requisites**

[[IM-302]]

### **IM-310. ADVANCED GAME DEVELOPMENT (3D)**

**Credits:** 3

A design studio course focusing on industry processes and 3D interactive game development from start to finish using program languages. The developed games can run on a variety of platforms such as desktops, mobiles, and AR/VR devices. This course also provides students with insights on not only creating games, but also using the game development pipeline to solve real-world simulation and visualization problems.

[Click here for course fees.](#)

#### **Pre-Requisites**

[[IM-210]]

[[IM-350]]

[[IM-368]]

**IM-320. INTEGRATIVE MEDIA CONCEPT DEVELOPMENT AND PRACTICES****Credits:** 3

Through research, writing, and example, students will gain an advanced understanding of the creative generating processes in a new media environment. These processes will be used to formulate solid, cohesive concepts and present storyboards that are visually communicative and professional. With discussion, critique, and reiteration, the concepts are refined and reinforced.

[Click here for course fees.](#)

**Pre-Requisites**

[[IM-201]].

**IM-330. VIRTUAL ENVIRONMENTS AND EMERGENT TECHNOLOGY****Credits:** 3

An introductory project-based course exposing the principles of virtual/augmented reality technologies including displays, tracking, and major hardware platforms and their capabilities.

This course also prepares students to utilize these technologies to create interactive content and artworks.

[Click here for course fees.](#)

**Pre-Requisites**

[[IM-210]]

[[IM-350]]

[[IM-368]]

**IM-341. CROSS-MEDIA TYPOGRAPHY II****Credits:** 3

Cross-Media Typography II is a semester-long intensive project-generating course that employs typographic concepts discussed in Cross-Media Typography I. Each project is meant to explore further applications of type as art, as well as type in professional practice. The course is a combination of in-class studio work and independent research on portfolio-quality projects. It will be offered in the spring semester each academic year.

[Click here for course fees.](#)

**Pre-Requisites**

[[IM-240]]

**IM-350. 3 DIMENSIONAL ENVIRONMENTS AND ANIMATION****Credits:** 3

This course will explore the foundations of 3-dimensional animation processes as they apply to multiple media. Students will build computer-based models and environments, texture, light, animate, and render content for Integrative Media projects, stand-alone projects of 3-D foundations used within the CS gaming track. (Cross-listed with [[CS-366]].)

[Click here for course fees.](#)

**Pre-Requisites**

IM students— [[IM-301]] ; CS students— [[CS-125]].

**IM-351. 3D ENVIRONMENTS & ANIMATION II****Credits:** 3

This course will explore advanced functions of the 3 Dimensional animation processes as they apply to gaming. Students will build computer-based models and environments; subsequently, texture, light, animate as appropriate and efficiently render as content for 3D gaming projects or as stand-alone pieces.

[Click here for course fees.](#)

**Pre-Requisites**

[[IM-350]] OR [[CS-366]]

**IM-355. DIGITAL AUDIO PRINCIPLES AND EDITING****Credits:** 3

The foundational concepts behind music theory, sound design, and digital studio editing techniques will be addressed in this course. This knowledge can then be applied to creating and adapting sound components for use within the variety of Integrative Media projects.

[Click here for course fees.](#)

**Pre-Requisites**

[[IM-201]].

**IM-368. 3D ASSETS MODELING AND DEVELOPMENT****Credits:** 3

A course with a focus on theory, creation, and animation of three-dimensional models used within a game context using industry standard software.

[Click here for course fees.](#)

**Pre-Requisites**

[[IM-350]] or [[CS-366]].

**IM-391. INTEGRATIVE MEDIA PROJECT I****Credits:** 3

This project-based course will begin to assemble production teams to produce project(s) from concept to completion. Students will develop storyboards and, through creative and organizational work sessions, define a completion plan and production schedule. All phases of the production process will be addressed under creative, financial, and deadline benchmarks. Note: This course must be completed with a minimum final grade of 25 in order to meet degree requirements

[Click here for course fees.](#)

**Pre-Requisites**

[[IM-320]].

## Course Descriptions

### IM-392. INTEGRATIVE MEDIA PROJECT II

**Credits:** 3

Students will initiate new or continue team-oriented integrative media productions. The production process will be optimized to continue the experience of industry scenarios. Expanded business practices and production techniques will build upon prior skill sets. Note: This course must be completed with a minimum final grade of 25 in order to meet degree requirements

[Click here for course fees.](#)

#### Pre-Requisites

[[IM-391]].

### IM-399. COOPERATIVE EDUCATION

**Credits:** 1-6

#### Pre-Requisites

Sophomore standing, minimum 2.0 cumulative GPA, consent of academic advisor, and approval of placement by the department chairperson.

### IM-400. INTEGRATIVE MEDIA PORTFOLIO CAPSTONE

**Credits:** 3

As the capstone of the IM curriculum, this course will focus on the compilation of visual materials produced throughout the set of courses, as necessary in the job submission process. Creating a self 'brand' will be a concentration, along with the compilation of written works, flatbook, and reel. Understanding the perspective of the employer will be heavily discussed and the various positions, procedures, and environments that produce IM products. Note: This course must be completed with a minimum final grade of 25 in order to meet degree requirements.

[Click here for course fees.](#)

#### Pre-Requisites

[[IM-391]].

## IA. INTERCOLLEGIATE ATHLETICS

### IA-101. INTERCOLLEGIATE ATHLETICS

**Credits:** no

This course is limited to students participating in intercollegiate athletics during their sport season. This course may be repeated.

## IS. INTERNATIONAL RELATIONS

### IS-380. INTERNATIONAL STUDIES SENIOR PROJECT

**Credits:** 3

This course is the capstone experience for International Studies majors. Students will coordinate the writing of a capstone with a faculty member from an International Studies content area. Throughout the semester, the student will work closely with that faculty member to gather data and write a formal paper. The student will present the findings in a public forum to content-area faculty and students.

#### Pre-Requisites

Senior standing, permission of the instructor.

## LDR. LEADERSHIP

### LDR-201. INTRODUCTION TO LEADERSHIP

**Credits:** 3

The introductory course in the Leadership Studies major provides a general overview of the field of leadership, various definitions, models and theories of leadership, as well as an opportunity for students to understand, reflect, and practice leadership in their environment. In addition, the Introduction to Leadership course will provide students with a basic introduction to leadership skills, provide opportunities to apply the leadership learning, and encourage students to learn more about the field by taking upper level courses.

### LDR-202. ADVANCED LEADERSHIP THEORY AND PRACTICE

**Credits:** 3

This course is designed to build upon fundamental leadership theory and further explore historical, classic, and contemporary leadership theories, models and perspectives within a variety of contexts. The course addresses the use and usefulness of various leadership styles and models in the decision-making process. Emphasis is placed on the student's personal growth and development. Through a series of self-assessments, students explore their personal leadership style. The class includes presentations and projects focused on increasing leadership skills.

### LDR-461. CAPSTONE IN LEADERSHIP

**Credits:** 3

This course is designed to provide a capstone experience in which students apply their accumulated knowledge, skills and abilities in leadership. The course will include both an in-class component and a cooperative education (see Cooperative Education section of this Bulletin for placement procedures), independent study, and/or an experiential component.

## MGT. MANAGEMENT

### MGT-209. BUSINESS CORRESPONDENCE AND REPORTS

**Credits:** 3

An emphasis on written communications: practice in writing major classification of business letters; persuasive requests and refusals; and inquiry, order, sales, application, credit, collection, and goodwill letters. Investigative techniques of research and analytical report writing.

### MGT-251. MANAGEMENT OF ORGANIZATIONS AND PEOPLE

**Credits:** 3

Introduction to the theory and practice of managing organizations, including planning, organizing, and controlling. Interdisciplinary in nature, social and ethical dimensions of managing are examined.

#### Pre-Requisites

Either ACC, BA, ENT 151 or BA 153

### MGT-257. MANAGEMENT INFORMATION SYSTEMS

**Credits:** 3

This course introduces the fundamental concepts underlying the design, implementation, control, and evaluation of business-oriented computer based information systems, office automation, information reporting, and decision making.

#### Pre-Requisites

[[ACC-162]], [[BA-119]], [[FIN-240]]

### MGT-352. PRODUCTION AND OPERATIONS MANAGEMENT

**Credits:** 3

**Terms Offered:** Spring

Principles of decision-making, systems design, introduction to quantitative tools of analysis, and fundamentals of production, inventory, financial, and distribution management.

#### Pre-Requisites

[[BA-319]] and [[MGT-251]].

### MGT-353. HUMAN RESOURCE MANAGEMENT

**Credits:** 3

**Terms Offered:** Fall

This course focuses on introducing the student to the theories, practices, problems, and legislation relevant to attracting, selecting, developing, compensating, and effectively using human resources in organizations.

#### Pre-Requisites

[[MGT-251]].

### MGT-354. ORGANIZATIONAL BEHAVIOR

**Credits:** 3

A behavioral science approach to understanding individual, formal, and informal group behavior, macro- and micro-organizational structures, motivation and leadership theories, group influences, conflicts, decision-making, and communication, with emphasis on behavioral science applications in developing organizational effectiveness.

#### Pre-Requisites

[[MGT-251]].

### MGT-356. THE SOCIAL RESPONSIBILITY OF BUSINESS

**Credits:** 3

A course dealing with the problems faced by managers in responding to issues such as the kinds and extent of social responsibility to be assumed by businesses, employee rights, consumerism, and the balance of public and private interests.

#### Pre-Requisites

[[MGT-251]] and junior standing.

### MGT-357. BUSINESS TRANSFORMATIONS IN THE DIGITAL ECONOMY

**Credits:** 3

This course is designed to help students understand how the digital economy forces companies to rethink their business strategies--and architect processes, products, and information differently. Topics will allow for the development of problem solving abilities using business analytics and intellectual curiosity using radical openness in the workplace. The course content will incorporate cases in business, and it will seek to create an understanding of big data, culture and ubiquitous technologies. Students will also understand how to thinking critically and to make decisions using internal and external sources of data.

#### Pre-Requisites

[[ACC-162]], [[BA-119]], [[FIN-240]]

### MGT-358. INTERNATIONAL BUSINESS

**Credits:** 3

An introduction to the field of international business. Topics include the empirical dimensions of the world economy, business enterprise in international trade, trade channels, effects of economic, political, and social environment on international management problems of international operations, and the role of government in fostering international business. A substantial amount of writing is required.

#### Pre-Requisites

[[MGT-251]] and senior standing.

### MGT-397. SEMINAR

**Credits:** 1-3

# MKT. MARKETING

## MKT-221. MARKETING

**Credits:** 3

**Terms Offered:** Fall, Spring, Summer

An introduction to the planning and activities of marketing. Emphasis on budgeting, product conception and development, pricing, distribution channels, and promotion.

### Pre-Requisites

[[BA-152]] or [[BA-153]] with a minimum grade of 2.0

## MKT-322. ADVERTISING

**Credits:** 3

**Terms Offered:** Fall, Spring

A managerial analysis of the decisions involved in advertising. Topics include research, ethics, campaign design, copy, art, media, budgeting, and effectiveness.

### Pre-Requisites

[[MKT-221]] with a minimum grade of 2.0

## MKT-324. RETAILING

**Credits:** 3

**Terms Offered:** Fall

A basic course that discusses opportunities in retailing, types of retail institutions, problems of store policy and store location, study of organizational structure of department stores, and organization and functions of all store divisions.

### Pre-Requisites

[[MKT-221]] with a minimum grade of 2.0

## MKT-326. THE SELLING PROCESS

**Credits:** 3

**Terms Offered:** Fall

Examines the buyer-seller relationship process of marketing products and services to consumers and organizations. Emphasis is placed on sales techniques, presentation styles, and sales management skills appropriate to the business interaction.

### Pre-Requisites

[[MKT-221]] with a minimum grade of 2.0

## MKT-327. SEMINAR IN SOCIAL MEDIA MARKETING

**Credits:** 3

**Terms Offered:** Fall

This course provides an in-depth examination of social media marketing, which is the use of social media by marketers to increase brand awareness, identify key audiences, generate leads and build meaningful relationships with customers. Students will learn how to utilize new and constantly updated social media marketing strategies for businesses, and lead discussion of implementing a successful business strategy for Facebook, Instagram, Twitter, Snapchat, Pinterest, LinkedIn and etc.

## MKT-328. CONSUMER BEHAVIOR

**Credits:** 3

**Terms Offered:** Spring

This course presents a survey and integration of concepts and theories that help explain or predict consumer behavior. Emphasis is on the implications of this information for marketing planning.

### Pre-Requisites

[[MKT-221]] with a minimum grade of 2.0

## MKT-357. DIGITAL MARKETING

**Credits:** 3

**Terms Offered:** Fall

This course focuses on principles of digital marketing from both business and consumer perspectives. More than ever before, marketers are responsible for getting results and for generating the appropriate metrics to determine whether their objectives were achieved. This course teaches students critical skills such as search engine optimization, website analytics, pay-per-click advertising, and social media marketing. It provides students with solid experience in creating market data-driven strategies for the future success of a digital business.

### Pre-Requisites

[[MKT-221]] with a minimum grade of 2.0

## MKT-419. MARKETING RESEARCH ANALYTICS

**Credits:** 3

This course provides an introduction to marketing research and data analytics. This course examines the role of marketing research in the firm, global and ethical dimensions of research, different research designs, data collection procedures, sampling issues, fundamental (and some more advanced) data analysis techniques, and so on. A practical approach is adopted in this course. In addition to learning fundamental constructs and principles of marketing research, students will focus on learning tools and skills necessary for solving business problems and exploiting business opportunities.

### Pre-Requisites

## MKT-462. MARKETING INTERNSHIP

**Credits:** 3

**Terms Offered:** Fall, Spring, Summer

The marketing internship is designed to provide students with advanced instruction and professional experience. Through a work-based learning experience, students gain an understanding of the internship site's work, as well how it potentially relates to their academic study in a real business setting.

### Pre-Requisites

[[MKT-221]] and [[MGT-251]] with a minimum grade of 2.0

## MTH. MATHEMATICS

### MTH-198, MTH-289, MTH-398, MTH-498. TOPICS IN MATHEMATICS

**Credits:** Variable

A study of topics of special interest. It may be a continuation of intensive study of topics begun in the upper-level courses in analysis, topology, algebra, and probability. May be repeated for credit for a different topic.

#### Pre-Requisites

Varies with topic

### MTH-94. COLLEGE ALGEBRA

**Credits:** 3

Designed for students who need to review basic algebra before taking [[MTH-100]] or [[MTH-150]]. Topics include polynomials, solution of equations and inequalities, exponents and radicals, graphing, and solution of systems of equations. Offered every fall.

### MTH-100. PRECALCULUS

**Credits:** 3

A course in advanced algebra and trigonometry designed to prepare students for calculus. Topics include functions, inverse functions, logarithms, exponentials, and trigonometry.

#### Pre-Requisites

MTH 94 with grade of 2.0 or better or meet Department of Mathematics, Physics and Computer Science placement criteria.

### MTH-101. SOLVING PROBLEMS USING MATHEMATICS

**Credits:** 3

An introduction to the methodology of mathematical modeling as a technique in working towards the solution to real world problems. In an effort for the non-specialist to gain an appreciation of the use of mathematics in our society, topics are selected from among the following: basic voting theory, fair division schemes, routing problems, population growth, and descriptive statistics and probability.

### MTH-103. MATHEMATICS FOR ELEMENTARY SCHOOL TEACHERS

**Credits:** 3

A study of the theory of arithmetic, structure of the number systems, and other topics relevant to the teaching of mathematics in elementary schools. Offered every fall.

#### Pre-Requisites

Admission to the Teacher Education Program or consent of the instructor.

### MTH-104. MATHEMATICS FOR ELEMENTARY SCHOOL TEACHERS II

**Credits:** 3

A continuation of [[MTH-103]]. Topics include elementary probability, statistics, and geometry. Offered every spring.

#### Pre-Requisites

Admission to the Teacher Education Program or consent of the instructor.

### MTH-111. CALCULUS I

**Credits:** 4

Calculus of functions of one variable. Topics include functions, limits and continuity, derivatives and integrals. Course will focus on applying conceptual aspects of calculus to modeling and solving problems from across the sciences and engineering.

#### Pre-Requisites

[[MTH-100]] with a grade of 2.0 or better OR meet Department of Mathematics, Physics and Computer Science placement criteria.

### MTH-112. CALCULUS II

**Credits:** 4

A continuation of [[MTH-111]]. Topics include inverse functions, techniques of integration, applications of the integral, and infinite sequences and series.

#### Pre-Requisites

[[MTH-111]] with grade of 2.0 or better

### MTH-114. CALCULUS AND MODELING FOR THE BIOLOGICAL AND HEALTH SCIENCES

**Credits:** 4

A continuation of MTH 111 for students in the biological and environmental sciences. Topics include integrals, differential equations and continuous dynamical systems, stochastic models and Markov chains, and discrete and continuous probability models. Course will focus on applying ideas from calculus to modeling and solving problems drawn from the biological and environmental sciences. Major credits cannot be granted for both MTH 112 and MTH 114.

#### Pre-Requisites

[[MTH-111]] with grade of 2.0 or better

### MTH-150. ELEMENTARY STATISTICS

**Credits:** 3

Elementary statistical inference, with an emphasis on ideas, techniques, and applications in the life, physical, and social sciences. Topics include descriptive statistics, confidence intervals, hypothesis testing, contingency tables, multiple regression, and analysis of variance. Not open to mathematics majors or students with credit in MTH 351.

#### Pre-Requisites

[[MTH-94]] with grade of 2.0 or better OR meet Department of Mathematics, Physics and Computer Science placement criteria.

### MTH-211. INTRODUCTION TO ORDINARY DIFFERENTIAL EQUATIONS

**Credits:** 4

First-order and linear higher order differential equations; matrices, determinants, and systems of differential equations; numerical and power series methods of solution; the Laplace transform. Offered every fall.

#### Pre-Requisites

[[MTH-112]] with grade of 2.0 or better

## Course Descriptions

### **MTH-212. MULTIVARIABLE CALCULUS**

**Credits:** 4

Differential and integral calculus of real and vector valued functions. Topics include continuity, partial differentiation, implicit functions, Taylor's Theorem, gradient, curl, line, surface, and multiple integrals, inverse functions, theorems of Green and Stokes.

**Pre-Requisites**

[[MTH-112]] with grade of 2.0 or better

### **MTH-214. LINEAR ALGEBRA**

**Credits:** 3

An axiomatic approach to vector spaces, linear transformations, systems of linear equations, Eigen values, and Eigen vectors. Offered every spring.

**Pre-Requisites**

[[MTH-112]] with grade of 2.0 or better OR consent of the instructor.

### **MTH-231. DISCRETE MATHEMATICS I**

**Credits:** 3

An introduction to logic, sets, relations, and counting for students in the mathematical and computing sciences. Topics include: Introduction to symbolic logic; types of proof including direct proof and proof by contradiction; introduction to mathematical induction; elementary set theory including sets, equivalence and partial order relations and functions; basic counting principles including permutations and combinations with and without multiplicity, the Binomial Theorem, an introduction to combinatorial proof and the Pigeonhole Principle; Introduction to recursive definition, solving first-order recurrences using iteration; solving linear homogeneous and non-homogeneous recurrences with constant coefficients.

**Pre-Requisites**

[[MTH-111]] with grade of 2.0 or better

### **MTH-232. DISCRETE MATHEMATICS II**

**Credits:** 3

A continuation of [[MTH-231]] providing background in discrete mathematics. Emphasis will be placed on the development of mathematical algorithms and their usage in computer science. Topics include: Introduction to divisibility, the integers, and the Euclidean Algorithm; growth rates of functions, big OH notation and an introduction to algorithm analysis including analyzing iterative and recursive algorithms; basics of graph theory including paths, cycles, graph isomorphism, and graph colorings; introduction to greedy algorithms and their use; trees, spanning trees, binary trees and related algorithms; introduction to combinatorial circuits and Boolean algebra, introduction to finite state machines.

**Pre-Requisites**

[[MTH-231]] with grade of 2.0 or better

### **MTH-234. FINANCIAL MATHEMATICS**

**Credits:** 3

This is an introductory course in Financial Mathematics. students will learn about the different types of interest (simple interest, discount interest, compound interest), annuities, debt retirement methods, investing in stocks and bonds. If time is permissible, more advanced topics will also be covered.

**Pre-Requisites**

[[MTH-100]] with grade of 2.0 or better or consent of the instructor.

### **MTH-302. INTRODUCTION TO HIGHER MATHEMATICS**

**Credits:** 3

A continuation of [[MTH-231]] which provides foundational background for upper-level courses in pure mathematics. Topics include advanced studies of relations including a review of equivalence relations, an introduction to partial order and total order relations; properties of the integers including divisibility, the notion of congruence, the Euclidean Algorithm, and the Fundamental Theorem of Arithmetic; properties of the real number system including axioms for the real numbers, subsets of the real number system (including the integers, rational numbers, and irrational numbers), the completeness of the real number system; properties of sets and functions including cardinality, countable vs uncountable sets, the cardinal hierarchy of infinite sets and the Continuum Hypothesis.

**Pre-Requisites**

[[MTH-231]] with a grade of 2.0 or higher

### **MTH-303. THE TEACHING OF MATHEMATICS IN MIDDLE LEVEL AND SECONDARY SCHOOLS**

**Credits:** 4

This course deals with educational perspectives that pertain to the teaching of mathematics at the middle and secondary levels (grades 4 through 12). Topics of discussion include recommendations by the National Council for Teachers of Mathematics (NCTM) regarding instructional methods, assessment, techniques, and curricular issues. The course includes a 40-hour practicum. Offered in the fall semester of odd-numbered years.

**Pre-Requisites**

MTH 111, Junior or Senior in Mathematics or Middle-Level Education, and admission to the Teacher Education Program.

### **MTH-311. REAL ANALYSIS**

**Credits:** 4

A rigorous study of the topology of the real line, limits, continuity, differentiation, integration, and series of functions. Offered in the fall semester of even-numbered years.

**Pre-Requisites**

[[MTH-302]] or consent of the instructor.

