

# Wilkes University



## 2019-2020

### UNDERGRADUATE BULLETIN

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

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# **Wilkes University**

## **Undergraduate Bulletin**

### **Baccalaureate Studies**

WILKES UNIVERSITY  
Wilkes-Barre, Pennsylvania 18766

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## **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. Discriminatory conduct including sexual harassment and other sexual misconduct or violence such as rape, sexual assault, sexual exploitation and coercion will not be tolerated.

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.

Any member of the Wilkes University community has 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 at 570-408-3842.

## **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 can be addressed to Justin Kraynack, Chief of Operations & Compliance, ext. 4554.

# INTRODUCTION

## Wilkes University

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## 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.

Terese M. Wignot, Ph.D.

Interim Senior Vice-President/Provost  
Wilkes University

## 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**

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## 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);
- 3) SAT or ACT scores (either official copies or scores recorded on the official high school transcript); and
- 4) the application fee (see Student Expenses, "[Undergraduate Application and Admission Fee](#)" in this bulletin).

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 and summer session. 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.

## 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.

## Introduction

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>.

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.

## Standardized Tests

The Scholastic Aptitude Test (SAT) of the College Entrance Examination Board or the Achievement College Test (ACT) is generally required of all applicants planning to enter Wilkes University directly from high school. Students should take one of these examinations before the second semester of the senior year in high school.

Wilkes is a member of the College Entrance Examination Board. Students communicating with the Educational Testing Center in Princeton, New Jersey, or in Los Angeles, California, should refer to the Wilkes University code number (CEEB): 2977.

## 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. The applicant must also sit for the PCAT examination and submit official scores from the examination. 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: Karen Atiyeh; 570-408-4298 or [karen.atiyeh@wilkes.edu](mailto:karen.atiyeh@wilkes.edu).

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.

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 (TOEFL , IELTS STEP Eiken, ELS Level 112, GTEC, SAT, ACT) 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,
- 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.

International Students may be asked to provide a credit evaluation conducted by World Education Service (WES) or a similar University-accepted agency.

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.

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.

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.

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 Student Affairs office for re-admission into the University.

### **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 Office Admissions and on the Wilkes University website: <https://www.wilkes.edu/visit>.

## **Student Life at Wilkes**

### **Student Life at Wilkes: An Inclusive Community**

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.

## 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 Sordoni Art Gallery brings programming in the fine arts to both the campus and the Wilkes-Barre communities. The Center for Global Education and Diversity 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 sixteen varsity sports. Varsity sports for women include basketball, cross-country, field hockey, lacrosse, soccer, softball, tennis, and volleyball. Men compete at the varsity level in baseball, basketball, cross-country, football, golf, soccer, tennis, and wrestling. Varsity teams compete at the Division III level. Wilkes University is a member of the Middle Atlantic Conference (MAC), the Metropolitan Conference for Wrestling (MCW), 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, faculty, and staff participate in individual, dual, and team competitions in traditional sports as well as in innovative activities like plyometrics, 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, the UCoM Recreation and Athletic Center, and the spacious grounds of the Ralston Field 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.

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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: <https://www.wilkes.edu/campus-life/dining-on-campus/>.

## 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 physically demanding activities such as hiking, biking, yoga, and rock climbing. 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 bowling passes to the local bowling lanes and 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 60 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 and 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.

An Inter-Residence Hall Council, an Off-Campus Wilkes Liaison (OWL) council, and a Commuter Council organize activities for undergraduate students, and the University Programming Board oversees a full schedule of 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

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

## Introduction

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

Wilkes University and King's College, through Barnes & Noble College Booksellers, Inc., operate a joint bookstore facility on South Main Street, equidistant between the two campuses, just off Public Square in downtown Wilkes-Barre. This "academic superstore" is designed to meet the specific needs of students at Wilkes and King's, as well as those of the community-at-large. In addition to the standard Barnes & Noble bookstore stock, the Wilkes-King's Bookstore offers comprehensive textbook services, lounge chairs, tables, and a full-service Starbucks Café, where students, faculty, staff, and community members regularly meet. The bookstore also houses a "spirit" shop that features logo merchandise for Wilkes University.