**MTH-314. COMPLEX ANALYSIS****Credits:** 3

Complex functions, limit, continuity, analytic functions, power series, contour integration, Laurent expansion, singularities, and residues. Offered when demands warrants.

**Pre-Requisites**

[[MTH-212]] or consent of the instructor.

**MTH-331. ABSTRACT ALGEBRA I****Credits:** 4

A rigorous study of elementary number theory, groups, rings, and fields. Offered in the fall semester of odd-numbered years.

**Pre-Requisites**

[[MTH-302]] or consent of the instructor.

**MTH-343. GEOMETRY****Credits:** 3

A study of selected topics from Euclidean and non-Euclidean geometry. Offered in the fall semester of even-number years.

**Pre-Requisites**

[[MTH-302]] or consent of the instructor.

**MTH-351. PROBABILITY AND MATHEMATICAL STATISTICS I****Credits:** 3

Random variables, probability distributions, expectation and limit theorems, introduction to confidence intervals and hypotheses testing. Offered every fall.

**Pre-Requisites**

[[MTH-112]] or consent of the instructor.

**MTH-352. PROBABILITY AND MATHEMATICAL STATISTICS II****Credits:** 3

Hypothesis testing, non-parametric methods, multivariate distributions, introduction to linear models. Offered in the spring semester of odd-numbered years when demand warrants.

**Pre-Requisites**

[[MTH-351]] or consent of the instructor.

**MTH-353. ACTUARIAL MATHEMATICS****Credits:** 3**Terms Offered:** On Demand

Actuarial science is the discipline that applies [mathematical](#) and [statistical](#) methods to assess risk in the [insurance](#) and [finance](#) industries. Actuarial science includes a number of interrelating subjects, including [probability](#) and [statistics](#), [finance](#), and [economics](#). This course will provide basic aspects of the theory of insurance, concentrating on the part of this theory related to life insurance.

**Pre-Requisites**

[[MTH-351]] or consent of the instructor.

**MTH-354. STATISTICAL METHODOLOGY****Credits:** 3

This course emphasizes applications, using statistical computer packages, such as BMDP, SPSS, and JMP, and real data sets from a variety of fields. Topics include estimation and testing, stepwise regression, analysis of variance and covariance, design of experiments, contingency tables, and multivariate techniques, include logistic regression. Offered in the spring semester of even-numbered years when demand warrants.

**Pre-Requisites**

[[MTH-150]] or [[MTH-351]] or consent of the instructor.

**MTH-356. ACTUARIAL P EXAM PREPARATION****Credits:** 1**Terms Offered:** On Demand

This is a seminar course with the aim of helping students prepare for the actuarial exams as needed.

**Pre-Requisites**

[[MTH-351]]

**MTH-361. PARTIAL DIFFERENTIAL EQUATIONS****Credits:** 3

Partial differential equations and boundary value problems, inner product spaces, orthogonal functions, eigenvalue problems, Sturm-Liouville equations, Fourier series, Fourier transforms, Green's functions, and classical equations of engineering and physics. Offered fall of even years.

[Click here for course fee.](#)

**Pre-Requisites**

[[MTH-211]] & [[MTH-212]] or consent of the instructor

**MTH-362. ADVANCED CALCULUS****Credits:** 3

Topics from advanced calculus including matrix representation of differentials and the multivariable chain rule, vector calculus, curvilinear coordinates, tensors, change of variables in higher dimensions, improper multiple integrals, applications of line and surface integrals, differential forms and the general Stokes theorem, potential theory, and Taylor's formula for functions of several variables. Offered Fall of odd years.

[Click here for course fee.](#)

**Pre-Requisites**

[[MTH-212]]

**MTH-363. OPERATIONS RESEARCH****Credits:** 3

A survey of operations research topics such as decision analysis, inventory models, queuing models, dynamic programming, network models and linear programming. Cross-listed with [[CS-363]]. Offered in the spring semester of odd-numbered years when demand warrants.

[Click here for course fee.](#)

**Pre-Requisites**

[[MTH-112]] and [[CS-125]].

## Course Descriptions

### MTH-364. NUMERICAL ANALYSIS

**Credits:** 3

Numerical techniques for solving equations, interpolation and function approximation, numerical integration, and differentiation, and solution of differential equations. Error analysis and applications. Cross-listed with [[CS-364]]. Offered spring of odd-numbered years.

#### Pre-Requisites

[[MTH-211]] and [[CS-125]] (or equivalent programming experience).

### MTH-365. NUMERICAL LINEAR ALGEBRA

**Credits:** 3

Direct and iterative methods for the solution of systems of linear equations, matrix decompositions, computation of eigenvalues and eigenvectors, and relaxation techniques. The theoretical basis for error analysis, including vector and matrix norms. Applications such as least squares and finite difference methods. Offered spring semester of even-numbered years.

[Click here for course fee.](#)

#### Pre-Requisites

[[MTH-214]] and [[CS-125]] (or equivalent programming experience)

### MTH-391. SENIOR SEMINAR

**Credits:** 1

Presentations and discussions of selected topics in mathematics, conducted by students and faculty.

#### Pre-Requisites

[[MTH-311]] or [[MTH-331]] and senior standing in mathematics.

### MTH-392. SENIOR SEMINAR

**Credits:** 2

Presentations and discussions of selected topics in mathematics, conducted by students and faculty.

#### Pre-Requisites

[[MTH-311]] or [[MTH-331]] and senior standing in mathematics.

### MTH-397. SEMINAR

**Credits:** 1-3

Presentations and discussions of selected topics.

#### Pre-Requisites

Approval of the department chairperson.

### MTH-399. COOPERATIVE EDUCATION

**Credits:** 1-6

Professional cooperative education placement in a private or public organization related to the student's academic objectives and career goals. In addition to their work experiences, students are required to submit weekly reaction papers and an academic project to a Faculty Coordinator in the student's discipline. See the Cooperative Education section of this bulletin for placement procedures. Requirements: Sophomore standing; minimum 2.0 cumulative GPA; consent of the academic advisor; and approval of placement by the department chairperson.

### MTH-413. FUNCTIONS OF SEVERAL VARIABLES

**Credits:** 3

A modern treatment of the calculus of functions of several real variables. Topics include Euclidean spaces, differentiation, integration of manifolds leading to the classical theorems of Green and Stokes. Offered when demand warrants.

#### Pre-Requisites

[[MTH-214]] and [[MTH-311]].

### MTH-432. ABSTRACT ALGEBRA II

**Credits:** 3

A continuation of [[MTH-331]]. Polynomial rings, ideals, field extensions, and Galois Theory. Offered when demand warrants.

#### Pre-Requisites

[[MTH-331]].

### MTH-442. TOPOLOGY

**Credits:** 3

Metric spaces, topological spaces, countability and separation axioms, compactness, connectedness, product spaces. Offered when demand warrants.

#### Pre-Requisites

[[MTH-311]] or consent of the instructor.

### MTH-470. READING COURSE

**Credits:** 1-3

Requirements: Senior standing in mathematics and approval of the department chairperson.

## ME. MECHANICAL ENGINEERING

### ME-140. SCIENTIFIC PROGRAMMING

**Credits:** 3

This course presents an introduction to computer programming with an emphasis on the techniques needed for data analysis and numerical problem solving for scientific and engineering applications. Basic programming idioms are presented including control structures, data types, methods for handling input and output as well as numerical methods such as array computing and vectorization. Emphasis is placed on proper software engineering practice as well as data analysis and presentation.

[Click here for course fees.](#)

#### Co-Requisites

[[MTH-111]] concurrent or before

### ME-175. MACHINING

**Credits:** 1

Familiarizing with traditional machining processes and measuring equipment used in manufacturing. Hands-on experience with traditional and numerical control (NC) machines; various manufacturing processes and fundamentals of metrology.

[Click here for course fees.](#)

**ME-180. CADD LAB****Credits:** 1

An introduction to the symbolic and visual languages used in the various engineering fields. The use of the computer in design and drafting and familiarization with various software packages in the CADD (Computer Aided Design and Drafting) laboratory. Blueprint reading and printed circuit layouts. Emphasis will also be placed on the representation and interpretation of data in graphical form as well as the fundamentals of 2-dimensional and 3-dimensional graphic formats.

[Click here for course fees.](#)

**ME-215. MANUFACTURING PROCESSES****Credits:** 3

An introduction to manufacturing which examines traditional processes such as metal forming and casting and advanced manufacturing processes associated with thin film deposition, microfabrication and piezoelectric devices. Quality assurance and quality control issues in manufacturing.

**Pre-Requisites**

[[ME-232]]

**ME-231. STATICS****Credits:** 3

Statics of particles, including resolution of forces into components, vector sums, and concurrent force systems. Statics of rigid bodies and the study of moments. Equilibrium of bodies in two- and three-dimensions and determination of reactions. Analysis of trusses and frames. Determination of centroids and moments of inertia.

**Pre-Requisites**

[[PHY-201]]

**Co-Requisites**

[[MTH-112]] concurrent or before  
[[ME-180]] concurrent or before

**ME-232. STRENGTH OF MATERIALS****Credits:** 3

Analysis of statically determinate and indeterminate structural systems; computation of reactions, shears, moments, and deflections of beams, trusses, and frames. Bending and torsion of slender bars; buckling and plastic behavior.

**Pre-Requisites**

[[ME-231]], [[ME-180]], [[MTH-112]], and [[EGR-200]] or [[CHM-115]].

**ME-234. DYNAMICS****Credits:** 3

This course continues the development of Newtonian mechanics with application to the motion of free bodies and mechanisms. Topics include rectilinear motion, vector calculus, particle motion, inertial and rotating reference frames, rigid body motion, rotational dynamics, linear and rotational momentum, work and kinetic energy, virtual work and collision.

**Pre-Requisites**

[[ME-231]], [[ME-180]], [[MTH-112]]

**ME-312. MANUFACTURING SYSTEM ENGINEERING****Credits:** 3

Fundamentals of manufacturing processes and systems. Analytical models of manufacturing processes including metal removal rate, tool wear, setup and tool change times. Analysis and optimization of manufacturing productivity and throughput. Automation and computer control of manufacturing processes.

**Pre-Requisites**

Instructor permission.

**ME-314. INVERSE PROBLEMS****Credits:** 3

Inverse problems are very common in engineering where the outputs are known but the inputs are unknown. This course will show how to properly setup a well-posed inverse problem, how to solve matrix inverses, and conduct hands on experiments by creating strain gage based force transducers.

[Click here for course fee.](#)

**Pre-Requisites**

[[ME-333]] or instructor permission.

**ME-315. PROGRAMMABLE LOGIC CONTROLLERS****Credits:** 3

Introduction to the fundamental concepts and design of programmable logic controllers and systems with emphasis on programmable logic controllers, ladder logic programming, and advanced PLC applications.

[Click here for course fee.](#)

**Pre-Requisites**

Instructor permission.

**ME-317. ROBOTICS****Credits:** 3

The analysis and design of robots. Class covers the mechanical principles governing the kinematics of robotics. Course topics include forward kinematics and the determination of the closed form kinematic inversion, as well as workspace and trajectory generation. Class also covers the formation and computation of the manipulator Jacobian matrix.

[Click here for course fee.](#)

**Pre-Requisites**

[[EGR-222]] and [[ME-234]]

**Co-Requisites**

[[MTH-212]] concurrent or before

**ME-321. FLUID MECHANICS****Credits:** 3

Thermodynamics and dynamic principles applied to fluid behavior and to ideal, viscous and compressible fluids under internal and external flow conditions.

**Pre-Requisites**

[[ME-231]]

**Co-Requisites**

[[ME-322]] concurrent or before

## Course Descriptions

### ME-322. THERMODYNAMICS

**Credits:** 3

The fundamental concepts and laws of thermodynamics, thermodynamic properties of perfect and real gases, vapors, solids, and liquids. Applications of thermodynamics to power and refrigeration cycles and flow processes. Development of thermodynamic relationships and equations of state. Review of the first and second laws of physics. Reversibility and irreversibility.

**Pre-Requisites**

[[MTH-112]]

### ME-323. FLUID MECHANICS LABORATORY

**Credits:** 1

Experiments with and analysis of basic fluid phenomena, hydrostatic pressure, Bernoulli theorem, laminar and turbulent flow, pipe friction, and drag coefficient.

[Click here for course fees.](#)

**Co-Requisites**

[[ME-321]] concurrent or before  
[[ME-322]] concurrent or before

### ME-324. HEAT TRANSFER

**Credits:** 3

Fundamental principles of heat transmission by conduction, convection, and radiation; application of the laws of thermodynamics; application of these principles to the solution of engineering problems.

**Pre-Requisites**

[[ME-321]] and [[MTH-211]]

### ME-325. ENERGY SYSTEMS

**Credits:** 3

Fundamental principles of energy transmission and energy conversion. Comprehension of the physical systems in which the conversion of energy is accomplished. Primary factors necessary in the design and performance analysis of energy systems.

**Pre-Requisites**

[[ME-322]] or instructor permission.

### ME-326. HEAT TRANSFER LABORATORY

**Credits:** 1

Basic heat transfer modes are demonstrated experimentally. This includes conduction, convection, and radiation of heat as well as fin and heat exchanger.

[Click here for course fees.](#)

**Pre-Requisites**

[[ME-321]]

**Co-Requisites**

[[ME-324]] concurrent or before

### ME-328. COMBUSTION ENGINES

**Credits:** 3

Investigation and analysis of internal and external combustion engines with respect to automotive applications. Consideration of fuels, carburetion, combustion, detonation, design factors, exhaust emissions and alternative power plants.

**Pre-Requisites**

[[ME-322]] or instructor permission.

### ME-330. VIBRATIONS LABORATORY

**Credits:** 1

**Fees:** 115

Experiments that complement vibration theories in ME 332, including spring and damper elements, underdamped vibration, torsional pendulum, resonance, transient and steady-state behaviors, base excitation, rotating unbalance, impulse response, and modal testing.

[Click here for course fee.](#)

**Pre-Requisites**

[[ME-234]], [[MTH-211]]

**Co-Requisites**

[[ME-332]] concurrent or before

### ME-332. VIBRATIONS

**Credits:** 3

An introductory course in mechanical vibration dealing with free and forced vibration of single and multi-degrees of freedom for linear and nonlinear systems.

**Pre-Requisites**

[[ME-234]], [[MTH-211]]

### ME-333. MACHINE DESIGN

**Credits:** 3

The first course of a two-course sequence in design of machine elements dealing with theories of deformation and failure, strength and endurance limit, fluctuating stresses, and design under axial, bending, torsional, and combined stresses. A study of column buckling, fasteners, and gears.

**Pre-Requisites**

[[ME-232]]

### ME-335. FINITE ELEMENT METHODS

**Credits:** 4

Introduction to finite element method for static and dynamic modeling and analysis of engineering systems. Finite element formulation and computer modeling techniques for stress, plane strain, beams, axisymmetric solids, heat conduction, and fluid flow problems. Solution of finite element equation and post processing of results for further use in the design problem.

[Click here for course fee.](#)

**Pre-Requisites**

[[ME-232]]

**Co-Requisites**

[[MTH-211]] concurrent or before

**ME-336. SOLID MECHANICS****Credits:** 3

This course is an introduction to continuum mechanics, variational methods, including vectors and tensors, state of stress and compatibility equation, plain stress and strain. Energy Principles and virtual work will be discussed.

**Pre-Requisites**

[[ME-232]] or instructor permission.

**ME-337. MICRO-ELECTRO-MECHANICAL SYSTEMS****Credits:** 3

This course explores the principles of MEMS by understanding materials properties, micro-machining, sensor and actuator principles. The student will learn that MEMS are integrated micro-devices combining mechanical and electrical systems, which convert physical properties to electrical signals and, consequently, detection. This course provides the theoretical and exercises the hands-on experience by fabricating a micro-pressure sensor.

[Click here for course fees.](#)

**Pre-Requisites**

Instructor permission.

**ME-338. ADVANCED MACHINE DESIGN****Credits:** 3

An advanced course in machine design topics that expands upon the concepts of Machine Design ([[ME-333]]). This course goes into more detail of the basic machine fundamentals introduced previously such as levers, belts, pulleys, gears, cams and power screws. Emphasis is also placed on 3D printing and the future of additive manufacturing.

**Pre-Requisites**

[[ME-333]] or instructor permission.

**ME-340. HEATING, VENTILATION AND AIR CONDITIONING****Credits:** 3

Introduction of fundamentals of HVAC design and construction. Study of the psychometric process and fundamental calculations and layout of HVAC systems. Calculations of heat loss and heat gain in commercial and residential structures.

**Pre-Requisites**

[[ME-322]] or instructor permission.

**ME-342. ADVANCED MATERIALS SCIENCE****Credits:** 3

This course introduces advanced materials for engineers, emphasizing the fundamentals of manufacturing/structure/property/function relationships and applications. Topics include materials selection for machine design components in micro- and nano-scales, biomaterials, nano-composites, and optimized materials for nano-sensors and actuator systems.

**Pre-Requisites**

[[EGR-200]] or instructor permission.

**ME-343. ADDITIVE MANUFACTURING****Credits:** 3

An introduction to additive manufacturing, also known as 3-D printing, which is a process of building 3-D objects from a digital file. Emphasis will be placed on both existing and emerging additive manufacturing processes in the context of design, modeling, materials, processing, and applications. This course provides hands-on experience and implements active learning strategies.

[Click here for course fees.](#)

**Pre-Requisites**

[[ME-333]] or instructor permission.

**ME-347. THIN FILM MANUFACTURING****Credits:** 3

This course explores the principles of micro-devices manufacturing by thin film deposition processing methods. Vacuum deposition technologies such as physical vapor deposition and the electron beam evaporation process will be covered for conductors, resistors, and dielectric thin film depositions. Sol-Gel chemical thin film processing of oxides and piezoelectric materials along with direct circuit manufacturing by photo seeding and electro-less copper deposition will be covered.

[Click here for course fees.](#)

**Pre-Requisites**

Instructor permission.

**ME-380. ADVANCED CADD****Credits:** 3

An advanced course in Computer-Aided Drafting and Design (CADD) using SolidWorks. This course will introduce topics such as advanced modeling, advanced assemblies, Finite Element Analysis (FEA), sheet metal, and modal analysis.

[Click here for course fee.](#)

**Pre-Requisites**

[[ME-180]] or instructor permission.

**ME-384. MECHANICAL DESIGN LABORATORY****Credits:** 3

A laboratory for the development of open-ended problems in mechanical systems. Emphasis on experimental performance, data collection, evaluations, analysis, and design. This course provides hands-on experience with strain gauge application, measurement techniques, and analysis of topics in mechanical engineering.

[Click here for course fees.](#)

**Pre-Requisites**

[[ME-333]] and [[ME-335]]

**ME-391. SENIOR PROJECTS I****Credits:** 1

Design and development of selected projects in the field of mechanical engineering under the direction of a staff member. Technical as well as economic factors will be considered in the design. A detailed progress report is required.

[Click here for course fees.](#)

**Pre-Requisites**

Senior standing in Mechanical Engineering or departmental permission.

## Course Descriptions

### ME-392. SENIOR PROJECTS II

**Credits:** 2

Design and development of selected projects in the various fields of mechanical engineering under the direction of a staff member. Technical as well as economic factors will be considered in the design. A professional paper and detailed progress reports are required. This is a continuation of [[ME-391]]. An open-forum presentation and discussion of the professional paper are required.

[Click here for course fees.](#)

#### Pre-Requisites

[[ME-391]]

### ME-396. INDEPENDENT RESEARCH

**Credits:** 1-3

Independent study and research for advanced students in the field of mechanical engineering under the direction of a faculty member. A research paper and/or design project and/or conference presentation may be required.

#### Pre-Requisites

Instructor permission.

### ME-397. SEMINAR

**Credits:** 1-3

Presentations and discussions of selected topics.

#### Pre-Requisites

Instructor permission.

### ME-398. TOPICS IN MECHANICAL ENGINEERING

**Credits:** 1-3

Selected topics in the field of mechanical engineering.

[Click here for course fees.](#)

#### Pre-Requisites

Instructor permission.

### ME-399. COOPERATIVE EDUCATION

**Credits:** 0-6

Professional cooperative education placement in a private or public organization related to the student's academic objectives and career goals. In addition to their work experiences, students are required to submit biweekly reports, a final report and present to an audience of peers and faculty. The co-op option for credit can only be taken one time for either 3 or 6 credits.

#### Pre-Requisites

Instructor permission.

## MIL. MILITARY SCIENCE (ARMY ROTC)

### MIL-100. PHYSICAL FITNESS TRAINING

**Credits:** 1

U.S. Army Master Fitness trainers supervise a modern fitness program based on the latest military fitness techniques and principles. The classes are conducted on Monday through Friday at the King's College Scandlon Fitness Center and are one hour each in duration.

## MUS. MUSIC

### MUS-100. - 400. APPLIED PERFORMANCE

**Credits:** 1 or 2

Individual instruction offered in all keyboard, band, and orchestral instruments, guitar, and voice.

MUS 100 - Freshman level

MUS 200 - Sophomore level

MUS 300 - Junior level

MUS 400 - Senior level

[Click here for course fee for 1 credit.](#)

[Click here for course fee for 2 credits.](#)

#### Pre-Requisites

Permission of the instructor.

### MUS-101. INTRODUCTION TO MUSIC I

**Credits:** 3

An introduction to the materials of music and their interrelationships, with an emphasis on developing active listening skills, recognizing and comparing the elements of differing musical styles, and exploring cultural contexts and differing functions of music in diverse groups. Three subtopic areas are offered:

- Western Art Music – An exploration of the traditional Western classical music canon.
- Music in the United States – A broad approach that examines both American vernacular music (blues, jazz, folk, rock, pop, etc.) and the Western classical music canon.
- The History of American Popular Music – An in-depth exploration of American popular music.

### MUS-102. MUSIC FUNDAMENTALS

**Credits:** 3

This course gives students a solid grounding in the fundamentals of reading and performing music. No previous experience with music is required. Offered every fall.

### MUS-103. MUSIC THEORY I

**Credits:** 3

This course presents fundamental materials and structures of music theory. Theoretical, aural, and keyboard skills are developed through practice and study of music examples. Offered every spring.

#### Pre-Requisites

Familiarity with music notation or [[MUS-102]].

### MUS-104. MUSIC THEORY II

**Credits:** 3

A continuation of [[MUS-103]] (Music Theory I). This course presents materials and structures of music theory. Theoretical, aural, and keyboard skills are developed through practice and study of music examples.

#### Pre-Requisites

[[MUS-103]] or placement by a diagnostic exam.

**MUS-119. - 419. VOICE STUDIO CLASS****Credits:** 0

Voice Studio Class provides students a structured environment in which to present live performances of vocal repertoire in collaboration with an accompanist. Students receive feedback on their presentations by the instructor, who delivers coachings in a masterclass format. Required for MUT majors.

MUS 119 - Freshman level  
 MUS 219 - Sophomore level  
 MUS 319 - Junior level  
 MUS 419 - Senior level

**Co-Requisites**

MUS 100/200/300/400

**MUS-121. WILKES CIVIC BAND****Credits:** 0 or 3

The Wilkes University Civic Band provides a large symphonic band experience, and is open to the University student community and qualified local community members, by audition. Literature is chosen from the standard band repertoire, and the ensemble performs a minimum of two formal concerts per year. May be repeated for credit.

**Pre-Requisites**

Permission of the instructor.

**MUS-122. CHAMBER WINDS****Credits:** 1

Students will study, rehearse and perform a variety of large and small ensemble works for chamber wind ensemble. May be repeated for credit.

**Pre-Requisites**

Permission of the instructor.

**MUS-123. MARCHING COLONELS****Credits:** 2

The Wilkes University Marching Colonels Marching Band provides an opportunity for rehearsal, study, and performance of a marching band field show presented at home football games and select on and off-campus performances. Members must commit to a one week band camp before classes commence, perform at all home football games, and attend all rehearsals. May be repeated for credit. Offered every fall.

**MUS-125. UNIVERSITY CHORUS****Credits:** 0-3

The Wilkes University Chorus is a large mixed choral ensemble in which students develop musical skills and artistry through the regular rehearsal, discussion, and performance of a wide variety of choral repertoire. Membership open to all members of the University and surrounding community, by audition. May be repeated for credit.

**Pre-Requisites**

Permission of the instructor.

**MUS-126. CHAMBER SINGERS****Credits:** 0.5

The Wilkes University Chamber Singers provides students an opportunity to practice advanced ensemble skills through the regular rehearsal and performance of a wide variety of primarily a cappella choral repertoire. Membership is open to any student member of the University Chorus. May be repeated for credit.

**Pre-Requisites**

Permission of the instructor.

**MUS-127. JAZZ ENSEMBLE****Credits:** 0 or 3

Open to all members of the University community. The ensemble rehearses and presents performances of literature encompassing a wide range of jazz styles and techniques. May be repeated for credit.

**Pre-Requisites**

Permission of the instructor.

**MUS-128. CHAMBER PERFORMANCE****Credits:** 1

Students will study and publicly perform chamber literature appropriate to their instruments. Coaching and supervision by faculty members, as assigned. May be repeated for credit.

**Pre-Requisites**

Permission of the instructor.

**MUS-132. CHAMBER ORCHESTRA****Credits:** 0 or 3

Students will study, rehearse and perform a variety of large and small ensemble works for chamber orchestra. May be repeated for credit.

**Pre-Requisites**

Permission of the instructor.

**MUS-135. FLUTE ENSEMBLE****Credits:** 1

Students will study, rehearse and perform a variety of large and small ensemble works for flute ensemble. May be repeated for credit.

**Pre-Requisites**

Permission of the instructor.

**MUS-138. PERCUSSION ENSEMBLE****Credits:** 1

Students will study, rehearse and perform a variety of large and small ensemble works for percussion ensemble. May be repeated for credit.

**Pre-Requisites**

Permission of the instructor.

**MUS-198. TOPICS****Credits:** 3

A study in topics of special interest not extensively treated in regularly offered courses.

## Course Descriptions

### **MUS-210. MUSIC HISTORY I: ANCIENT THROUGH BAROQUE**

**Credits:** 3

A study of the history of music and the genres, styles, and forms of the stylistic periods of musical composition, Ancient through Baroque, and the movements, eras, and themes associated with these periods. Offered in alternate years, in the fall.

#### **Pre-Requisites**

[[MUS-103]] or permission of the instructor.

### **MUS-211. MUSIC HISTORY II: CLASSICAL THROUGH TWENTIETH CENTURY**

**Credits:** 3

A study of the history of music and the genres, styles, and forms of the stylistic periods of musical composition, Classical through 21st Century, and the movements, eras, and themes associated with these periods. Offered in alternate years, in the fall.

#### **Pre-Requisites**

[[MUS-103]] or permission of the instructor.

### **MUS-395. - 396 INDEPENDENT RESEARCH**

**Credits:** 1-3

Independent study and research for advanced students in music under the direction of a faculty member. A research paper at a more substantial level beyond a term paper is required.

#### **Pre-Requisites**

Approval of the department chairperson.

## **NSG. NURSING**

### **NSG-117. BASIC LIFE SUPPORT RENEWAL**

**Credits:** 1

This hybrid course combines online learning and cognitive evaluation with hands-on skills practice and psychomotor evaluation in accordance with the standards of the American Heart Association's (AHA) Core Curriculum. Students who successfully complete this course will receive AHA course completion cards for both Basic Cardiac Life Support for the Health Care Provider and Heartsaver First Aid.

[Click here for course fee.](#)

### **NSG-200. PRINCIPLES OF NORMAL NUTRITION**

**Credits:** 3

**Fees:** \$32 for non-nursing majors

An introduction of the basic science of human nutrition: principles of normal nutrition, meal planning, computation of diets, physiological, psychosocial, and social effects of food and its constituents; and some local, national, and international nutrition problems.

#### **Pre-Requisites**

[[BIO-113]], [[BIO-115]], [[BIO-116]], [[CHM-111]], [[ENG-101]] and  
[[PSY-101]]

#### **Co-Requisites**

[[NSG-214]]

### **NSG-210. PRINCIPLES OF NURSING: INDIVIDUAL, FAMILY, AND COMMUNITY**

**Credits:** 6

This course introduces the student to the profession of nursing. Use of the nursing process is emphasized in meeting the basic human needs of clients within families and their communities. Nursing theory is correlated with clinical practice in the Clinical Nursing Simulation Center and selected clinical agencies. Hours weekly: 4 hours of class and 6 hours of clinical practice.

[Click here for course fees.](#)

#### **Pre-Requisites**

[[NSG-200]], [[NSG-214]]

#### **Co-Requisites**

[[NSG-211]], [[NSG-215]]

### **NSG-211. PHYSICAL ASSESSMENT**

**Credits:** 3

This course is designed to facilitate the integration of physical assessment skills as an essential element of the nursing process. The components of physical assessment, including the health history and physical examination, are organized to allow the student to proceed from an assessment of the overall function of a client to the more specific functions of each body system. Requirement: Sophomore standing in the Nursing program and online Accelerated Baccalaureate Program for Second Degree Students.

[Click here for course fees.](#)

#### **Co-Requisites**

[[NSG-210]], [[NSG-215]] or [[NSG-330]]

### **NSG-213. NURSING CARE OF THE PSYCHIATRIC MENTAL HEALTH CLIENT: INDIVIDUAL, FAMILY, AND COMMUNITY**

**Credits:** 4

The nursing process is utilized in assisting adults and their families within their communities to achieve optimum health and to resolve selected problems in mental health and psychiatric nursing. Nursing theory is correlated with clinical practice in a variety of health care settings. Hours weekly: 2 hours of class, 6 hours of clinical practice.

#### **Pre-Requisites**

[[NSG-210]], [[NSG-211]], [[NSG-215]]

#### **Co-Requisites**

[[NSG-235]], [[NSG-236]], [[NSG-342]]

**NSG-214. PATHOPHYSIOLOGY FOR THE PROFESSIONAL NURSE****Credits:** 3

This course focuses on altered cell functioning resulting in deviations from homeostasis. Topics of study include principles of homeostasis and the immune, cardiopulmonary, renal, nervous, gastrointestinal, hematological, musculoskeletal, and endocrine systems. The student's ability to relate this to the individual's need for care is emphasized. Pathological alterations in health at the systems level and implications for nursing care are emphasized. Requirement: Sophomore standing in the Nursing program.

**Pre-Requisites**

[[BIO-113]], [[BIO-116]], [[ENG-101]]  
[[PSY-101]]

**Co-Requisites**

[[NSG-200]]

**NSG-215. PHARMACOTHERAPEUTICS I****Credits:** 1

Principles of pharmacology and specific drug groups are explored. An emphasis is placed on pharmacotherapeutics, pharmacokinetics, and pharmacodynamics.

**Pre-Requisites**

[[NSG-200]], [[NSG-214]]

**Co-Requisites**

[[NSG-210]], [[NSG-211]]

**NSG-217. BASIC LIFE SUPPORT RENEWAL****Credits:** 1

This hybrid course combines online learning and cognitive evaluation with hands-on skills practice and psychomotor evaluation in accordance with the standards of the American Heart Association's (AHA) Core Curriculum for renewal. Students who successfully complete this course will receive a renewal of AHA course completion cards for both Basic Cardiac Life Support for the Health Care Provider and Heartsaver First Aid.

[Click here for course fee.](#)

**Pre-Requisites**

[[NSG-117]]

**NSG-224. PHARMACOTHERAPEUTICS AND CLINICAL DECISION-MAKING IN NURSING****Credits:** 3

(Accelerated Bachelors Program online students only). This course is designed to assist students to understand the multidisciplinary science of pharmacology based on human systems. Content includes drug classifications, indications, adverse effects and contraindications, age-related variables, dosages, and nursing implications. Using critical thinking skills related to drug therapy, clinical decision-making is developed.

**Pre-Requisites**

Acceptance into the Accelerated Bachelors Program.  
[[NSG-211]], [[NSG-330]]

**Co-Requisites**

[[NSG-331]], [[NSG-341]]

**NSG-235. MEDICAL SURGICAL NURSING I****Credits:** 6**Terms Offered:** Fall

The nursing process is utilized in assisting adults and their families within their communities to achieve optimum health and managed selected health problems. Nursing theory is correlated with clinical practice in a variety of health care settings. Hours weekly: 3 hours of class and 9 hours of clinical practice.

**Pre-Requisites**

[[NSG-210]], [[NSG-211]], [[NSG-215]]

**Co-Requisites**

[[NSG-213]], [[NSG-236]], [[NSG-342]]

**NSG-236. PHARMACOTHERAPEUTICS II****Credits:** 1

This course is designed to assist students to understand the multidisciplinary science of pharmacology based on human systems. Content includes drug classification, indications, adverse effects and contraindications, age-related variables, dosages, and nursing implications. Using critical thinking skills related to drug therapy, clinical decision making is developed.

**Pre-Requisites**

[[NSG-210]], [[NSG-211]], [[NSG-215]]

**Co-Requisites**

[[NSG-213]], [[NSG-235]], [[NSG-342]]

**NSG-237. MEDICAL SURGICAL NURSING II****Credits:** 6**Terms Offered:** Spring

The nursing process is utilized in assisting adults and their families within their communities to achieve optimum health and manage selected health problems. Nursing theory is correlated with clinical practice in a variety of health care settings. Hours weekly: 3 hours of class and 9 hours of clinical practice.

**Pre-Requisites**

[[NSG-213]], [[NSG-235]], [[NSG-236]], [[NSG-342]]

**Co-Requisites**

[[NSG-241]], [[NSG-238]], [[EES-242]]

**NSG-238. PHARMACOTHERAPEUTICS III****Credits:** 1

This course is designed to assist students to understand the multidisciplinary science of pharmacology based on human systems. Content includes drug classification, indications, adverse effects and contraindications, age-related variables, dosages, and nursing implications. Using critical thinking skills related to drug therapy, clinical decision making is developed.

**Pre-Requisites**

[[NSG-213]], [[NSG-235]], [[NSG-236]], [[NSG-342]]

**Co-Requisites**

[[NSG-237]], [[NSG-241]], [[EES-242]]

## Course Descriptions

### **NSG-239. GERONTOLOGICAL NURSING**

**Credits:** 2

This course will focus on the nursing management of older adults. Contemporary theories of gerontology, theories of aging, physiological / psychological functioning, impact of developmental changes, illness, and dysfunction will be emphasized. The geriatric patient will be examined at various levels – healthy older adult, older adult at risk, the older adult experiencing acute and chronic illness.

**Pre-Requisites**

[[NSG-242]], [[NSG-340]], [[NSG-321]]

**Co-Requisites**

[[NSG-325]], [[NSG-345]]

### **NSG-241. NURSING CARE OF THE CHILD BEARING FAMILY**

**Credits:** 4

The nursing process is utilized in childbearing families within their communities to meet their human needs. Nursing theory is correlated with clinical practice in a variety of health care settings. This course is designated for Women's and Gender Studies (WGS).

**Pre-Requisites**

[[NSG-213]], [[NSG-235]], [[NSG-236]], [[NSG-342]]

**Co-Requisites**

[[NSG-237]], [[NSG-238]]

### **NSG-242. NURSING CARE OF THE CHILD REARING FAMILY**

**Credits:** 4

The nursing process is utilized in assisting families with children within the communities to meet their human needs. Nursing theory is correlated with clinical practice in a variety of health care settings.

**Pre-Requisites**

[[NSG-237]], [[NSG-238]], [[NSG-241]]

**Co-Requisites**

[[NSG-321]], [[NSG-340]]

### **NSG-317. ADVANCED LIFE SUPPORT**

**Credits:** 3

This course covers the essential material for Advanced Cardiac Life Support and Pediatric Advanced Life Support in accordance with the standards of the American Heart Association. Enrolled students are eligible for American Heart Association ACLS and PALS Course Completion Cards at the end of the course.

[Click here for course fee.](#)

### **NSG-321. POPULATION HEALTH**

**Credits:** 3

This course provides a foundation in population health, including community and population assessment, intervention, and evaluation of culturally diverse and vulnerable populations.

**Pre-Requisites**

[[NSG-237]], [[NSG-238]], [[NSG-241]], [[EES-242]]

**Co-Requisites**

[[NSG-242]], [[NSG-340]]

### **NSG-325. PREPARATION FOR PROFESSIONAL PRACTICE**

**Credits:** 2

This course uses a variety of strategies to prepare final semester pre-licensure baccalaureate nursing students for entry into professional nursing practice. Students are assessed for readiness to sit for the NCLEX-RN licensure examination as well as for entry into professional nursing practice in a general health care setting. This course provides students with quantitative analysis of their readiness to pass the NCLEX-RN exam

**Pre-Requisites**

[[NSG-242]], [[NSG-321]], [[NSG-340]]

**Co-Requisites**

[[NSG-239]], [[NSG-345]]

### **NSG-330. NURSING PRACTICE I**

**Credits:** 12

(Accelerated Baccalaureate Program for Second Degree Students) This online course introduces the student to the profession of nursing. Use of the nursing process is emphasized in meeting the human needs of clients identified as individuals, families, and communities. Nursing theory is correlated with clinical practice during the residency in the Clinical Nursing Simulation Center and selected clinical agencies. 12 hours of clinical practice.

[Click here for course fees.](#)

**Co-Requisites**

[[NSG-211]]

**NSG-331. NURSING PRACTICE II****Credits:** 12

(Accelerated Baccalaureate Program for Second Degree Students, online) Building on the foundation of Nursing, the nursing process is used to assist individuals, families, and communities to achieve optimum health and to resolve selected medical, surgical, and mental health problems. Nursing theory is correlated with clinical practice, and is mastered in a variety of settings. Hours weekly: 7 hours of class; 15 hours of clinical practice.

[Click here for course fees.](#)

**Pre-Requisites**

[[NSG-211]], [[NSG-330]]

**Co-Requisites**

[[NSG-224]], [[NSG-341]]

**NSG-332. NURSING PRACTICE III****Credits:** 12

(Accelerated Baccalaureate Program for Second Degree Students, online) This course prepares the student for professional role development in emerging health care delivery systems. The nursing process is utilized in assisting individuals, families, and communities to meet their health needs. Nursing theory is correlated with clinical practice in a variety of health care settings. Hours weekly: 6 hours of class; 18 hours of clinical practice.

[Click here for course fees.](#)

**Pre-Requisites**

[[NSG-224]], [[NSG-331]], [[NSG-341]]

**Co-Requisites**

[[NSG-342]]

**NSG-340. ADVANCED CARE CONCEPTS****Credits:** 5

The nursing process is used in assisting adults and their families, within their communities, to achieve optimum health and to resolve complex health problems. Hours weekly: 3 hours of class, 6 hours of clinical practice.

[Click here for course fees.](#)

**Pre-Requisites**

[[NSG-237]], [[NSG-238]], [[NSG-241]], [[EES-242]]

**Co-Requisites**

[[NSG-242]], [[NSG-321]]

**NSG-341. NURSING INFORMATICS****Credits:** 3

This course provides information about technology used to communicate, manage information, and support decision making to facilitate the achievement of client healthcare outcomes. The course integrates information related to the areas of nursing science, information management science, and computer science.

**Pre-Requisites**

[[NSG-242]], [[NSG-321]], [[NSG-340]]

ABSN: [[NSG-211]], [[NSG-330]]

**Co-Requisites**

[[NSG-239]], [[NSG-325]], [[NSG-345]]

ABSN: [[NSG-224]], [[NSG-331]]

**NSG-342. INTRODUCTION TO NURSING RESEARCH****Credits:** 3

The research process is examined in this course. Emphasis is placed on studies in nursing that provide a foundation for critical reflection on research reports and application of findings to practice. Designated oral presentation option (OPO). Accelerated students to complete in the third semester.

**Pre-Requisites**

[[NSG-210]], [[NSG-211]], [[NSG-215]], [[MTH-150]]

Accelerated Students [[NSG-224]], [[NSG-331]], [[NSG-341]]

**Co-Requisites**

[[NSG-213]], [[NSG-235]], [[NSG-236]]

Accelerated Students [[NSG-332]], [[NSG-342]]

**NSG-345. SENIOR PRACTICUM****Credits:** 5

This course prepares the student for professional role development in emerging health care delivery systems. The nursing process is utilized in the care of older adult clients and their families within their communities in a variety of settings. Nursing theory is correlated with clinical practice. Hours weekly: 2 hours of class, 9 hours of clinical practice.

[Click here for course fees.](#)

**Pre-Requisites**

[[NSG-242]], [[NSG-321]], [[NSG-340]]

**Co-Requisites**

[[NSG-239]], [[NSG-325]], [[NSG-341]]

**PHA. PHA****PHA-301. & 304. FOUNDATIONS OF PHARMACY PRACTICE I AND II****Credits:** 2**Terms Offered:** Fall, Spring

The purpose of this two-semester course is to provide the student with the foundational knowledge, skills and attitudes needed to practice pharmacy in the 21<sup>st</sup> century. In particular, this course will focus on skills (communication, teamwork), attitudes and other content relevant to the practice of pharmacy. The school's team-focused approach to learning is emphasized throughout. This course fulfills experiential requirements and so students will have the opportunity to interact with pharmacists and patients. Requirement: P-1 standing.

## Course Descriptions

### **PHA-302. , 401, 402, 501, & 502. PHARMACY CARE LAB I - V**

**Credits:** 1 each

This five-semester sequence is designed to develop the student's ability to integrate and apply information as well as practice skills that are taught throughout the curriculum. The use of case studies, role-plays, presentations, and other active-learning strategies engages students in the learning process and requires them to synthesize information at increasing levels of complexity as the student moves through the course sequence. Requirement: P-1, P-2, or P-3 standing, as appropriate for each laboratory.

#### **Pre-Requisites**

Pre-requisites:

For [[PHA-401]], pre-requisite is [[PHA-302]]

For [[PHA-402]], pre-requisite is [[PHA-401]]

For [[PHA-501]], pre-requisite is [[PHA-402]]

For [[PHA-502]], pre-requisite is [[PHA-501]]

#### **Co-Requisites**

For [[PHA-401]], Co-requisites: [[PHA-421]], [[PHA-423]], and [[PHA-425]]

For [[PHA-402]], Co-requisites: [[PHA-426]], [[PHA-428]], and [[PHA-430]]

For [[PHA-501]], Co-requisites: [[PHA-521]], [[PHA-523]], and [[PHA-525]]

For [[PHA-502]], Co-requisites: [[PHA-526]], [[PHA-528]], and [[PHA-530]]

### **PHA-308. PHARMACEUTICAL AND HEALTH CARE DELIVERY**

**Credits:** 3

Examination of health and pharmaceutical delivery in the U.S. conducted from a societal perspective. Emphasis is on public policy, economic behavior, and outcomes. Application will be made to various pharmaceutical sectors (e.g., retail, health, systems, manufacturing). Students should gain an understanding of the factors driving transformation of health care delivery and the implications for future pharmacy practice. Lecture: three hours per week. Requirement: P-1 standing or consent of the instructor. Cross-listed with [[PHS-308]].

#### **Pre-Requisites**

P1 standing or instructor permission.

### **PHA-310. CLINICAL RESEARCH AND DESIGN**

**Credits:** 3

In order to apply current research to patient care activities, one must first develop the skills to interpret studies. The purpose of this course is to learn how research studies are designed to answer specific clinical questions, and how the study design is important in interpreting the results of the studies. Students will apply research design concepts and statistical techniques to design, critically analyze, and interpret preclinical, clinical, and economic studies of pharmaceuticals and treatment plans. Lecture: three hours per week.

#### **Pre-Requisites**

[[MTH-150]] or equivalent and P-1 standing or consent of the instructor.

### **PHA-311. & PHA 312 PHARMACEUTICS I & II**

**Credits:** 4

The study and application of physical-chemical principles that are necessary for the design, development, and preparation of pharmaceutical dosage forms. The study of quantitative skills necessary for an understanding of the basic and clinical pharmaceutical sciences, including skills in pharmaceutical calculations and extemporaneous preparation of dosage forms. Lecture: three hours per week. Laboratory and Recitation: three hours per week. Requirement: P-1 standing or consent of the instructor. NOTE: [[PHA-311]] is a prerequisite for [[PHA-312]].

### **PHA-313. PHARMACY CALCULATIONS**

**Credits:** 1

The common mathematical processes that a pharmacist may encounter in professional practice are covered. Interpretation of the prescription, including Latin abbreviations, will be discussed. Medical terminology and the generic name, trade name, manufacturer, and classification of the top 100 drugs will also be presented. Lecture one hour per week. Requirement: P-1 standing or permission of the instructor.

### **PHA-327. MEDICAL MICROBIOLOGY**

**Credits:** 3

An overview of microbiology with special emphasis on pathogenic microbiology. Lecture: three hours per week. Requirement: P-1 standing or consent of the instructor. Cross listed with [[PHS 327]].

### **PHA-331. & 332. MEDICAL ANATOMY AND PHYSIOLOGY I & II**

**Credits:** 4

**Terms Offered:** Fall, Spring

In-depth principles of human anatomy and physiology as well as an introduction to pathophysiology will be presented. Lecture: Two hours per week. Recitation and Lab: two hours per week. Requirement: P-1 standing or consent of the instructor. This course is restricted to enrolled Pharmacy students. Consideration may be given to non-pharmacy students with overall GPAs of 3.0 or greater, if there is room in the lecture and lab sessions, and with instructor approval. NOTE: PHA 331 is a prerequisite for PHA 332.

### **PHA-335. INTRODUCTORY PHARMACY PRACTICE EXPERIENCE I**

**Credits:** 2

This course will provide introductory practice experience to students in the community setting. The course fosters the development of professionalism in an environment of practical application of knowledge, skills, and attitudes. Students will be faced with a variety of issues practical to community pharmacy. The student will take an independent learning approach under the supervision of a practicing community pharmacist. The course is two full-time weeks (80 hours) of experience.

#### **Pre-Requisites**

Successful completion of all required courses in the P-1 year or permission of instructor.

**PHA-360. SELF-DIRECTED IPPE I****Credits:** 0.5

The Self-Directed (SD)-IPPE program is made up of three courses (SD-IPPE I, II, and III) over the span of the PI through P3 years. Collectively these courses consist of a total of 20 hours of pharmacy-related, service-oriented learning.

The Self-Directed Introductory Pharmacy Practice Experience (SD- IPPE) course is designed to expose students to various service-learning opportunities throughout their P 1 through P3 years. This experience consists of three components: participation in and development of service- learning projects, reflection, and self-directed learning. Students may develop their own experiences or participate in opportunities offered by the School or professional organizations.

Requirements for service learning hours will increase as the student progresses through the curriculum. Each student must complete a minimum of 2, 8, and 10 hours during the PI, P2, and P3 years, respectively (total 20 hours). Additional details are provided in the SDIPPE syllabus conveniently posted in E\*Value.

**Pre-Requisites**

P1 standing for [[PHA-360]]

P2 standing and [[PHA-360]] for [[PHA-460]]

P3 standing and [[PHA-460]] for [[PHA-560]]

**PHA-365. MEDICAL BIOCHEMISTRY****Credits:** 4

Introduction to basic biochemistry concepts, focusing on the structure and function of vitamins, proteins, and lipids as well as bioenergetics and major catabolic pathways.

The catabolism of carbohydrates, fats and amino acids will be discussed including reactions and regulation.

Common metabolic pathways of drugs, enzyme induction and metabolism down regulation will also be presented.

Lecture: Four hours per week. Cross-listed with [[CHM-365]], [[BEGR-465]].

**Pre-Requisites**

CHM-232 or CHM-235 with a grade of 2.0 or better or permission of the instructor

**PHA-405. PHARMACEUTICAL CARE SYSTEMS: DESIGN AND CONTROL****Credits:** 2

Examines delivery of pharmaceutical products and services from a systems perspective in a variety of patient care settings. Focus is upon effectiveness, efficiency, and quality. Covers design of systems, establishment and monitoring of key indicators, total quality management, and quality assurance agencies (e.g., JCAHO, NCQA). Lecture: two hours per week.

**Pre-Requisites**

P2 standing or instructor permission.

**PHA-410. IMMUNOLOGY AND BIOTECHNOLOGY****Credits:** 3

A discussion of nonspecific host defense mechanisms and a detailed description of specific immunity. Products that impart artificial active and passive immunity are presented. The concept of biotechnology is discussed together with the currently available products of genetic engineering that relate to immunology. The various immunological disorders and the immunology of cancer and HIV are discussed. Lecture: three hours per week.

**Pre-Requisites**

[[PHA-331]], [[PHA-332]], [[PHA-365]], or consent of the instructor.

**PHA-411. BIOPHARMACEUTICS AND CLINICAL PHARMACOKINETICS****Credits:** 3**Terms Offered:** Fall

Biopharmaceutics and Clinical Pharmacokinetics is designed to educate pharmacy students in the principles of pharmacokinetics and biopharmaceutics and how they assist in dosage regimen design and therapeutic efficacy evaluations. The impact of the physical and chemical forms nature of the drug and dosage forms will be studied as they relate to the absorption, distribution, metabolism, and elimination. The clinical pharmacokinetics of individual drugs will be examined with emphasis on clinical application based on patient presentations. Case studies, homework, and quizzes will be used to facilitate student learning.

This course is roughly divided into two parts. The first is Biopharmaceutics/ Pharmacokinetics and the second is Clinical Pharmacokinetics. Lecture: three hours per week.

**Pre-Requisites**

P2 standing, or consent of the instructor.

**PHA-412. MANAGEMENT OF PHARMACY OPERATIONS****Credits:** 3

The principles of management, including personnel and financial management, will be covered as they apply to management of pharmacy operations in a variety of settings (e.g., community, health system, managed care). Lecture: three hours per week.

**Pre-Requisites**

[[PHA-308]] or consent of the instructor.

## Course Descriptions

### **PHA-421. PHARMACOTHERAPEUTICS I: PRINCIPLES OF PHARMACOLOGY & MEDICINAL CHEMISTRY**

**Credits:** 2

This course is the 1<sup>st</sup> of a twelve-module sequence that will integrate pharmacology, medicinal chemistry, pathophysiology and therapeutics. This particular course will emphasize the most fundamental concepts central to drug therapy. A major emphasis will be placed on the interactions of drugs with their cellular targets in the human body, and the chemical properties of drugs that dictate their biological activity.

#### **Pre-Requisites**

[[PHA-310]], [[PHA-327]], [[PHA-331]] [[PHA-332]] and [[PHA-365]]

#### **Co-Requisites**

[[PHA-423]], [[PHA-425]], [[PHA-401]]

### **PHA-423. PHARMACOTHERAPEUTICS II: PRINCIPLES OF PHARMACOTHERAPEUTICS**

**Credits:** 2

This course is the 2<sup>nd</sup> of a twelve module sequence that will integrate pharmacology, medicinal chemistry, pathophysiology and therapeutics. This team taught course is designed to provide students with an opportunity to learn, observe and apply concepts of these four content areas in an integrated manner. Concepts in each of these content areas will be emphasized to provide the necessary information for understanding Pharmacotherapeutics principles.

#### **Pre-Requisites**

[[PHA-310]], [[PHA-327]], [[PHA-331]], [[PHA-332]], and [[PHA-365]] or [[CHM-365]]

#### **Co-Requisites**

[[PHA-421]], [[PHA-425]], and [[PHA-401]]

### **PHA-425. PHARMACOTHERAPEUTICS III: SELF-CARE AND DERMATOLOGY\***

**Credits:** 3

This course is the 3<sup>rd</sup> of a twelve-module sequence that will integrate pharmacology, medicinal chemistry, pathophysiology and therapeutics. This team taught course is designed to provide students with an opportunity to learn, observe and apply concepts of these four content areas in an integrated manner. Concepts in each of these content areas will be emphasized to provide the necessary information for pharmaceutical management of dermatological disorders and self-care issues.

#### **Pre-Requisites**

[[PHA-310]], [[PHA-327]], [[PHA-331]], [[PHA-332]], and [[PHA-365]] or [[CHM-365]], and [[PHA-421]]

#### **Co-Requisites**

[[PHA423]], [[PHA401]]

### **PHA-426. PHARMACOTHERAPEUTICS IV: GASTROINTESTINAL DISORDERS\***

**Credits:** 2

This course is the 6<sup>th</sup> of a twelve-module sequence that will integrate pharmacology, medicinal chemistry, pathophysiology and therapeutics. This team taught course is designed to provide students with an opportunity to learn, observe and apply concepts of these four content areas in an integrated manner. Concepts in each of these content areas will be emphasized to provide the necessary information for pharmaceutical management of gastrointestinal diseases.

#### **Pre-Requisites**

[[PHA-421]] [[PHA-423]]

### **PHA-428. PHARMACOTHERAPEUTICS V: INFECTIOUS DISEASES\***

**Credits:** 4

This course is the 4<sup>th</sup> of a twelve-module sequence that will integrate pharmacology, medicinal chemistry, pathophysiology and therapeutics. This team taught course is designed to provide students with an opportunity to learn, observe and apply concepts of these four content areas in an integrated manner. Concepts in each of these content areas will be emphasized to provide the necessary information for pharmaceutical management of infectious diseases.

#### **Pre-Requisites**

[[PHA-421]], [[PHA-423]]

### **PHA-430. PHARMACOTHERAPEUTICS VI: JOINT, AUTOIMMUNE AND MUSCULOSKELETAL DISORDERS**

**Credits:** 2

This course is the 5<sup>th</sup> of a twelve-module sequence that will integrate pharmacology, medicinal chemistry, pathophysiology and therapeutics. This team taught course is designed to provide students with an opportunity to learn, observe and apply concepts of these four content areas in an integrated manner. Concepts in each of these content areas will be emphasized to provide the necessary information for pharmaceutical management of joint, autoimmune and musculoskeletal diseases.

#### **Pre-Requisites**

[[PHA-421]], [[PHA-423]]

### **PHA-435. PHARMACOGENOMICS**

**Credits:** 2

Students will learn to understand how human genetics and genomics can be used to provide optimized drug therapy and patient care. Learning about this emerging field will enable students to better understand and manage new genomics-based diagnostic tools and make personalized treatment choices. Students will also spend time discussing societal and ethical implications of genetic testing and the resultant individualization of drug therapy, explain basic principles of human genetics and heredity, and more. Requirement: P-3 standing.

**PHA-440. INTRODUCTORY PHARMACY PRACTICE EXPERIENCE II****Credits:** 1

This course will provide introductory practice experience to students in two health care settings: prescriber's clinics and a clinical pharmacy site. Students will have an independent approach to learning and gain a broader understanding of these settings and the role that pharmacists may play. Requirement: Successful completion of all required courses in the P-1 year, or permission of instructor.

**PHA-445. INTRODUCTORY PHARMACY PRACTICE EXPERIENCE III****Credits:** 2

This course will provide introductory practice experience to students in the health-system setting. The course fosters the development of professionalism in an environment of practical application of knowledge, skills, and attitudes. Students will be faced with a variety of issues practical to this area of practice. The student will take an independent learning approach under the supervision of a practicing community pharmacist. The course is two full-time weeks (80 hours) of experience. Requirement: Successful completion of all required courses in P-2 year, or permission of instructor.

**PHA-450. NEUROPHARMACOLOGY OF DRUGS OF ABUSE****Credits:** 3**Terms Offered:** Not Currently Offered

In-depth analysis of drugs of abuse, including pharmacokinetics, pharmacodynamics, tolerance, sensitization, physical dependence, and effects of drug use during pregnancy. Drug testing and substance abuse treatment strategies will also be discussed. Lecture: three hours.

**Pre-Requisites**

[[PHA-421]] or consent of the instructor.

**PHA-452. EXTEMPORANEOUS COMPOUNDING****Credits:** 3**Terms Offered:** Not Currently Offered

Students will achieve basic and advanced skills in compounding pharmaceutical dosage forms for individualized patient therapy to replace a lack of commercially available products and enhance therapeutic problem-solving between the pharmacist and physician to enhance patient compliance. Students will work independently on research assignments and compounding preparations. Lecture: one hour per week. Lab: six hours per week.

**Pre-Requisites**

[[PHA-311]] and [[PHA-312]] and consent of the instructor.

**PHA-456. CONCEPTS IN PRIMARY CARE****Credits:** 2**Terms Offered:** Not Currently Offered

The course is designed to allow students to explore and develop advanced knowledge and skills related to diseases and medications commonly encountered in a primary care environment. This course will be of value to pharmacy students seeking careers in ambulatory care pharmacy practice, community pharmacy, long-term care and population health management. Topics are presented in a case-based discussion format that includes multiple diseases and medications and through student-led mini topic discussions.

**Pre-Requisites**

P2 standing

**PHA-460. SELF-DIRECTED IPPE II****Credits:** 0.5

The Self-Directed (SD)-IPPE program is made up of three courses (SD-IPPE I, II, and III) over the span of the PI through P3 years. Collectively these courses consist of a total of 20 hours of pharmacy-related, service-oriented learning.

The Self-Directed Introductory Pharmacy Practice Experience (SD- IPPE) course is designed to expose students to various service-learning opportunities throughout their P 1 through P3 years. This experience consists of three components: participation in and development of service- learning projects, reflection, and self-directed learning. Students may develop their own experiences or participate in opportunities offered by the School or professional organizations. Requirements for service learning hours will increase as the student progresses through the curriculum. Each student must complete a minimum of 2, 8, and 10 hours during the PI, P2, and P3 years, respectively (total 20 hours). Additional details are provided in the SDIPPE syllabus conveniently posted in E\*Value.

**Pre-Requisites**

P1 standing for [[PHA-360]]

P2 standing and [[PHA-360]] for [[PHA-460]]

P3 standing and [[PHA-460]] for [[PHA-560]]

**PHA-461. CANNABIS LAW AND POLICY****Credits:** 1**Terms Offered:** Fall

This course will cover the legal aspects of cannabis and hemp, including cultivation, dispensing, and therapeutic claims.

**PHA-462. HEMP BIOLOGY AND ANALYSIS****Credits:** 4

This course is an introduction to hemp biology and analysis. Topics include an overview of hemp, hemp phylogeny, subspecies, plant structure, development, reproduction, water uptake, transport, uses for hemp, hemp pathogens and pests, and ways to improve hemp production using biotechnology. [Click here for course fee.](#)

**Pre-Requisites**

Sophomore or pharmacy P-1 standing or instructor permission.

## Course Descriptions

### **PHA-463. CANNABIS AND CANNABINOIDS**

**Credits:** 3

**Terms Offered:** Fall

This course is an introduction to cannabis and cannabinoids. Topics include history, medicinal chemistry, pharmacokinetics, pharmacology and toxicology.

### **PHA-465. THERAPEUTICS OF MEDICINAL CANNABIS**

**Credits:** 3

**Terms Offered:** Fall

Students will learn about therapeutic effects of cannabis, including its use in dependency, anorexia and cachexia in cancer patients, emesis, pain, migraines, muscle spasticity disorders, movement disorders, glaucoma, gynecology, dermatology, and the cardiovascular system. This course will also cover the risks and side effects, from a clinical perspective, of cannabis use during pregnancy, to the immune system, psyche and cognition, and the respiratory system.

**Pre-Requisites**

[[PHA 463]]

### **PHA-466. CANNABIS/CBD EXTRACTION CAPSTONE PROJECT SEMINAR**

**Credits:** 3

**Terms Offered:** Spring, Not Currently Offered

This course will serve as a capstone for students who are enrolled in the Cannabis Certificate Program to engage in research and demonstrate competencies in Cannabis law, concentration, extraction and use of cannabis products. The students will be given the opportunity to collect data, initiate a lab experiment or analyze a potential use for cannabis, and determine the impact of the initiative on cannabis production, extraction, health care, local communities, global communities and cannabis use in the US.

**Pre-Requisites**

PHA 461, 462, 463, 464 and 465 (or suitable cross listed courses)

### **PHA-488 . ASPECTS OF CARING FOR THE PAIN PATIENT**

**Credits:** 2

**Terms Offered:** Fall

This course is an interactive and interprofessional approach to the assessment and management of pain. Various teaching and learning strategies will allow students to develop and appreciate the understanding of the social, psychological, physical, spiritual and ethical implications of pain.

**Pre-Requisites**

[[PHA-331]] and [[PHA-332]]

### **PHA-505. PHARMACY LAW**

**Credits:** 2

The study of federal and state statutes, regulations, and court decisions, which control the practice of pharmacy and drug distribution. Civil liability in pharmacy practice and elements of business and contract law will be covered. Lecture: two hours per week (hybrid).

**Pre-Requisites**

P3 standing

### **PHA-506. CONCEPTS IN INFECTIOUS DISEASE**

**Credits:** 2

**Terms Offered:** Fall

This course is offered to Fall semester to P3 students and is designed to allow students to explore and develop advanced knowledge and skills related to infectious diseases. This course will be of value to pharmacy students seeking careers in infectious diseases whether it be in ambulatory care pharmacy practice, community pharmacy, long-term care and population health management. Students will be heavily leading the course through presentations, cases and poster presentations. Active learning techniques are used throughout the course to build critical thinking and problem solving skills. Emphasis is placed on the integration of disease states and approaches to practice management. Assignments that engage students in lifelong learning and community engagement are additional features of the course.

**Pre-Requisites**

P3 standing

### **PHA-509. ECONOMIC EVALUATION OF PHARMACEUTICAL PRODUCTS AND SERVICES**

**Credits:** 3

Introduction to commonly used economic evaluation methods (e.g., cost-minimization, cost-utility, cost-benefit, cost-effectiveness) as applied to pharmaceutical products and services. Quality of life and outcomes research will also be explored. Emphasis is on understanding evaluation methods and research design and interpreting the relevant literature for practice applications. Lecture: three hours per week.

**Pre-Requisites**

[[PHA-308]] and [[PHA-310]] or consent of the instructor.

### **PHA-510. GENERAL MEDICINE ADVANCED PHARMACY PRACTICE EXPERIENCE**

**Credits:** 5-6

Integration of the basic pharmacy related concepts to the delivery of pharmaceutical care in general medicine practice. Clinical practice: 40 hours per week for five to six weeks.

**Pre-Requisites**

Successful completion P1-P3 curriculum in full.

**PHA-511. AMBULATORY CARE ADVANCED PHARMACY PRACTICE EXPERIENCE****Credits:** 5-6

Integration of the basic pharmacy related concepts to the delivery of pharmaceutical care in ambulatory care settings. Clinical practice: 40 hours per week for five to six weeks.

**Pre-Requisites**

Successful completion P1-P3 curriculum in full.

**PHA-512. COMMUNITY ADVANCED PHARMACY PRACTICE EXPERIENCE****Credits:** 5-6

Integration of the basic pharmacy related concepts to the delivery of pharmaceutical care in community practice settings. Clinical practice: 40 hours per week for five to six weeks.

**Pre-Requisites**

Successful completion P1-P3 curriculum in full.

**PHA-513. HEALTH SYSTEM ADVANCED PHARMACY PRACTICE EXPERIENCE****Credits:** 5-6

Integration of the basic pharmacy related concepts to the delivery of pharmaceutical care in the health system settings. Clinical practice: 40 hours per week for five to six weeks.

**Pre-Requisites**

Successful completion P1-P3 curriculum in full.

**PHA-515. NAPLEX PREPARATION****Credits:** 0

This course will be provided annually to P4 students to assist in preparation for The North American Pharmacist Licensure Examination (NAPLEX). Students will complete cumulative exams assigned by the coordinator.

**Pre-Requisites**

P4 standing.

**PHA-521. PHARMACOTHERAPEUTICS VII: PULMONARY DISORDERS\*****Credits:** 2

This course is the 7th of a twelve-module sequence that will integrate pharmacology, medicinal chemistry, pathophysiology and therapeutics. This team taught course is designed to provide students with an opportunity to learn, observe and apply concepts of these four content areas in an integrated manner. Concepts in each of these content areas will be emphasized to provide the necessary information for pharmaceutical management of pulmonary diseases.

**Pre-Requisites**

[[PHA-421]], [[PHA-423]]

**PHA-523. PHARMACOTHERAPEUTICS VIII: CARDIOVASCULAR DISORDERS\*****Credits:** 4

This course is the 8th of a twelve-module sequence that will integrate pharmacology, medicinal chemistry, pathophysiology and therapeutics. This team taught course is designed to provide students with an opportunity to learn, observe and apply concepts of these four content areas in an integrated manner. Concepts in each of these content areas will be emphasized to provide the necessary information for pharmaceutical management of cardiovascular diseases

**Pre-Requisites**

[[PHA-421]], [[PHA-423]]

**PHA-525. PHARMACOTHERAPEUTICS IX: RENAL DISORDERS\*****Credits:** 2

This course is the 9th of a twelve-module sequence that will integrate pharmacology, medicinal chemistry, pathophysiology and therapeutics. This team taught course is designed to provide students with an opportunity to learn, observe and apply concepts of these four content areas in an integrated manner. Concepts in each of these content areas will be emphasized to provide the necessary information for pharmaceutical management of renal diseases.

**Pre-Requisites**

[[PHA-421]], [[PHA-423]]

**PHA-526. PHARMACOTHERAPEUTICS X: ENDOCRINE DISORDERS & WOMEN'S/MEN'S HEALTH ISSUES\*****Credits:** 3

This course is the 10th of a twelve-module sequence that will integrate pharmacology, medicinal chemistry, pathophysiology and therapeutics. This team taught course is designed to provide students with an opportunity to learn, observe and apply concepts of these four content areas in an integrated manner. Concepts in each of these content areas will be emphasized to provide the necessary information for pharmaceutical management of endocrine diseases.

**Pre-Requisites**

[[PHA-421]], [[PHA-423]]

**PHA-528. PHARMACOTHERAPEUTICS XI: HEMATOLOGY/ ONCOLOGY DISEASES\*****Credits:** 2

This course is the 12th of a twelve-module sequence that will integrate pharmacology, medicinal chemistry, pathophysiology and therapeutics. This team taught course is designed to provide students with an opportunity to learn, observe and apply concepts of these four content areas in an integrated manner. Concepts in each of these content areas will be emphasized to provide the necessary information for pharmaceutical management of gastrointestinal diseases.

**Pre-Requisites**

[[PHA-421]], [[PHA-423]]

## Course Descriptions

### **PHA-530. PHARMACOTHERAPEUTICS XII: CENTRAL NERVOUS SYSTEM DISORDERS\***

**Credits:** 3

**Terms Offered:** Spring

This course is the 11th of a twelve-module sequence that will integrate pharmacology, medicinal chemistry, pathophysiology and therapeutics. This team taught course is designed to provide students with an opportunity to learn, observe and apply concepts of these four content areas in an integrated manner. Concepts in each of these content areas will be emphasized to provide the necessary information for pharmaceutical management of CNS and mental health disorders.

**Pre-Requisites**

[[PHA-421]], [[PHA-423]]

### **PHA-532. INTEGRATIVE MEDICINE AND NUTRITION**

**Credits:** 2

The purpose of the Integrative Medicine and Nutrition course is to help students learn to integrate nonconventional treatments (natural medicines, manipulation therapy, acupuncture, etc.) into traditional treatment strategies. Additionally, students will learn about nutrition support practices, including enteral and parenteral care.

**Pre-Requisites**

[[PHA-331]], [[PHA-332]], [[PHA-365]] or consent of the instructor.

### **PHA-534. INTRODUCTION TO HOSPITAL PHARMACY PRACTICE**

**Credits:** 2

This course introduces students to the practice of pharmacy within a hospital setting. Topics discussed include the accreditation process for hospitals, career options and residency or fellowship training, medication formulary management, automation and technology in hospital pharmacies, medication calculations, medication safety, clinical pharmacy practice, and sterile product preparation.

### **PHA-536. PRINCIPLES OF ADVANCED COMMUNITY PHARMACY MANAGEMENT**

**Credits:** 2

**Terms Offered:** Not Currently Offered

This course is designed to provide a foundation for students interested in pursuing the development and implementation of advanced clinical programs in a community pharmacy. The student will be introduced to principles in pharmacy and fiscal management, professional development, and the management and legal issues relating to clinical pharmacy services. Didactic and active learning techniques will be employed throughout the course and the student will be required to develop a business plan.

**Pre-Requisites**

P2 standing

### **PHA-538. PEDIATRIC PHARMACOTHERAPY**

**Credits:** 2

**Terms Offered:** Not Currently Offered

This course is designed to expand the student's current knowledge base regarding the pediatric population and to introduce the core concepts involved in the care of this special population. The course prepares students to identify and address drug-related problems in pediatric patients and to demonstrate competency within those areas. This will be accomplished by completion of case scenarios, actual patient presentations, and a take-home examination. An on-site visit to the Children's Hospital of Philadelphia (CHOP) is required. Requirement: P-2 or P-3 standing.

**Pre-Requisites**

P2 or P3 standing

### **PHA-540. COMPREHENSIVE DIABETES MANAGEMENT**

**Credits:** 3

This course provides a multidisciplinary foundation for health professionals in the principles of diabetes management. Students who successfully complete the course will have knowledge and the basic skill set that is needed to begin practicing diabetes management. The majority of this course is independent self-study of online lectures, but there are mandatory on-campus discussions and exams. Requirement: P2 or P-3 standing.

### **PHA-544. MANAGED CARE PHARMACY**

**Credits:** 2

This elective is intended to help future pharmacists interested in any area of practice better understand the clinical and business decision-making processes of the health care system. The elective will introduce and reinforce the concepts of population health and value, explore tools available to limit healthcare spending, and discuss unique ways pharmacists can be involved in improving patient care. This course will be offered during the spring semester each year.

**Pre-Requisites**

P2 or P3 standing.

### **PHA-552. PRINCIPLES OF BIOORGANIC AND MEDICINAL CHEMISTRY**

**Credits:** 3

**Terms Offered:** Spring

This will be an introductory course, the aims of which are to provide the principles of bioorganic and medical chemistry, including an understanding of drug structure-activity relationships, prediction of the physicochemical properties of a drug, basic knowledge of the major pathways of drug metabolism, and factors that can contribute to drug-drug interactions.

**Pre-Requisites**

[[CHM-231]] - [[CHM-232]] or [[CHM-235]] - [[CHM-237]]

**PHA-555. INTRODUCTORY PHARMACY PRACTICE EXPERIENCE IV****Credits:** 2**Terms Offered:** Spring

The course is designed to provide an introductory practice experience at a P3 level in the areas of Medication Therapy Management (MTM)/clinical telepharmacy and Intergenerational (IG) patient care. The course fosters the development of knowledge, skills, and attitudes needed for pharmacy practice through practical application in telepharmacy patient care and community settings.

**Pre-Requisites**

Completion of all required courses in P2 year.

**PHA-556. ROLE OF PHYTOCHEMICALS ON HEALTH AND DISEASE****Credits:** 2

Students will learn the basic concepts and classification of phytochemicals present in our daily diet, followed by the study of specific phytochemicals and their relation to human health and disease. Basic mechanisms and pathways through which phytochemicals act and alter will be discussed. Students will have an opportunity to gain an in-depth understanding of a specific phytochemical of their choice or any other phytochemical designated by the instructor through a research review paper and an in-class presentation.

**Pre-Requisites**

P2 standing.

**PHA-558. PRINCIPLES OF TOXICOLOGY: FROM BEAKER TO BEDSIDE****Credits:** 2

This toxicology elective is designed to provide the student with introductory knowledge of the molecular mechanisms of action and clinical management of poisons. The course will begin with introductory concepts such as history, mechanisms of cell injury and toxicant disposition. The student will then be exposed to the fundamental principles of managing an acutely poisoned patient. Toxicology lectures on each major organ system will prepare students for group presentations. The aims of student presentations will be to achieve a greater understanding of the clinical management of the poisoned patient, and to hone presentation skills. To the extent that is feasible, the course will involve lectures, or other learning experiences, led by external specialists.

The scope of poisons that will be discussed is broad, and includes environmental toxins, industrial toxicants, and drugs.

Specific agents will include heavy metals, volatile solvents, common plant toxins, rodenticides, and several drugs.

Students may be expected to participate in one laboratory exercise, wherein they will learn a fundamental method to characterize the mechanism and/or extent of cell death induced by a toxicant.

**Pre-Requisites**

P-2 or P-3 standing or permission of the instructor

**PHA-560. SELF-DIRECTED IPPE III****Credits:** 0.5

The Self-Directed (SD)-IPPE program is made up of three courses (SD-IPPE I, II, and III) over the span of the P1 through P3 years. Collectively these courses consist of a total of 20 hours of pharmacy-related, service-oriented learning.

The Self-Directed Introductory Pharmacy Practice Experience (SD- IPPE) course is designed to expose students to various service-learning opportunities throughout their P 1 through P3 years. This experience consists of three components: participation in and development of service- learning projects, reflection, and self-directed learning. Students may develop their own experiences or participate in opportunities offered by the School or professional organizations.

Requirements for service learning hours will increase as the student progresses through the curriculum. Each student must complete a minimum of 2, 8, and 10 hours during the P1, P2, and P3 years, respectively (total 20 hours). Additional details are provided in the SDIPPE syllabus conveniently posted in E\*Value.

**Pre-Requisites**

P1 standing for [[PHA-360]]

P2 standing and [[PHA-360]] for [[PHA-460]]

P3 standing and [[PHA-460]] for [[PHA-560]]

**PHA-561. PRINCIPLES OF ENVIRONMENTAL HEALTH FOR PUBLIC HEALTH PRACTICE****Credits:** 3

Environmental health is concerned with the mechanisms by which the natural and created environment impact public health. The altered physical, chemical and biological systems will be presented from the perspectives of the population and community health. The course will focus on disease prevention, assessment and mitigation of environmental challenges to public health.

**Pre-Requisites**

[[PHA 564]] Crosslisted with [[PHA 310]] or permission of instructor

**PHA-562. SOCIAL AND BEHAVIORAL ASPECTS OF PUBLIC HEALTH****Credits:** 3

Learners will develop public health competency in social concepts and processes that influence health status and public health interventions using the ecological approach. Targeted examination of population and individuals behaviors which influence health will utilize a range of methods necessary for behavioral change.

**Pre-Requisites**

[[PHA 564]] Cross-listed with [[PHA 310]] or permission of instructor

## Course Descriptions

### **PHA-563. PUBLIC HEALTH AND PHARMACY**

**Credits:** 3

This course will introduce students to the role pharmacists play in public health. Content will discuss the history of pharmacy and how public health was introduced into the field of pharmacy. The role of public health as it relates to the work of the pharmacy by providing education on policy, patient education and population management will also be included.

#### **Pre-Requisites**

[[PHA 564]] Cross-listed with [[PHA 310]] or permission of instructor

### **PHA-564. CLINICAL RESEARCH AND DESIGN**

**Credits:** 3

This course focuses on the application of research design concepts and statistical techniques to design critically analyze and interpret multiple study designs. Understanding and practicing research methods are essential for pharmacists for two reasons. First, as a consumer of research, you will need to read and critically analyze published research. As a member of a health care team, you will need to maintain current awareness of the existing literature and its relevance to the case at hand. Second, as a provider of research, you will need the ability to validate your practice through scientific investigation (e.g. in the current healthcare arena it is expected that health care providers justify, through research, more of their practice).

#### **Pre-Requisites**

P1 standing or instructor permission

### **PHA-599. A, B AND C ELECTIVE ADVANCED PHARMACY PRACTICE EXPERIENCE ROTATIONS**

**Credits:** 5-6

Advanced pharmacy practice experience involved in different aspects of pharmaceutical care. (Courses to be determined.)  
Clinical practice: 40 hours per week for a total of five weeks.

#### **Pre-Requisites**

Successful completion P1-P3 curriculum in full.

## **PPD. PERSONAL AND PROFESSIONAL DEVELOPMENT**

### **PPD-101. PERSONAL AND PROFESSIONAL DEVELOPMENT I**

**Credits:** 1

The PPD Series begins with Personal and Professional Development 101, which adds value and depth to your learning program by explicitly targeting personal and professional competency assessment, development, practice and evaluation with a strong emphasis on self-awareness, working in teams, and an introduction to emotional intelligence competencies.

### **PPD-201. PERSONAL AND PROFESSIONAL DEVELOPMENT II**

**Credits:** 1

One credit Special studies and experiences in career focused areas of personal and professional development. The one-credit courses vary each semester and are taught by subject matter experts.

### **PPD-301. PERSONAL AND PROFESSIONAL DEVELOPMENT III**

**Credits:** 1

One credit special studies and experiences in leadership focused areas of personal and professional development. The topics will be relevant to leadership issues, leadership skills, showcasing leadership through the creation of an electronic portfolio, presentation of the electronic portfolio to outside business professionals, and receiving evaluation on work. The one-credit courses vary each semester and are taught by subject matter experts

### **PPD-401. PERSONAL AND PROFESSIONAL DEVELOPMENT IV**

**Credits:** 1

The PPD Series adds value and depth to your learning program by targeting personal and professional competency assessment, development, practice, and evaluation. [[PPD-401]] continues the Life Plan and prepares students for development of a Professional Learning Plan. Emphasis will be on continuous portfolio and résumé development, interview skills, and job search strategies, and exposure to recruiters and businesses.

#### **Pre-Requisites**

[[PPD-101]], [[PPD-201]], & [[PPD-301]]

## **PHL. PHILOSOPHY**

### **PHL-101. INTRODUCTION TO PHILOSOPHY**

**Credits:** 3

An introduction to some of the major figures, problems, and concerns of philosophical thought. Students in this course typically examine a variety of philosophical questions and problems such as the existence of God, human nature and the good life, freedom and responsibility, skepticism and the nature of knowledge, and theories of reality.

### **PHL-110. INTRODUCTION TO ETHICAL PROBLEMS**

**Credits:** 3

An exploration of a series of basic ethical problems. Topics to be covered include basic ethical theories, how to evaluate ethical theories and moral arguments, the relationship between religion and ethics, and a selection of current moral problems such as abortion, capital punishment, affirmative action, animal rights, etc. Specific moral problems covered will vary. Other ethical questions such as 'How should we live?' may also be covered in the course.

**PHL-114. INTRODUCTION TO BIOETHICS****Credits:** 3

This course serves as an introduction to bioethics. Basic ethical theories and concepts and their application to issues in biomedicine and health care will be discussed. Topics to be covered may include: euthanasia, assisted suicide, experimentation with human and animal subjects, health care resource allocation and neuroethics.

**PHL-115. BUSINESS ETHICS****Credits:** 3

This course serves as an introduction to business ethics. Basic ethical theories and concepts and their application to issues in business will be discussed. Topics to be covered may include: corporate social responsibility, fairness and economic justice, the moral justification of capitalism, environmental values and justice, consumerism and the ethics of advertising, moral hazard and conflicts of interest, and moral psychology as it relates to organizational contexts.

**PHL-198. TOPICS****Credits:** 3

The study of a topic of special interest not extensively treated in other courses. Topics chosen according to interest of the instructor. Because of its variable content, this course may be repeated for credit.

**Pre-Requisites**

Completion of any Philosophy course numbered 120 or lower, or permission of instructor.

**PHL-203. INTRODUCTION TO SYMBOLIC LOGIC****Credits:** 3

An introduction to the nature of logical systems and deductive reasoning. The study of the syntax and semantics of formal languages; testing arguments for validity; and an examination of other important logical notions, such as proof and consistency.

**PHL-216. VIOLENCE AND NONVIOLENCE****Credits:** 3

An examination of the concepts and practices of violence and nonviolence. Historical and modern theories and applications will be explored including questions such as why and how nonviolence has been advocated, how civil defense might be structured without violence, whether nuclear weapon use can be justified, and whether torture is ever morally permissible. Students will be expected to consider the importance and relevance of the ideas for their own lives.

**Pre-Requisites**

Any 100-level PHL course or permission of the instructor.

**PHL-217. ANIMAL MINDS, ANIMAL LIVES****Credits:** 3

An exploration of the philosophical questions that arise from considering the ways in which nonhuman animals are similar to and different from humans. Questions from ethics, epistemology, philosophy of mind, feminist philosophy, and political philosophy will be taken up. Scientific evidence and the history of our attitudes toward nonhuman animals will be investigated in the process.

**Pre-Requisites**

Any 100-level PHL course or permission of the instructor.

**PHL-218. ENVIRONMENTAL ETHICS****Credits:** 3

An examination of the central problems of environmental ethics as viewed from the perspectives of science and of philosophy. The value of nature and 'natural objects,' differing attitudes toward wildlife and the land itself, implications of anthropocentrism, individualism, ecocentrism, and ecofeminism, bases for land and water conservation, and other topics will be examined within a framework of moral and scientific argument. (Cross-listed with [[EES-218]].)

**Pre-Requisites**

Any 100-level PHL course, [EES-240]], or permission of the instructor.

**PHL-236. AMERICAN POLITICAL PHILOSOPHY****Credits:** 3

The study of the political ideas, ideals, and ideologies that contributed to and developed from the American experience. An analysis of the ideas that underlie America's political institutions and practices. Cross listed with [[PS-262]].

**Pre-Requisites**

Any 100-level PHL course or permission of the instructor.

**PHL-242. THE MEANING OF LIFE****Credits:** 3

A selection of culturally diverse classic and contemporary answers to the question of the meaning of life will be examined and the implications of our lives will be explored. Perspectives to be addressed include those of Epicurus, Epictetus, Aristotle, Lao-Tzu, the Buddha, Viktor Frankl, Albert Camus, A.J. Ayer, Peter Singer, and more.

**Pre-Requisites**

Any 100-level PHL course or permission of the instructor.

**PHL-244. BUDDHIST THOUGHT****Credits:** 3

An exploration and examination of basic ideas in Buddhist philosophy, considering all three main 'vehicles' of Buddhist thought—Theravada, Mahayana, and Vajrayana schools. Comparisons to Western philosophical thought will be made and some Buddhist practices explored.

**Pre-Requisites**

Any 100-level PHL course or permission of the instructor.

## Course Descriptions

### **PHL-246. HAPPINESS AND THE GOOD LIFE**

**Credits:** 3

A philosophical exploration of “the good life,” a life of human flourishing, looking both at what constitutes such a life and how one might achieve it. We will examine classical and modern ideas on what both the good life and happiness consist of as well as how to achieve them using the work of philosophers, historians, psychologists, poets and more.

#### **Pre-Requisites**

Any 100-level PHL course or permission of the instructor.

### **PHL-260. INTRODUCTION TO POLITICAL PHILOSOPHY**

**Credits:** 3

An introduction to central questions in political philosophy, focusing on topics like human nature and political organization, the justification of the state, democratic government and its critics, the importance of individual liberty, property and the free market, conceptions of fairness, and the ideal of justice. Cross-listed with [[PS-260]].

#### **Pre-Requisites**

Any 100-level PHL course or permission of the instructor.

### **PHL-272. PHILOSOPHY OF RELIGION**

**Credits:** 3

An examination of various problems that arise when religion is made the object of philosophical reflection: the nature and forms of religious experience; the relationship between faith and reason; arguments for the existence of God; the problem of evil; arguments for immortality; the concepts of worship and miracle; the nature of religious language; and the possibility of religious knowledge.

#### **Pre-Requisites**

Any 100-level PHL course or permission of the instructor.

### **PHL-298. TOPICS**

**Credits:** 3

The study of a topic of special interest not extensively treated in other courses. Topics chosen according to interest of the instructor. Because of its variable content, this course may be repeated for credit.

#### **Pre-Requisites**

Any 100-level PHL course or permission of the instructor.

### **PHL-301. ORIGINS OF WESTERN THOUGHT**

**Credits:** 3

The development of Western philosophical thought from its beginnings in the Greek world to early Christian thought. Philosophers to be studied include the Pre-socratics, Plato, Aristotle, Plotinus, the Stoics, Epicurus, Sextus Empiricus, and St. Augustine.

#### **Pre-Requisites**

Any 100-level PHL course or permission of the instructor.

### **PHL-310. ETHICAL THEORY**

**Credits:** 3

A study of classical and contemporary ethical theories, the problems that they raise and the problems they are intended to solve. The theories of Plato, Aristotle, Kant, Hume, and Mill will be examined as well as recent contributions by Ross, Harman, Moore, Ayer, Stevenson, and Hare. Questions addressing ethical relativism, the relationship of religion to ethics, skepticism, moral realism, egoism, and value judgments will also be discussed.

#### **Pre-Requisites**

Any 100-level PHL course or permission of the instructor.

### **PHL-312. VIRTUES AND VICES IN LIFE AND LITERATURE**

**Credits:** 3

A philosophical exploration of human excellences and failings using a variety of philosophical works as well as novels and a psychological study of people who rescued Jews during the Holocaust. Issues of gender, race, class, immigration status, religion and more are addressed.

#### **Pre-Requisites**

Any 100-level PHL course or permission of the instructor.

### **PHL-314. ADVANCED TOPICS IN BIOETHICS**

**Credits:** 3

An in-depth exploration of the ideas of a selection of philosophers known for their often radical contributions in the field of bioethics. Topics include the appropriate and inappropriate use of moral principles and theories, public policies to change or maintain in the area of bioethics, and whether our attitudes toward personhood and life and death are defensible.

#### **Pre-Requisites**

[[PHL-214]] or permission of instructor.

### **PHL-316. MORAL PSYCHOLOGY**

**Credits:** 3

An analysis of some current questions in moral psychology, an area of philosophy that addresses normative issues regarding human psychology including motives, emotions, psychological reactions, etc. Questions to be addressed include questions about moral luck (whether it is possible for an agent to be caught in a situation, through no fault of her own, in which it is impossible to act rightly), about whether one's moral character may be subject to luck in important ways, about whether there are reasons to act morally if one does not care about reputation or morality, and questions about when judgments of responsibility for actions and character are appropriate.

#### **Pre-Requisites**

Any 100-level PHL course or permission of the instructor.

**PHL-334. PHILOSOPHY OF LAW****Credits:** 3

This course serves as an introduction to the central topics in the Philosophy of Law, including the nature and justification of the law, the relation between law and morality, the principles of legal interpretation, and the justification and limits of criminal sanctions. The work of both classical and contemporary legal and political theorists will be explored, as well as a selection of legal cases that have shaped American law, including recent cases, and an investigation of some implications for legal cases arising from new developments in neuroscience. .

**Pre-Requisites**

Any 100-level PHL course or permission of the instructor.

**PHL-344. ADVANCED TOPICS IN BUDDHIST THOUGHT****Credits:** 3

An examination of the history of Buddhist philosophy and the issues it raises with particular emphasis on *shunyata*.

**Pre-Requisites**

[[PHL-244]] or permission of instructor.

**PHL-350. PHILOSOPHY OF SCIENCE****Credits:** 3

A critical examination of various issues concerning scientific thought. Topics may include the nature of science, distinguishing science from pseudo-science, the nature of theories, scientific explanation, space and time, causality, the problem of induction, laws of nature, and the reality of theoretical entities.

**Pre-Requisites**

Any 100-level PHL course or permission of the instructor.

**PHL-372. ADVANCED TOPICS IN PHILOSOPHY OF RELIGION****Credits:** 3**Pre-Requisites**

[[PHL-272]] or permission of instructor.

**PHL-390. SENIOR PROJECTS: CAPSTONE****Credits:** 1

An independent project culminating in a formal essay and presentation. The project serves as a capstone experience demonstrating the student's learning in the major. Open only to senior Philosophy majors.

**PHL-397. SEMINAR****Credits:** 1-3

Presentations and discussions of selected topics.

**Pre-Requisites**

Approval of course instructor is required.

**PHL-398. TOPICS****Credits:** 3

The study of a topic of special interest not extensively treated in other courses. Topics chosen according to interest of the instructor. Because of its variable content, this course may be repeated for credit.

**Pre-Requisites**

Any 100-level PHL course or permission of the instructor.

**PHL-399. COOPERATIVE EDUCATION****Credits:** 1-6

Professional cooperative education placement in a private or public organization related to the student's academic objectives and career goals. In addition to their work experience, students are required to submit weekly reaction papers and an academic project to a Faculty Coordinator in the student's discipline. (See the Cooperative Education section of this bulletin for placement procedures.)

**Pre-Requisites**

Sophomore standing, 2.0 cumulative GPA, consent of academic advisor, and approval of placement by the department chairperson.

**PHY. PHYSICS****PHY-198-298-398. TOPICS IN PHYSICS****Credits:** variable

Selected topics in the field of physics. These may include one or more of the following: astronomy; geophysics; biophysics; nuclear power and waste; relativity; quantum mechanics; semi-conductors; cryogenics; health physics. May be repeated for credit.

**Pre-Requisites**

Varies with topic studied.

**PHY-395-396. INDEPENDENT RESEARCH****Credits:** 1 - 3

Independent study and research for advanced students in the field of physics under the direction of a staff member. A research paper at a level significantly beyond a term paper is required.

**Pre-Requisites**

Senior standing and approval of the department chairperson.

## Course Descriptions

### PHY-105. CONCEPTS IN PHYSICS

**Credits:** 3

Basic concepts of physical science, including the scientific method, will be studied. Theories, laws, and experiments from mechanics, electricity and magnetism, thermodynamics, optics, and atomic and nuclear physics may be included. Viewpoints will be classical and modern, including quantum and relativistic. Class meets for four hours per week: two hours of lecture and one two-hour lab each week.

[Click here for course fees.](#)

#### Pre-Requisites

No previous background in either science or college-level mathematics is required.

### PHY-140. SCIENTIFIC PROGRAMMING

**Credits:** 3

This course presents an introduction to computer programming with an emphasis on the techniques needed for data analysis and numerical problem solving for scientific and engineering applications. Basic programming idioms are presented including control structures, data types, methods for handling input and output as well as numerical methods such as array computing and vectorization. Emphasis is placed on proper software engineering practice as well as data analysis and presentation. Two hours of lecture and two hours of laboratory per week.

#### Pre-Requisites

#### Or Concurrent

[[MTH-100]] or [[MTH-111]]

### PHY-171. PRINCIPLES OF CLASSICAL AND MODERN PHYSICS

**Credits:** 4

An introductory course designed to promote and understanding of the more important fundamental laws and methods of mechanics and electricity and magnetism. Laboratory work to emphasize basic principles and to acquaint the student with measuring instruments and their use, as well as the interpretation of experimental data. Three hours of demonstration and lecture, one hour of recitation, and two hours of lab per week. Co-requisite: [[MTH-111]]

[Click here for course fees.](#)

### PHY-174. APPLICATION OF CLASSICAL AND MODERN PHYSICS

**Credits:** 4

An introductory course designed to promote an understanding of the more important fundamental laws and methods of heat, optics, and modern physics. Laboratory work to emphasize basic principles and to acquaint the student with measuring instruments and their use, as well as the interpretation of experimental data. Three hours of demonstration and lecture, one hour of recitation, and two hours of lab per week. Co-requisite: [[MTH-111]]

[Click here for course fees.](#)

### PHY-201. GENERAL PHYSICS I

**Credits:** 3

A thorough grounding in the concepts, principles, and laws of mechanics, and wave motion. Instruction by demonstration and lecture, recitation, and problem solving. Four hours of demonstration and lecture per week.

[Click here for course fee.](#)

#### Co-Requisites

[[MTH-111]] and [[PHY-204]]

### PHY-202. GENERAL PHYSICS II

**Credits:** 3

A thorough grounding in the concepts, principles, and laws of Electricity and magnetism, optics and light. Instruction by demonstration and lecture, recitation, and problem solving. Four hours of demonstration and lecture per week.

[Click here for course fee.](#)

#### Pre-Requisites

[[PHY-201]]

#### Co-Requisites

[[MTH-112]]

[[PHY-205]]

### PHY-203. MODERN PHYSICS

**Credits:** 3

Modern physics including the experimental basis, concepts, and principles of atomic and nuclear physics. Three hours of demonstration and lecture per week.

#### Pre-Requisites

[[PHY-202]].

### PHY-204. GENERAL PHYSICS I LAB

**Credits:** 1

**Fees:** \$100

This is a one-semester introductory physics laboratory course for science and engineering students. Experiments are performed to reinforce the concepts learned in PHY 201. Includes one two-hour laboratory exercise per week.

[Click here for course fee.](#)

#### Co-Requisites

[[PHY-201]]

### PHY-205. GENERAL PHYSICS II LAB

**Credits:** 1

**Fees:** \$100

This is a one-semester introductory physics laboratory course for science and engineering students. Experiments are performed to reinforce the concepts learned in PHY 202. Includes one two-hour laboratory exercise per week.

[Click here for course fee.](#)

#### Pre-Requisites

[[PHY-204]]

#### Co-Requisites

[[PHY-202]]

**PHY-206. MODERN PHYSICS LAB****Credits:** 1**Fees:** \$150

This intermediate level laboratory course offers a modern view of some of the famous experiments in the history of physics leading to the development of relativity and quantum theory. Additionally, the experiments are designed to prepare students to conduct experiments in contemporary physics labs. In doing so, this course presents a hands-on experience to reinforce the learning of fundamental concepts in EM theory, relativity, statistical mechanics, quantum mechanics, solid state physics, atomic physics, and nuclear physics.

[Click here for course fee.](#)

**Pre-Requisites**

[[PHY-201]] and [[PHY-202]]

**Co-Requisites**

[[PHY-203]]

**PHY-214. APPLIED PHYSICS****Credits:** 3

Modeling of various problems in physical, chemical, biological, and environmental sciences, particularly physical dynamical systems; Includes application of ordinary differential equations, and Laplace, Fourier, and Z transforms to continuous and discrete processes, matrix mechanics and eigenvalue problems, statistics and probability, random processes and distribution functions.  
2 hours of lecture and 2 hours of laboratory per week.

[Click here for course fee.](#)

**Pre-Requisites**

[[MTH-211]]

**PHY-311. THERMODYNAMICS & STATISTICAL MECHANICS****Credits:** 3

This course focuses on the laws of thermodynamics and other thermodynamic concepts including entropy, free energy, equilibrium, and fluctuations as well as their pivotal role in physics and other scientific disciplines. Topics in statistical mechanics will be covered including partition functions, ensembles, kinetic theory, and phase transitions. Three hours of lecture per week.

**Pre-Requisites**

[[PHY-203]] and [[MTH-211]].

**PHY-312. ANALYTICAL MECHANICS****Credits:** 3

Employs advanced mathematical tools to study applications in complex mechanical systems. It offers an advanced differential reformulation of Newton's laws to study dynamical systems in multiple dimensions, conservative force fields, damped and driven oscillations, two-body problem, central forces and planetary motion, and the rotational dynamics of rigid bodies. Additionally, the course delivers a thorough grounding on the calculus of variations, Lagrange's formalism and Hamiltonian mechanics, all being the essential foundations for the development of modern physics (relativity, quantum mechanics, and quantum field theory). Three hours of lecture per week.

**Pre-Requisites**

[[PHY-202]] and [[MTH-211]].

**PHY-314. QUANTUM MECHANICS****Credits:** 3

This course presents an intermediate level of Quantum Mechanics using the abstract formulation of linear vector spaces in the Dirac formalism. Topics covered include: spin, addition of angular momentum, scattering and bound particles, the harmonic oscillator, two-body problem and central potential wells in 3D, H-atom and H-like atoms, time-independent perturbation theory, identical particles and the He-atom. In addition to the foundations of Quantum Mechanics, the course offers a selection of advanced and modern topics like entanglement and quantum teleportation. Three hours of lecture per week.

**Pre-Requisites**

[[PHY-203]], [[CHM-115]], [[MTH-211]], and [[MTH-212]].

**PHY-374. IMAGING IN BIOMEDICINE****Credits:** 3

This course will cover different aspects of imaging important to medicine and biomedicine including optical microscopy, scanning probe microscopy, scanning electron microscopy, magnetic resonance, ultrasound X-ray, nuclear radiation, microwave and electro-/magneto-encephalographic techniques as well as image processing. Three hours of lecture and three hours of lab per week.

[Click here for course fee.](#)

**Pre-Requisites**

[[PHY-201]] &amp; [[PHY-202]] or [[PHY-171]] &amp; [[PHY-174]], [[MTH-112]].

## Course Descriptions

### PHY-377. BIOPHYSICS

**Credits:** 3

This course presents an overview of the important physical principles governing the behavior of cells and macromolecules. Upper-level mathematics that are useful to understand these phenomena are introduced in a way that is comprehensible to biology majors lacking background beyond basic calculus. In addition to the physical models governing the most ubiquitous molecular and cellular processes, the physics behind the most common experimental techniques used in biology, bioengineering, and biophysics are covered. Three hours of lecture and two hours of lab per week.

#### Pre-Requisites

[[PHY-201]] & [[PHY-202]] or [[PHY-171]] & [[PHY-174]],  
[[MTH-112]].

### PHY-391. SENIOR PROJECT I

**Credits:** 1

Students will plan and execute a research project in the field of physics or at the intersection of physics and another related discipline. Projects can be theoretical, experimental or both and can include the design of unique experiments and simulations. A detailed progress report and presentation are required. Students pursuing a dual degree or double major may be eligible to combine this project with the capstone project of another program (subject to the approval of their advisors in both programs).

[Click here for course fee.](#)

#### Pre-Requisites

Senior standing in Physics

### PHY-392. SENIOR PROJECT II

**Credits:** 2

Students will plan and execute a research project in the field of physics or at the intersection of physics and another related discipline. This is a continuation of PHY 391. A professional paper and progress report are required. Students will present the results of their work in an open-forum. Students pursuing a dual degree or double major may be eligible to combine this project with the capstone project of another program (subject to the approval of their advisors in both programs).

[Click here for course fee.](#)

#### Pre-Requisites

[[PHY-391]]

## PS. POLITICAL SCIENCE

### PS-111. INTRODUCTION TO AMERICAN GOVERNMENT

**Credits:** 3

How and why does the American federal system work? This course introduces students to the constitutional foundations of the American governmental system and explains how and why the system changed over time to function as it does today. Many examples are employed to illustrate the challenges facing those who occupy elected office and the voters who placed them in office. Students are also introduced to basic social science research methods and how they are applied to the study of American politics. Offered every semester.

### PS-141. INTRODUCTION TO INTERNATIONAL RELATIONS

**Credits:** 3

An introduction to the field of international relations. Attention is given to basic theories of international relations as well as the issues and problems that confront contemporary world politics. Factors that determine a nation's foreign policy are also examined. Offered every spring.

### PS-151. INTRODUCTION TO COMPARATIVE POLITICS

**Credits:** 3

This course is an introduction to the study of the politics and government of selected foreign countries. The course will begin with the examination of the various structures and concepts of government around the world and their regional variations. Progressing from the study of a number of alternative structures of politics and government, the course examines several countries in detail providing a specific introduction to the political structures of a number of countries.

### PS-212. URBAN GOVERNMENT AND POLITICS

**Credits:** 3

An examination of the structure and operation of urban governments. Metropolitan politics is also considered. Special attention is given to the politics and policy problems confronting American cities and the political dynamics that complicate solving the problems. Cross listed with [[SOC-263]]. Counts as a Criminology elective.

### PS-213. PARTIES AND ELECTIONS

**Credits:** 3

Though America's Founding Fathers may have had no love for or willingness to incorporate political parties into the Constitution of 1787, parties emerged anyway over the next twenty years. This course explores the origins and developments of political parties and their essential role in our democratic, representative political system. The ideas on which the parties were founded are examined and the evolution to their current positions is analyzed. Many examples of parties and elections at the federal, state and local levels of government are used. Offered every fall semester even years.

### PS-221. INTRODUCTION TO PUBLIC ADMINISTRATION

**Credits:** 3

An introduction to the principles and problems of public administration in an increasingly complex society. Topic such as leadership, informal organizational processes, the relationship of administration to its cultural context, and the question of administrative responsibilities are examined as well as public finance, human resources, ethics, management and administrative law.

### PS-224. PUBLIC POLICY ANALYSIS

**Credits:** 3

This course is an introduction to the study of public policy at the national level. It examines approaches to public policy and the operation of the 'policy process.' A range of public policy examples is employed, from social welfare to energy and environment to foreign and defense issues.

### PS-226. ENVIRONMENTAL POLICY

**PS-232. CRIMINAL LAW****Credits:** 3

An introduction to the study of criminal law. The principles of criminal law are presented using the case method. The structure and operation of the criminal justice system are also reviewed. Offered every fall.

**Pre-Requisites**

[[PS-111]].

**PS-233. LAW AND SOCIETY****Credits:** 3

An introduction to the study of law and its role in social and political systems. Attention is given to theories of law and to the structure of the legal system. Students are given the opportunity to engage in hypothetical dispute resolutions using common law methods. Offered every spring.

**Pre-Requisites**

[[PS-111]].

**PS-242. INTERNATIONAL LAW AND ORGANIZATION****Credits:** 3

The study of the nature, application, and sources of international law and how it relates to the evolution of global and regional organizations and alliances, including international non-governmental organizations and other non-state factors.

**Pre-Requisites**

[[PS-141]] or consent of instructor.

**PS-251. EUROPEAN POLITICS****Credits:** 3

Comparison of the development, institutions, problems and prospects of democratic systems in Europe, both west and east. Attention is given to the European Community and its role in the transformation of Europe as well as the development of the former communist states in eastern Europe.

**PS-252. THE CHANGING FACE OF EASTERN EUROPE****Credits:** 3

This course examines the theoretical and empirical problems related to the process of transition to democracy in Central and Eastern Europe. Topics such as privatization, human rights, transitional justice, security dilemmas and institutional deadlocked are addressed in this course.

**PS-255. POLITICAL ECONOMY OF COFFEE****Credits:** 3

This course examines the political economic aspects of the production of coffee, principally in Central America. After an examination of the current state of coffee production in the world, this course studies the historic role of coffee in Central America and how it has affected the politics, history, and people of the region.

**PS-260. INTRODUCTION TO POLITICAL THINKING****Credits:** 3

An introduction to the study of politics through an examination of the crucial issues with which political scientists grapple: justice, equality, freedom, power, and the good life, to name a few. Offered every spring. Cross-listed with [[PHL-260]].

**PS-261. RESEARCH METHODS IN POLITICAL SCIENCE****Credits:** 3

A survey of the major concepts, theories and methods of political science as a discipline. Preparation of a research design and a review of quantitative methods also included. Offered every fall.

**PS-262. AMERICAN POLITICAL THOUGHT****Credits:** 3

The study of the political ideas, ideals, and ideologies that contributed to and developed from the American experience. An analysis of the ideas that underlie America's political institutions and practices. Cross listed with [[PHL-236]]. May not be used to meet Area I requirements of the General Education Curriculum.

**PS-265. QUANTITATIVE REASONING FOR THE SOCIAL SCIENCES****Credits:** 3

This course is an introduction to quantitative analysis for the social sciences using SPSS, one of the most frequently and widely used statistical packages in the world. Students will learn how to enter and manipulate data in SPSS, apply and interpret statistics from descriptive through multiple regression, and test hypotheses using statistical methods. Cross listed with [[SOC-370]].

**Pre-Requisites**

[[PS-111]] or 141, [[PS-261]] or [[SOC-371]], or approval of instructor.

**PS-309. CAREER MENTORING FOR THE SOCIAL SCIENCES****Credits:** 2

This course will offer career guidance for students in the Behavioral and Social Sciences. The course will include topics such as mentoring, networking, résumés and interviewing skills. Course credits will not count towards minor credits. Open only to majors in the social and behavioral sciences.

**Pre-Requisites**

[[PS-111]], junior standing. Course will be cross-listed with PSY and [[SOC-309]]

**PS-311. THE AMERICAN PRESIDENCY****Credits:** 3

An exploration and analysis of the development of the American President as political leader, chief executive, and world leader as well as the origins and growth of the institutional presidency. Special attention is given to the selection process and its effect on the Presidency. Offered in the fall semester in odd years.

**Pre-Requisites**

[[PS-111]] or consent of the instructor.

## Course Descriptions

### **PS-312. THE US CONGRESS**

**Credits:** 3

Congress is often referred to as "the People's Branch" of government because voters now directly elect members of both houses, which is different than the other two branches. Yet Congress regularly is held in low esteem by the public. This course explores the constitutional basis of Congress: how it is elected, its powers and its role in a system of separate branches with checks and balances. It also traces Congress's historical development and explains how and why it functions today. Multiple case studies are used to illustrate important points, and a congressional simulation is conducted at the semester's end in which students assume the role of a newly elected member of the House. Offered every spring semester in even years.

#### **Pre-Requisites**

[[PS-111]] or consent of the instructor.

### **PS-331. THE CONSTITUTION AND THE FEDERAL SYSTEM**

**Credits:** 3

The study of the meaning of the Constitution as interpreted by the Supreme Court. Analysis of the powers of the three branches of government and of the relations between the states and the federal government. Offered in the spring semester in even years.

#### **Pre-Requisites**

[[PS-111]], [[PS-233]], or consent of the instructor.

### **PS-332. CIVIL RIGHTS AND LIBERTIES**

**Credits:** 3

The study of the growth and change of the American Constitution through analyses of the landmark decisions regarding free speech and press, separation of church and state, rights of persons accused of crimes, equal protection of the laws, voting rights. Offered in the fall semester in even years.

#### **Pre-Requisites**

[[PS-111]], [[PS-233]], or consent of the instructor.

### **PS-341. MODEL UNITED NATIONS**

**Credits:** 3

This course is a comprehensive examination of the role of the United Nations in the world, culminating in the Model United Nations conference in New York. The course will prepare students to participate in the conference by teaching them the structures and functions of the UN as well as the history and viewpoints of the assigned country.

### **PS-345. AMERICAN NATIONAL SECURITY POLICY**

**Credits:** 3

This course analyzes U.S. National Security Policy, the combination of foreign and defense policies. Using theories of international politics and foreign policy, students learn about the evolution of U.S. national security from the War of Independence to the contemporary period. Theoretical approaches, such as geopolitics, balance of power, and force doctrines, are examined. The agencies and personnel that develop and implement security policy are also studied.

#### **Pre-Requisites**

[[PS-141]] or permission of the instructor.

### **PS-350. COMPARATIVE POLITICS: THEORY AND ANALYSIS**

**Credits:** 3

This course is an introduction to the study of politics and governments from a comparative perspective. It is not a survey course of the governmental institutions of particular countries, but rather an examination of types of governments and regimes, the transitions that may occur between types of government, and approaches to studying these topics. The course examines the ways that ethnicity and cultural ideas affect governments and regime transition.

#### **Pre-Requisites**

Sophomore standing.

### **PS-354. ECOTOURISM DEVELOPMENT IN COSTA RICA**

**Credits:** 3

As an international service-learning course, this class will work with a selected community in Costa Rica on their ecotourism development plan. Students will assist this community with a variety of tasks including an ecotourism business plan, sustainability projects and other tasks determined by our community partner. The course will begin with an examination of the public policy and economic aspects of the development of ecotourism in Costa Rica and how it can benefit our community partner. The second portion of the course will provide an intensive in-country experience with ecotourism stakeholders from both the public and private sector. Students will design and implement a number of projects in Costa Rica to assist the community in the development of its ecotourism industry. The final segment of the course will examine the effects of the service projects completed in Costa Rica on campus.

### **PS-380. POLITICAL SCIENCE SENIOR PROJECT**

**Credits:** 3

This course is the capstone experience for Political Science majors. During the semester, the student completes the research project begun during [[PS-261]] (that is, data and information are gathered and analyzed), and the results written in a formal paper. Students present their findings in a public forum where the department's faculty and students are present. Offered every semester.

#### **Pre-Requisites**

Senior standing, [[PS-261]] and [[PS-265]]

**PS-394. PRACTICUM**

**Credits:** 1-3

**Pre-Requisites**

No course prerequisites, but the permission of the instructor or faculty member is required in advance.

**PS-399. COOPERATIVE EDUCATION**

**Credits:** 1-6

Professional cooperative education placement in a private or public organization related to the student's academic objectives and career goals. In addition to their work experience, students are required to submit weekly reaction papers and an academic project to a Faculty Coordinator in the student's discipline. (See the Cooperative Education section of this bulletin for placement procedures.)

**Pre-Requisites**

Sophomore standing, minimum 2.0 cumulative GPA, consent of academic advisor, and approval of placement by the department chairperson.

**PSY. PSYCHOLOGY**

**PSY-101. GENERAL PSYCHOLOGY**

**Credits:** 3

An introduction to the field of psychology with emphasis on objective and systematic methods of inquiry. Extensive survey of major psychological topics including: biological basis of behavior, sensory systems, learning, cognition, emotions, consciousness, development, stress, personality, social factors and mental health.

**PSY-200. STATISTICS**

**Credits:** 4

An introduction to the use of statistical procedures (by hand and with SPSS) in the analysis of psychological data. Topics include descriptive statistics and inferential statistics. Techniques such as t-tests, ANOVA, correlation and regression will be used for hypothesis testing. It is recommended that students take this course at the end of their sophomore or their junior year. Psychology and Neuroscience majors must earn a 2.0 or higher in this course.

**Pre-Requisites**

[[PSY-101]] and Math competency (MTH 101 or higher).

**PSY-221. DEVELOPMENTAL PSYCHOLOGY**

**Credits:** 3

The course provides a general view of human growth and development from conception through the life span. Physical, cognitive, personal, and social development of the various stages of life will be presented. Discussions will include issues such as the influence of heredity versus environment and how these issues can be studied using various developmental research techniques.

**Pre-Requisites**

[[PSY-101]].

**PSY-222. ADOLESCENT PSYCHOLOGY**

**Credits:** 3

This course is designed as a study of the adolescent stage of life. Emphasis will be placed on the following areas of development: physical; emotional; cognitive; and social.

**Pre-Requisites**

[[PSY-101]].

**PSY-242. PERSONALITY**

**Credits:** 3

An examination of the major theoretical perspectives on personality development and functioning, with additional emphasis on the assessment of personality and research in personality.

**Pre-Requisites**

[[PSY-101]].

**PSY-250. APPLIED BEHAVIOR ANALYSIS**

**Credits:** 3

This course will explore the dynamics and management of human behavior. As such, the course will involve exercises with empirical research, statistics, literature searches and analysis with emphasis on the principles emanating from Operant and Pavlovian conditioning phenomena.

**Pre-Requisites**

[[PSY-101]].

**PSY-257. NEUROPSYCHOLOGY**

**Credits:** 3

A survey of the relationship between nervous system physiology and human behavior with emphasis on neurological disorders, neuropsychological assessment, head injury, cerebral asymmetry, and rehabilitation.

**Pre-Requisites**

[[PSY-101]].

**PSY-264. POSITIVE PSYCHOLOGY**

**Credits:** 3

Positive Psychology encompasses psychological theory and research about what makes our lives satisfying, purposeful, and "worth living", as well as what creates happiness and well-being. Students will examine the major theories and concepts of the field of positive psychology, and will engage in a variety of empirically-supported interventions designed to help them reach their fullest potential, improve overall quality of life, and enhance psychological well-being.

**PSY-266. PEAK PERFORMANCE COACHING**

**Credits:** 3

Peak Performance Coaching is a field of study and application with the aim of helping individuals reach their optimal level of performance. Students will learn and use multiple methods that can help clients with the process of setting and reaching goals. This course surveys and applies approaches such as Neurolinguistic Programming (NLP) and Life Coaching, employing techniques from these disciplines.

**Pre-Requisites**

[[PSY-101]]

## Course Descriptions

### PSY-300. RESEARCH METHODS

**Credits:** 4

A lecture and laboratory course designed to familiarize the student with the methods of psychological research. Hands-on experimental participation will give the student direct experience with research design and statistical analyses using SPSS. The student will prepare a formal APA style research proposal to be used for the capstone experience.

[Click here for course fees.](#)

#### Pre-Requisites

[[PSY-101]] and [[PSY-200]]. Students must have earned a 2.0 or higher in [[PSY-200]]. To be taken by Psychology or Neuroscience majors only, during the junior or senior year.

### PSY-301. PSYCHOLOGICAL RESEARCH

**Credits:** 3

An introduction to how psychological research methods and statistics are used in academic journals and the popular media. The following topics will be discussed: scientific method, research methods used to gather evidence, descriptive statistics and hypothesis testing. Students will be asked to critically review and evaluate research findings.

#### Pre-Requisites

[[PSY-101]] and [[PSY-200]]. Students must have earned a 2.0 or higher in [[PSY-200]]. To be taken by Psychology majors only, during the junior or senior year.

### PSY-309. CAREER MENTORING FOR THE SOCIAL SCIENCES

**Credits:** 2

This course will offer career guidance for students in the Behavioral and Social Sciences. The course will include topics such as mentoring, networking, résumés and interviewing skills.

#### Pre-Requisites

[[PSY-101]], junior standing. Course will be cross-listed with PS and [[SOC-309]] Course credits will not count towards minor credits. Open only to majors in the Social and Behavioral Sciences.

### PSY-311. BEHAVIORAL NEUROSCIENCE

**Credits:** 4

A study of the physiological mechanisms mediating behavior and cognition. Emphasis on the structure and function of the nervous system and the neurophysiological bases of sensory processes, emotion, abnormal behavior, sleep, learning and memory, pain, and drug abuse. Laboratory experience includes brain dissection and psychophysiological techniques employed in human behavioral neuroscience research.

[Click here for course fees.](#)

#### Pre-Requisites

[[PSY-101]]; junior or senior standing.

### PSY-331. COGNITION

**Credits:** 3

A survey of human cognitive processes such as attention, pattern recognition, memory, language, and problem solving as well as other selected aspects of human cognition. The course includes historical as well as current perspectives on cognitive issues and emphasis on the research techniques used.

#### Pre-Requisites

[[PSY-101]].

### PSY-333. CRITICAL THINKING IN PSYCHOLOGICAL SCIENCE

**Credits:** 3

This course provides an opportunity to learn and practice the basic skills of critical thinking within the context of psychological science. Students will evaluate claims and theories in psychology, generate alternative explanations of psychological findings, identify common fallacies in thinking, construct and evaluate arguments, and learn how to become a more intelligent consumer of information. Additional topics include the interface of politics and the media with science and the dangers of pseudoscience.

#### Pre-Requisites

[[PSY-101]].

### PSY-341. INTRODUCTION TO SOCIAL PSYCHOLOGY

**Credits:** 3

An introduction to the study of social behavior from a psychological perspective. Topics include attitude formation and change, conformity, leadership, culture, gender and sexuality, prejudice and discrimination. Cross listed with [[SOC-341]].

#### Pre-Requisites

[[ANT-101]], [[PSY-101]], or [[SOC-101]].

### PSY-351. BEHAVIORAL MEDICINE

**Credits:** 3

This course provides a survey of the basic theoretical concepts and major issues in Behavioral Medicine. Specifically, this course examines how the areas of health, illness, and medicine can be studied from a psychological perspective. Topics of emphasis include the following: the psychological aspects of wellness and illness; preventive medicine; stress; chronic and terminal diseases (such as cancer and AIDS); and the use of alternative medicine.

#### Pre-Requisites

[[PSY-101]].

### PSY-352. ABNORMAL BEHAVIOR

**Credits:** 3

A general survey of psychological disorders in children and adults with emphasis on symptomatology, etiology, and assessment. Forensic and classification issues are also examined.

#### Pre-Requisites

[[PSY-101]], [[PSY-242]].

**PSY-353. CLINICAL METHODS IN PSYCHOLOGY****Credits:** 3

A survey of the clinical methods in psychology including general therapeutic models and specific clinical techniques. Issues of assessment and diagnosis of psychological disorders are examined.

**Pre-Requisites**

[[PSY-101]]; [[PSY-242]]; [[PSY-352]]

**PSY-354. THE EXCEPTIONAL INDIVIDUAL****Credits:** 3

A study of the psychological, physical, and social challenges and needs of exceptional individuals with an emphasis on etiology, assessment, impact, and educational interventions.

**Pre-Requisites**

[[PSY-101]], [[PSY-221]].

**PSY-355. FORENSIC PSYCHOLOGY****Credits:** 3

A survey of the role that psychology has played in the legal system from issues of morality and theories of crime, to eyewitness testimony, the evaluation of criminal suspects, and jury selection. The application of the methods and theories of psychology to the legal system will be emphasized.

**Pre-Requisites**

[[PSY-101]]

**PSY-356. INDUSTRIAL/ORGANIZATIONAL PSYCHOLOGY****Credits:** 3

A survey of the applied areas of personnel, organizational, human factors, and consumer psychology.

**Pre-Requisites**

[[PSY-101]].

**PSY-358. PSYCHOLOGICAL TESTS AND MEASURES****Credits:** 3

A survey of the psychometric properties of various instruments and measures of psychological phenomena (especially intelligence and personality). A variety of group and individual tests are studied as to their reliability, validity, and utility.

**Pre-Requisites**

[[PSY-101]], [[PSY-200]].

**PSY-359. PSYCHOPHARMACOLOGY****Credits:** 3

A study of the effects and mechanisms of the action of psychoactive drugs on behavior. Focus will be placed on drugs used to treat psychopathological disorders and drugs of abuse. Topics of emphasis include a survey or stimulants, depressants, antipsychotics, antidepressants, psychedelics, and legal drugs, such as caffeine, nicotine, and alcohol.

**Pre-Requisites**

[[PSY-101]].

**PSY-362. HISTORY OF PSYCHOLOGY****Credits:** 3

A study of the philosophic and scientific roots of contemporary psychology, with emphasis on the applicability of past questions and knowledge to current psychological thought.

**Pre-Requisites**

[[PSY-101]].

**PSY-398. TOPICS****Credits:** 3

The study of a topic of special interest not extensively treated in other courses. Topics chosen according to interest of the instructor. Because of its variable content, this course may be repeated for credit.

**PSY-399. COOPERATIVE EDUCATION****Credits:** 1-3

Professional cooperative education placement in a private or public organization related to the student's academic objectives and career goals. In addition to their work experience, students are required to submit weekly reaction papers and an academic project to a Faculty Coordinator in the student's discipline. (See the Cooperative Education section of this bulletin for placement procedures.)

[Click here for course fees.](#)

**Pre-Requisites**

Sophomore standing, minimum 2.0 cumulative GPA, consent of academic advisor, and approval of placement by the department chairperson.

**PSY-400. RESEARCH CAPSTONE****Credits:** 3

This course is designed to provide a research-based capstone experience for senior Psychology majors. Students will run an experiment, conduct the appropriate statistical analysis, and present the results formally in an APA manuscript, a poster, and in an oral presentation.

[Click here for course fees.](#)

**Pre-Requisites**

[[PSY-101]]; [[PSY-200]]; [[PSY-300]]; Senior status and departmental permission.

**PSY-401. APPLIED CAPSTONE****Credits:** 4

This course will offer a professional capstone experience, including a required internship experience. Students will prepare client case presentations based upon their observations during their internship. An internship is required prior to taking PSY 401 (PSY 399) and a second internship is required for this course, which is counted with the four credit requirement.

[Click here for course fees.](#)

**Pre-Requisites**

[[PSY-101]]; [[PSY-200]]; [[PSY-301]]; [[PSY-399]]; Senior status.

### SM. SM

#### SM-201. INTRODUCTION TO SPORTS MANAGEMENT

**Credits:** 3

**Terms Offered:** Fall, Spring, Summer

This course is an introduction to the field of sport management. The course examines the historical development, current trends, best practices, and future trends of sport management.

**Pre-Requisites**

[[BA-152]] or [[BA-153]] with a minimum grade of 2.0.

#### SM-261. SPORT PSYCHOLOGY

**Credits:** 3

**Terms Offered:** Spring

Sport Psychology course is designed to help students learn the theoretical concepts, research and intervention skills in the psychology of sport and exercise. Students will learn different approaches to understand and evaluate psychological aspects of sport performance.

**Pre-Requisites**

[[SM-201]] with a minimum grade of 2.0

#### SM-325. SPORT MARKETING

**Credits:** 3

**Terms Offered:** Fall

Sport Marketing course is designed to provide students with a broad and contemporary overview of the sport marketing field. This course will compare and contrast the field of sport and entertainment marketing with the practices and applications of mainstream marketing.

**Pre-Requisites**

[[SM-201]] with a minimum grade of 2.0

#### SM-341. SPORT FINANCE AND ECONOMICS

**Credits:** 3

**Terms Offered:** Spring

Sport Finance and Economics course provides a comprehensive synopsis of the application of financial and economic management used in the sport organization decision making context from both a macro and micro level.

**Pre-Requisites**

[[SM-261]] or [[SOC-261]] with a minimum grade of 2.0

#### SM-355. FACILITY MANAGEMENT

**Credits:** 3

**Terms Offered:** Fall

Facility Management course is designed to provide students the opportunity to learn multiple aspects of sport facilities and the management of events held at these facilities. Students will gain an understanding of the breadth and complexity of facility planning issues in sport, and the tools necessary to effectively plan and manage sport facilities through hands on, experiential exercises coupled with classroom lectures, discussions, and guest speakers.

**Pre-Requisites**

[[SM-201]] with a minimum grade of 2.0

#### SM-461. CAPSTONE IN SPORT MANAGEMENT

**Credits:** 3

**Terms Offered:** Fall, Spring

This capstone class is the final course in the degree sequence for students majoring in Sports Management. Students will review, assess, and apply the concepts they have learned during undergraduate studies through the creation of a customized graduation portfolio.

**Pre-Requisites**

[[SM-325]] with a minimum grade of 2.0

#### SM-462. SPORTS MANAGEMENT INTERNSHIP

**Credits:** 3

**Terms Offered:** Fall, Spring, Summer

This course is designed to help students gain practical, hands on experience in the sport management field. Students will work directly with sport management professionals applying curricular theory and principles to real life situations.

**Pre-Requisites**

[[SM-201]] with a minimum grade of 2.0

#### SM-466. ADVANCED SPORTS MANAGEMENT INTERNSHIP

**Credits:** 3

**Terms Offered:** Fall, Spring, Summer

This course is designed to help students gain practical, hands on experience in the field of sports. Students will work directly with sport management professionals at a sport organization.

**Pre-Requisites**

[[SM-341]] with a minimum grade of 2.0

### SOC. SOCIOLOGY

#### SOC-101. INTRODUCTION TO SOCIOLOGY

**Credits:** 3

A systematic view of sociology, providing essentials for an approach to questions about man in society; analysis of social processes, structures, and functions.

#### SOC-201. INTRODUCTION TO CRIMINAL JUSTICE

**Credits:** 3

This course introduces students to the American criminal justice system, with a focus on the interconnectedness of the major pieces: the police, the courts, and the correctional system. Benefits and limitations of the existing criminal justice system will be explored, along with growing threats to both society and the system itself.

**Pre-Requisites**

[[SOC101]] or Permission of Instructor

#### SOC-211. THE FAMILY

**Credits:** 3

History and ethnological studies of family. Role of family in the development of the individual. Interrelation of church, state, and family. Social conditions and changes affecting the American family. Family stability and disorganization.

**Pre-Requisites**

[[ANT-101]] or 102, [[SOC-101]], or approval of the instructor.

**SOC-212. HUMAN SEXUALITY****Credits:** 3

A balanced and thoughtful introduction to what is currently known about human sexuality. Research in sexuality comes from a variety of disciplines, including Psychology, Sociology, Biology, Medicine, Physical Education, and Human Education. Without assuming that the student has an extensive background in any of these fields, this course draws liberally on all of them and works hard to show how the biology, psychology, and sociology of sex are interrelated.

**Pre-Requisites**

[[SOC-101]] or approval of the instructor.

**SOC-214. SEX ROLES****Credits:** 3

This course deals with the origins of sex roles, the historical changes in sex roles, the consequences of sex roles to the individual and to society, and the outlook for sex roles in the future.

**Pre-Requisites**

[[ANT-101]] or 102, [[SOC-101]], or approval of the instructor.

**SOC-215. FAMILY VIOLENCE****Credits:** 3

It is customary to think of violence between family members as infrequent and, when it does occur, as being the result of some mental defect or aberration. Research evidence shows that neither of these views is correct. This course examines the prevalence, experience, causes, and prevention of family violence.

**Pre-Requisites**

[[ANT-101]] or [[ANT-102]], [[SOC-101]], or approval of the instructor.

**SOC-220. VIOLENCE IN SOCIETY****Credits:** 3

An overview of the causes, correlates, and history of violence in American society. Topics include the relationship between guns and gun control and violence, violence and popular culture, drug-related violence, and the development of organized crime and gangs in the United States.

**Pre-Requisites**

[[SOC-101]]

**SOC-222. CRIMINOLOGY****Credits:** 3

An analysis of the nature and extent of crime and the causes and prevention of criminality. Topic areas include the history of criminology, criminological research methods, the extent and patterns of crime, theories of criminal behavior, and current issues surrounding crime in the U.S. today.

**Pre-Requisites**

[[SOC-101]] or approval of the instructor.

**SOC-223. DRUGS AND ALCOHOL IN AMERICAN SOCIETY****Credits:** 3

An examination of drugs and alcohol in American society as a major social problem.

**Pre-Requisites**

[[SOC-101]] or approval of the instructor.

**SOC-226. CORRECTIONS, PROBATION AND PAROLE****Credits:** 3

A study of the agencies devoted to the correction and treatment of convicted offenders with a special focus on adult and juvenile probation, parole agencies supervising offenders in the community, as well as residential correction facilities, including jails, prisons, and juvenile institutions.

**Pre-Requisites**

[[SOC-101]] or approval of the instructor.

**SOC-228. DEVIANCE AND SOCIAL CONTROL****Credits:** 3

This course examines the nature of deviant behavior and the social responses to it. Topics covered include the following: what constitutes deviance; theories of deviance; varieties of deviant behavior; and the types of societal responses to deviant behavior.

**Pre-Requisites**

[[SOC-101]] or approval of the instructor.

**SOC-231. FIELDS OF SOCIAL WORK****Credits:** 3

A survey of the main problems of social work and of agencies and methods that have developed to cope with them. The nature and requirements of the different fields of social work.

**Pre-Requisites**

[[ANT-101]] or 102, [[PSY-101]], [[SOC-101]], or approval of the instructor.

**SOC-234. GROUP COUNSELING****Credits:** 3

Students enrolled in this course will learn about different types of group counseling services. Students will acquire knowledge of group practice issues for each phase in the evolution of groups. Students will develop initial competence in beginning work as a group leader or facilitator.

**Pre-Requisites**

[[SOC-101]].

**SOC-235. CORRECTIONS COUNSELING****Credits:** 3

Interviewing and intervention strategies in dealing with the criminal offender population in both prison and community settings, as well as the social services available for this population.

**Pre-Requisites**

[[SOC-101]] or approval of the instructor.

## Course Descriptions

### **SOC-236. INDIVIDUAL COUNSELING**

**Credits:** 3

Students enrolled in this course will gain knowledge of the counseling process, including values, goals, methods, and limitations. Students will learn about various client characteristics that impact the counseling relationship. Students will develop initial competence in delivering counseling services.

**Pre-Requisites**

[[SOC-101]].

### **SOC-251. SOCIOLOGY OF MINORITIES**

**Credits:** 3

A theoretical analysis of inter-group tensions and processes of adjustment with special reference to modern racial, national, and religious conflicts, both domestic and abroad.

**Pre-Requisites**

[[ANT-101]] or 102, [[SOC-101]], or approval of the instructor.

### **SOC-252. RACE, CLASS, GENDER AND CRIME**

**Credits:** 3

An examination of the relationship between social structure and crime, with an emphasis on developing and applying a critical perspective. Topics include the relationship between immigration and crime, the role of protests both contemporary and historically in shaping our attitudes about crime, the ways that socialization impacts criminality across race/class/gender boundaries, and ways in which the system can be improved.

**Pre-Requisites**

[[SOC-101]]

### **SOC-261. SOCIOLOGY OF SPORT**

**Credits:** 3

An examination of sport from a social and cultural perspective. Emphasis is placed on examining how the institution of sport is a microcosm of American society, reflecting society's major cultural beliefs, and how the organization of sport reflects that of society.

**Pre-Requisites**

[[SOC-101]] or approval of the instructor.

### **SOC-263. THE URBAN ENVIRONMENT**

**Credits:** 3

Cross-listed with [[PS-212]]. See description under the Political Science course listings.

### **SOC-309. CAREER MENTORING IN THE SOCIAL SCIENCES**

**Credits:** 2

This course will offer career guidance for students in the Behavioral and Social Sciences. The course will include topics such as mentoring, networking, résumés and interviewing skills.

**Pre-Requisites**

[[SOC-101]], junior standing. Course will be cross-listed with PS and [[PSY-309]]

### **SOC-325. JUVENILE DELINQUENCY**

**Credits:** 3

An examination of the nature and extent of juvenile delinquency, its causes, and its prevention. Topics include the similarities and differences between juvenile and adult justice systems, trends in juvenile delinquency, theories of delinquency, gangs, and the roles of family, schools, and legal institutions.

**Pre-Requisites**

[[SOC-222]]

### **SOC-341. INTRODUCTION TO SOCIAL PSYCHOLOGY**

**Credits:** 3

A general survey of the field of social psychology. Social factors in human nature, psychology of individual differences, social interaction, collective behavior, psychology of personality, and social pathology. Cross listed with [[PSY-341]].

**Pre-Requisites**

[[ANT-101]] or 102, [[PSY-101]], [[SOC-101]], or approval of the instructor.

### **SOC-352. SOCIAL STRATIFICATION**

**Credits:** 3

A survey of the structure and dynamics of social inequality in American life. Attention is focused on the institutionalization of power arrangements that perpetuate intergenerational patterns of economic, political, and prestige inequalities among collectivities. A special effort is made to compare the consequences of structured social inequality for the very wealthy and the very poor.

**Pre-Requisites**

[[ANT-101]] or 102, [[SOC-101]], or approval of the instructor.

### **SOC-360. WHITE COLLAR CRIME**

**Credits:** 3

A broad introduction to the theoretical and practical concerns that arise in the study of white collar crime and other forms of deviance conducted by the upper class in a capitalist society. Theoretical aspects of governments and organizations are examined to further understand the damage to society caused by white collar crime.

**Pre-Requisites**

[[SOC-222]] or approval of the instructor.

### **SOC-370. QUANTITATIVE REASONING FOR THE SOCIAL SCIENCES**

**Credits:** 3

This course is an introduction to quantitative analysis for the social sciences using SPSS, one of the most frequently and widely used statistical packages in the world. Students will learn how to enter and manipulate data in SPSS, apply and interpret statistics from descriptive through multiple regression, and test hypotheses using statistical methods. Cross listed with [[PS-265]].

**Pre-Requisites**

[[PS-261]], [[SOC-101]], [[SOC-371]], or approval of the instructor.

**SOC-371. METHODS OF RESEARCH IN SOCIOLOGY****Credits:** 3

Introduction to sociological research; selected problems of research in social relations; interviewing techniques; questionnaire design and case studies.

**Pre-Requisites**

[[SOC-101]] or approval of the instructor.

**SOC-375. ADVANCED CRIMINOLOGICAL THEORY****Credits:** 3

This course is designed for students currently taking the sociological methods course (SOC371) as part of the sociology and criminology capstone process. This course investigates the most common criminological theories students are likely to utilize for their own research projects. Theories are discussed with a focus on the operationalization of concepts of theory into variables that students may find in social science databases.

**Pre-Requisites**

[[SOC-222]] and [[SOC-370]].

**SOC-381. SOCIOLOGICAL THEORY****Credits:** 3

The aim of the course is provide the student majoring in sociology, or in one of the related fields, with an historical background necessary for understanding of the current trends in sociology as well as for clarification of its distinct subject matter, problems, and methods.

**Pre-Requisites**

[[SOC-101]] or approval of the instructor.

**SOC-390. SENIOR CAPSTONE****Credits:** 3

This course is intended for senior sociology majors. In this course you will complete an empirical research paper, quantitative or qualitative, and present the results to an audience of faculty and peers.

**Pre-Requisites**

[[SOC-370]], [[SOC-371]], [[SOC-381]].

**SOC-399. COOPERATIVE EDUCATION****Credits:** 1-6

Professional cooperative education placement in a private or public organization related to the student's academic objectives and career goals. In addition to their work experience, students are required to submit weekly reaction papers and an academic project to a Faculty Coordinator in the student's discipline. (See the Cooperative Education section of this bulletin for placement procedures.)

**Pre-Requisites**

Sophomore standing, minimum 2.0 cumulative GPA, consent of academic advisor, and approval of placement by the department chairperson.

**SP. SPANISH****SP-101-102. ELEMENTARY SPANISH****Credits:** 3 each

Fundamentals of spoken and written Spanish, and introduction to Spanish culture. Emphasis is placed on communicative proficiency.

**Pre-Requisites**

Completion of Spanish Placement Test.

**SP-203-204. INTERMEDIATE SPANISH****Credits:** 3 each

Continuation of development of communicative skills in Spanish. Includes review and further study of grammar. Oral and written work based upon short cultural and literary texts. Intended for non-fluent Spanish speakers.

**Pre-Requisites**

[[SP-102]], appropriate Spanish Placement Test score or permission of the instructor.

**SP-205. CONVERSATION****Credits:** 3

Practice in spoken Spanish, including discussions, oral presentation, and role-playing. Includes written exercises. Intended for non-fluent Spanish speakers.

**Pre-Requisites**

[[SP-204]] or permission of the instructor.

**SP-206. ADVANCED GRAMMAR, STYLISTICS, AND COMPOSITION****Credits:** 3

Practice in written and oral skills, with an emphasis on the refinement of grammatical and stylistic abilities.

**Pre-Requisites**

[[SP-204]] or permission of the instructor.

**SP-208. CULTURE AND CIVILIZATION****Credits:** 3

Systematic introduction to the political, social, economic, and cultural characteristics of Spain from the Middle Ages to Modern Times. Readings from a variety of sources including the Spanish press.

**Pre-Requisites**

[[SP-204]] or permission of the instructor.

**SP-209. LATIN AMERICAN CULTURE AND CIVILIZATION****Credits:** 3

Systematic study of the historical, cultural, economic, and political development of the countries of Latin America (Spanish-speaking countries and Brazil). Pre-Columbian cultures (Maya, Aztec, and Inca) will be examined. Use of audio-visual material and other activities included.

**Pre-Requisites**

[[SP-204]] or permission of the instructor.

## Course Descriptions

### SP-210. SPANISH FOR BUSINESS

**Credits:** 3

Introduction to language use in the contemporary Spanish business world, including practice in reading, understanding, and writing business communications.

#### Pre-Requisites

[[SP-204]] or permission of the instructor.

### SP-211. CONVERSATIONAL SPANISH FOR HEALTH AND SOCIAL SERVICES

**Credits:** 3

Designed to provide the students with the basic terminology and conversational skills in Spanish for the health care field and the social services area. Work on special problems of grammar and idiomatic expression.

#### Pre-Requisites

[[SP-204]] or permission of the instructor.

### SP-212. COMPARATIVE GRAMMAR THROUGH TRANSLATION

**Credits:** 3

This course provides a grammatical comparison between Spanish and English by translating sentences and paragraphs in both languages. By comparing the two languages, non-native Spanish-speaking students will deepen their understanding of Spanish as well as learn more about their own languages. The focus is on syntax and vocabulary.

#### Pre-Requisites

[[SP-203]]-204 or permission of the instructor.

### SP-219. CULTURE IN CONTEMPORARY SPAIN

**Credits:** 3

This course covers the main aspects of the political, economic, and social circumstances in contemporary Spain. It provides an overview of the history, politics, and culture of contemporary Spain, a country that has experienced drastic changes in the last decades and continues to face old and new challenges. The focus will be on developing an understanding of the main events that have influenced current politics and modern culture. The class is taught in Spanish and it aims to equip students with the appropriate skills for a critical analysis of current events.

#### Pre-Requisites

[[SP-204]] or permission of the instructor.

### SP-220. SPANISH LISTENING AND COMPREHENSION

**Credits:** 3

'Listening and Comprehension' develops a better understanding of spoken colloquial Spanish. Students will work with audio and audio-visual materials that engage cultural topics connected to language use in Hispanic countries. Intended for non-native speakers.

#### Pre-Requisites

[[SP-205]], [[SP-206]] or permission of the instructor.

### SP-301. INTRODUCTION TO LATIN AMERICAN LITERATURE

**Credits:** 3

An examination of literary language, genre conventions, and critical approaches, as well as an introduction to Spanish literary history.

#### Pre-Requisites

[[SP-205]], 206 or permission of the instructor.

### SP-307. SURVEY OF SPANISH LITERATURE I

**Credits:** 3

[[SP-307]] is a systematic survey of peninsular (Spanish) literature from the Middle Ages through the 'Ilustración' or Neoclassicism literary periods, including a variety of genres. This course provides an overview of the development of literary movements throughout history.

#### Pre-Requisites

[[SP-205]], 206 or permission of the instructor.

### SP-308. SURVEY OF SPANISH LITERATURE II

**Credits:** 3

[[SP-308]] is a systematic survey of Spanish literature from Romanticism through the contemporary literary periods, including a variety of genres. This course provides an overview of the development of literary movements throughout history.

#### Pre-Requisites

[[SP-205]], 206 or permission of the instructor.

### SP-310. WOMEN IN LITERATURE

**Credits:** 3

This course maps the evolution of women's rights, emancipation and freedom from 1600s to present following a social and multicultural approach. The course covers canonical and non-canonical writers in the Spanish-speaking world and discusses the political, social and historical context of writers in specific historical periods and countries, including the main socio-political and cultural events that have shaped women in these countries. Comparisons and contrasts within the different geographical areas and the United States will be also analyzed.

#### Pre-Requisites

[[SP-204]] or permission of the instructor.

### SP-390. SENIOR PROJECTS: CAPSTONE

**Credits:** 1

An independent project culminating in a formal research project and presentation. The project serves as a capstone experience demonstrating the student's learning in the major. Open only to senior Spanish majors.

### SP-397. SEMINAR

**Credits:** 1-3

Presentations and discussions of selected topics. Maximum of three credits per student.

**SP-399. COOPERATIVE EDUCATION****Credits:** 1-6

Professional cooperative education placement in a private or public organization related to the student's academic objectives and career goals. In addition to their work experience, students are required to submit weekly reaction papers and an academic project to a Faculty Coordinator in the student's discipline. (See the Cooperative Education section of this bulletin for placement procedures.)

**Pre-Requisites**

Sophomore standing, minimum 2.0 cumulative GPA, consent of academic advisor, and approval of placement by the department chairperson.

**STE. STUDY TOUR EXPERIENCE****STE-300. STUDY TOUR EXPERIENCE****Credits:** 3

This course, intended for use by all departments, is designed to offer students the opportunity to experience another culture through an intensive period of study and travel abroad under the guidance of a knowledgeable instructor. The Study Tour Experience has four components: a pre-travel orientation; the concentrated group travel experience; a writing emphasis; and a post-travel follow-up session. Students will be expected to keep a journal during the entire experience that will serve as a reference for the post-travel discussions and paper or project assignment. The travel itself ranges from ten to fourteen days and is scheduled during winter break intersession, spring break, or summer sessions. Scheduling is specifically intended to provide expanded travel opportunities for those students who might not otherwise be free to travel abroad within a semester due to the constraints of tightly sequenced courses within their majors. (10 classroom hours; 10-14 days of fieldwork)

**SUS. SUSTAINABILITY MANAGEMENT CERTIFICATE****SUS-401. INTRODUCTION TO SUSTAINABILITY****Credits:** 3

This course serves as an introduction to the concept of sustainability and will investigate why knowledge of sustainability issues and initiatives is an important business management and operational tool. This course is the first in a series of four courses in the Certificate Program in Sustainability Management.

**Pre-Requisites**

There are no pre-requisites for this course.

**SUS-402. METRICS OF SUSTAINABILITY****Credits:** 3

Metrics of sustainability are the tools and procedures that are utilized to measure the impact and progress of a sustainability management program. These metrics are important because they enable goal setting and facilitate the adoption of sustainable practices. In this course current sustainability reporting and tracking systems will be studied. This course is the second in a series of four courses in the Certificate Program in Sustainability Management.

**Pre-Requisites**

[[SUS-401]]

**SUS-403. SUSTAINABILITY IMPLEMENTATION****Credits:** 3

Students will learn about implementing sustainability management systems through an in-depth study of a manufacturing facility. Key topics to be studied include: setting sustainability goals, development of an environmental policy statement, development of sustainability metrics and sustainability reporting. This course is the third in a series of four courses in the Certificate Program in Sustainability Management

**Pre-Requisites**

[[SUS-401]] and [[SUS-402]]

**SUS-404. INDUSTRY-FOCUSED SUSTAINABILITY****Credits:** 3

In this course students will perform an in-depth study of sustainability standards and practices in the context of a specific industry. This course is the last in a series of four courses in the Certificate Program in Sustainability Management

**Pre-Requisites**

[[SUS-401]], [[SUS-402]], [[SUS-403]]

**THE. THEATRE ARTS****THE-100. APPROACH TO THEATRE****Credits:** 3

Attention will be directed to the importance of the dramatic imagination in reading and viewing plays, with the objective of developing a critical appreciation of the theatre. Lecture, discussion, demonstration, films, college, and professional theatre performances.

**THE-121. STAGECRAFT I****Credits:** 3**Terms Offered:** Fall

An exploration of the many physical facets of theatrical production by introducing the student to the process of translating the concept of a design into physical actuality and of adapting a production to the requirements of a stage. Class and workshop.

## Course Descriptions

### **THE-131. ACTING I**

**Credits:** 3

Basic acting techniques. Creating a variety of characters for the stage through the use of vocal interpretation, physical movement, improvisation, and theatre games.

### **THE-132. VOICE AND DICTION I**

**Credits:** 3

Applied course introducing voice and speech training that combines practical vocal exercises with a method of analyzing and correcting speech problems. The expectation of the course is improvement in the voice and speech work of the individual student, as well as increased body awareness.

### **THE-190. THEATRE LABORATORY**

**Credits:** 1-3

The production aspect of theatre including rehearsals, performances, scene shop, costume shop, lighting shop, propshop, stage management and box office. Required of Theatre Arts and Musical Theatre majors every semester. [Click here for course fees.](#)

### **THE-191. -291-391-491 DEPARTMENT PRACTICUM IN THEATRE PRODUCTION**

**Credits:** 1-3

Credits can be awarded for a major contribution to Theatre Program productions. Approval required from the Director of Theatre.

### **THE-198. -298-398-498 TOPICS**

**Credits:** 1-3

A study of topics of special interest not extensively treated in regularly offered courses.

### **THE-211. THEATRE HISTORY I**

**Credits:** 3

A survey of the historical development and background of theatrical art from ancient times through the seventeenth century.

### **THE-214. SCRIPT ANALYSIS**

**Credits:** 3

An approach to dramatic literature for the theatre artist to read, interpret, and analyze dramatic texts for production and performance values.

### **THE-216. DESIGN FOR THE THEATRE**

**Credits:** 3

This class will explore through lecture and practical exercises the skills and concepts needed to produce scenic, lighting, and costume designs for the theatre.

### **THE-217. AUTOCAD FOR THE STAGE**

**Credits:** 3

This class will develop familiarity with using AutoCAD as a tool for generating drawings for the stage. Offered every other year.

### **THE-219. SOUND DESIGN**

**Credits:** 3

This class develops the knowledge base and skills necessary to execute the Sound Design of a live theatrical performance. Topics include a basic working knowledge of sound equipment, sound itself, and industry-standard show control software. Offered every other year.

### **THE-220. STAGECRAFT II**

**Credits:** 3

Advanced exploration of the many physical facets of theatrical production in order to refine the process of translating the concept of a design into physical actuality and of adapting a production to the requirements of a stage. Class and workshop.

### **THE-222. LIGHTING DESIGN**

**Credits:** 3

An introduction to designing lighting for theatre. Emphasis on the development of visual skills, idea development (script and image), and notation. Production work is required.

### **THE-224. RENDERING FOR THE THEATRE**

**Credits:** 3

An introduction to drawing skills, rendering and visual communication for theatre.

### **THE-225. HISTORIC SCENIC STYLES**

**Credits:** 3

A survey of art through design projects for the theatre.

### **THE-226. SCENIC PAINTING**

**Credits:** 3

An introduction to scene painting techniques, methods, approaches and applications used by the scenic artist.

### **THE-227. COSTUME DESIGN**

**Credits:** 3

An introduction to the basic elements of Costume Design including: Line, Mass, Form, Balance, Hue, and Chroma. Class projects provide an opportunity for the student to render costume sketches, analyze plays, research costume history, and construct basic pattern shapes. Offered every other year.

### **THE-228. STAGE MAKEUP**

**Credits:** 3

This course offers students the opportunity to learn and apply the fundamental principles of standard, character and special effects stage makeup. Offered every other year.

### **THE-230. STAGE MANAGEMENT**

**Credits:** 3

An introduction to the art of stage managing a live theatre performance. Offered every other year.

### **THE-232. ACTING II**

**Credits:** 3

An introduction to the major theories, aims, and styles of acting through performing various roles and monologues in selected dramatic scenes.

### **Pre-Requisites**

[[THE-131]].

**THE-233. VOICE AND DICTION II**

**Credits:** 3

Applied course that continues the refinement of vocal expressiveness and interpretation exploring colloquial and complex texts for purposes of oral communication of the written texts.

**THE-234. DIRECTING I**

**Credits:** 3

An introduction to the principles of directing, including play selection, composition, casting, blocking, and rehearsing. Class and workshop.

**Pre-Requisites**

[[THE-131]] or departmental permission.

**THE-311. THEATRE HISTORY II**

**Credits:** 3

A survey of the historical development and background of theatrical art from the eighteenth century to the present.

**THE-321. SCENIC DESIGN**

**Credits:** 3

Introduces through practical exercises concept development and skills needed to produce scenic designs for the theatre.

**THE-331. ACTING III**

**Credits:** 3

Attention to special problems in acting in terms of classical style. Continued self-discovery through improvisation, kinesthetic awareness, and other basic acting techniques learned in [[THE-232]] are expanded upon.

**Pre-Requisites**

[[THE-131]], [[THE-132]], [[THE-232]], or permission of the instructor.

**THE-334. DIRECTING II**

**Credits:** 3

A study of special problems in directing. Students will prepare a prompt book, critique productions, and direct a one-act play.

**Pre-Requisites**

[[THE-234]].

**THE-394. THE BUSINESS OF THEATRE/AUDITIONS**

**Credits:** 1-3

Discussion of information and preparation to navigate the theatrical and entertainment industries.

**THE-395. -396 INDEPENDENT RESEARCH**

**Credits:** 1-3

Independent study and research for advanced students in theatre under the direction of a faculty member. A research paper at a more substantial level beyond a term paper is required.

**Pre-Requisites**

Approval of the department chairperson.

**THE-399. COOPERATIVE EDUCATION**

**Credits:** 1-6

Professional cooperative education placement in a private or public organization related to the student's academic objectives and career goals. In addition to their work experience, students are required to submit weekly reaction papers and an academic project to a Faculty Coordinator in the student's discipline. (See the Cooperative Education section of this bulletin for placement procedures.)

**Pre-Requisites**

Sophomore standing, minimum 2.0 cumulative GPA, consent of academic advisor, and approval of placement by the department chairperson.

**THE-431. ACTING IV**

**Credits:** 3

Scene study, analysis, and development of acting theories for a sophisticated preparation of audition material and rehearsal technique for the working actor.

**Pre-Requisites**

[[THE-131]], 132, 232, 331, or permission of the instructor.

**THE-493. SENIOR CAPSTONE**

**Credits:** 1-3

Individual performance project intended to inspire students to take on responsibility for self-governance and, through effort, create a meaningful expression of their aesthetic.

**WS. WOMEN'S AND GENDER STUDIES**

**WS-301. INTRODUCTION TO WOMEN'S AND GENDER STUDIES**

**Credits:** 3

This course introduces students to theoretical assumptions that underlie the social construction of gender and the historical development of feminist thought. Students are also exposed to a variety of contemporary issues related to gender, sexuality, race, culture, class, the family, reproduction, and language in light of these theoretical assumptions. Students are expected to complete a senior capstone project that addresses gender as a category of analysis to be presented at the annual Women's and Gender Studies conference. Offered every spring semester.

**Pre-Requisites**

Junior or senior status.

# Index

## A

A Guide To Learning..... 15  
 ABBA Course..... 378  
 abroad..... 354  
 Academic Credit for Demonstrated  
 Competency..... 53  
 Academic Honesty..... 56  
 Academic Requirements and  
 Regulations..... 53  
 Accelerated Baccalaureate Program. 127  
 Accelerated Bachelor of Business  
 Administration (ABBA)..... 378  
 129, 300, 279, 284, 159, 181, 306, 218, 315, 334  
 Accounting and Management  
 Department..... 111  
 ACT..... 282, 285, 286, 287, 291, 297, 300, 301,  
 302, 304, 305, 309, 310, 312, 314, 319, 320,  
 322, 323, 324, 325, 328, 329, 330, 333, 337  
 Admission of Part-time Students... 22, 22  
 Advising Services for Special Academic  
 and Student Development Programs... 27  
 Aerospace Studies..... 382, 90  
 Anthropology..... 383  
 ARMY..... 338  
 Art..... 384, 112  
 Art and Design..... 112  
 Art History..... 282, 333

## B

begr..... 340, 349  
 bioengineering..... 340, 349  
 170, 189, 134, 385, 283, 298, 185, 217, 249  
 Bonner Leader Program..... 23  
 Bookstore..... 27  
 business..... 201, 311, 313  
 Business Administration..... 391  
 Business Analytics..... 285

## C

Campus Counseling..... 27  
 Campus Visits..... 22  
 cannabis chemistry..... 137  
 Careers..... 393  
 Changing from Part-time to Full-time  
 Status..... 22  
 Chemistry..... 134, 283, 139, 393, 286, 298, 185  
 Cognate Minors..... 293  
 Communication Studies..... 401, 96  
 computer information..... 156, 290  
 computer Information system..... 154  
 computer science..... 156, 290  
 Computer Science..... 405, 222  
 Concentration..... 343  
 Course Credit and Grade Point  
 Averages..... 59  
 Creative Writing..... 300, 301, 302  
 Criminology..... 291, 161  
 Cultural Affairs..... 23  
 cw..... 342

## D

Dance..... 409  
 Department of Integrative Media..... 112  
 Digital Humanities..... 174

## E

Earth And Environment Science 163, 178  
 Earth and Environmental 129, 279, 284, 159, 181, 306,  
 Sciences..... 144, 411, 176  
 Earth and Environmental Sciences  
 Minor..... 296  
 Economics..... 414, 297  
 Education..... 415  
 Education: Special Education..... 418  
 Electrical Engineering..... 288, 165, 420  
 Energy Studies..... 423  
 Engineering..... 424, 261, 321  
 Engineering Management.. 172, 425, 299  
 English..... 426, 300, 301, 302, 174  
 Entrepreneurship..... 430, 303, 220, 316  
 Environment Engineering..... 144, 176  
 Environmental Engineering..... 399, 431  
 Environmental Policy..... 304  
 Ethics..... 343, 305  
 event..... 271, 331  
 experience..... 354  
 Experiential Learning..... 54

## F

Fees..... 28  
 Finance..... 111, 433  
 129, 279, 284, 159, 181, 306, 218, 315, 334  
 First-Year Foundations..... 429, 434  
 Foreign Languages..... 434

## G

Geographic Information Science ..... 435  
 Geology..... 144, 176, 183, 436  
 Geology Minor..... 308  
 Global Cultures..... 309  
 Glocal Cultures..... 439

## H

Health and Wellness Services..... 27  
 health science..... 185  
 History..... 439, 310  
 Honors Program..... 441  
 Hospitality Leadership..... 442

## I

Institutional Student Learning  
 Outcomes..... 15  
 Integrative Media..... 112, 443  
 Intercollegiate Athletics..... 446  
 Interdisciplinary..... 337  
 International Relations..... 215, 446, 312  
 Intramural and Intercollegiate Athletics 23

## L

law..... 357  
 Leadership..... 103, 201, 311, 446, 313, 220, 316  
 Literature..... 174  
 lpn-bs..... 127, 217

## M

Management..... 1218, 447, 315, 271, 331, 334  
 Marketing..... 103, 201, 311, 313, 220, 448, 316  
 Math..... 229  
 mathematic..... 156, 290  
 Mathematics..... 222, 449  
 mba..... 348, 356  
 Mechanical Engineering..... 229, 452  
 Media Production..... 146  
 medicine..... 252  
 MILITARY..... 338  
 Military Science (Army ROTC)..... 456  
 322, 323, 324, 325, 328, 329, 330, 333, 337  
 msth..... 222  
 Multimedia Journalism..... 148  
 Music..... 456

## N

Neuroscience..... 319, 247  
 New Student Orientation Program..... 28  
 nurse..... 127, 217, 249  
 Nursing..... 127, 217, 249, 458, 125

## P

Personal and Professional  
 Development..... 355, 470  
 PHA..... 461  
 pharmacy..... 252  
 pharmd..... 356  
 Philosophy..... 470, 320, 259  
 Physics..... 165, 172, 299, 229, 261, 473, 321  
 Policy Studies..... 314, 322  
 Political Science..... 476, 323  
 pre-law..... 357  
 program..... 127, 217  
 Psychology..... 479, 324, 264  
 Public History..... 200, 325

## R

Residence Life..... 24  
 Rhetorical Studies..... 150  
 rn-bs..... 127, 217  
 Room and Board..... 28

**S**

SCIENCE.....	338
SM.....	482
Sociology.....	482, 328, 266
Spanish.....	485, 329, 267
special programs.....	340, 342, 348, 349, 356, 357
Sport Psychology.....	330
sports.....	271, 331
Strategic Communication.....	152
Student Development.....	25
Student Life at Wilkes: An Inclusive Community.....	23
Student Services.....	26
Studio Art.....	282, 333
study.....	354
Study Tour Experience.....	487
SUS.....	487
Sustainability Management Minor.....	335

**T**

The Jay S. Sidhu School of Business and Leadership.....	111
The Office of Student Affairs.....	25, 26
THE SCHOOL OF NURSING.....	125
Theatre Arts.....	487
tour.....	354
Tuition.....	28

**U**

Undergraduate Academic Calendars and Schedules.....	13
Undergraduate Admissions.....	16
university.....	15
University Activities.....	26

**W**

wilkes.....	15
Wilkes University.....	15
Women's and Gender Studies.....	489
Workplace Writing.....	300, 301, 302
Writing.....	174