## Campus Counseling

The Office of Campus Counseling assists students in resolving personal concerns or problems. Appointments are available throughout the day, and, if needed, during the evenings and on weekends. Referrals to community agencies and other professionals are made as necessary. The Coordinator of Counseling works closely with student groups and the professional staff of the University to provide workshops and group sessions on topics of special interest or concern.

## Career Services

The Office of Career Services is the liaison between the University and potential employers in business, industry, government, and educational institutions. Various services and workshops are offered to assist students at all stages of their career development. Students are encouraged to participate in the many programs offered by the Office of Career Services by registering at The Center for Career Development and Internships, rear 236 S. River Street at the Student Center Gateway, or contact them by email at [careers@wilkes.edu](mailto:careers@wilkes.edu).

## Center for Global Education and Diversity

The Center for Global Education and Diversity was created in 2008 to better prepare students for success in a multicultural world. The Center provides institutional and regional leadership and programming in global education and diversity issues. Most importantly, the Center houses essential services for underrepresented groups and international students, faculty, and staff, and for those seeking an international experience as part of the Wilkes education. The Center is composed of two offices: International Student Services and the Office of Diversity Initiatives. 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; and
- booking of the Savitz Lounge in the Henry Student Center.

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).

## 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 Safety and Security at ext. 4999.

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.

## International Student Services

For international students, the Center for Global Education and Diversity provides immigration and visa information and assistance, as well as advice on academic, cultural, and personal issues. The Center also provides orientation to life in the United States and the American educational system, assists students in dealings with a variety of offices and constituencies, including U.S. and foreign government agencies, other campus offices and departments, and the community, and serves as advisor to the International Student Organization. These services are available to all international students, non-immigrants and immigrants alike.

## 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 provides campus-wide programming to facilitate the development of cultural competence.

## Financial Matters: Tuition and Fees

### Tuition, Fees, Room and Board

#### Student Expenses for 2019-20

The following chart summarizes student expenses for the 2019-20 academic year, which officially begins with the Summer Session, 2019. 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	\$17,907.00	\$35,814.00
General University Fee	Per semester	\$904.00	\$1,808.00
<b>Total Full-time Undergraduate Tuition &amp; Fees</b>		<b>\$18,811.00</b>	<b>\$37,622.00</b>

School of Pharmacy First Professional Tuition & Fees	Assessment	Per Semester	Annual Total
Tuition (12–18 credits)*	Per Semester	\$19,138.00	\$38,276.00
General University Fee	Per Semester	\$886.00	\$1,772.00
<i>Pharmacy Professional Fees</i>			
Professional Fee - P1	Per Semester	\$500.00	\$1,000.00
Professional Fee - P2	Per Semester	\$500.00	\$1,000.00
Professional Fee - P3	Per Semester	\$500.00	\$1,000.00
Professional Fee - P4	Per Semester	\$500.00	\$1,000.00
<b>Total School of Pharmacy First Professional Tuition &amp; Fees</b>		<b>\$20,024.00*</b>	<b>\$40,048.00*</b>
<i>*Plus the applicable P1 - P4 fees detailed above.</i>			

Part-time Undergraduate Tuition & Fees	Assessment	Rate
Summer Study (all sessions)	Credit hour	\$520.00
Fall & Spring Sessions (1 - 11 credit hours)	Credit hour	\$995.00
Intersession	Credit hour	\$520.00
Excess Credit Hours	Credit hour	\$995.00

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Accelerated BBA Degree	Credit hour	\$449.00
General University Fee	Credit hour	\$40.00
Technology Fee	Credit hour	\$40.00

<b>Audit Fees (Undergraduate Courses)</b>	<b>Assessment</b>	<b>Rate</b>
Full-time Undergraduate and Pharmacy Students	No charge	---
Part-time Undergraduate Students	Credit hour	\$ 497.50
Senior Citizens (62 and older)	Credit hour	\$ 20.00

<b>Other Mandatory Fees</b>		
Applied Music Fees @ \$400 per credit		
<ul style="list-style-type: none"> <li>• 1 credit (14 30-minute private lessons)</li> <li>• 2 credits (14 60-minute private lessons)</li> </ul>	Credit hour	\$400.00
	Credit hour	\$800.00
Graduation Fee	One time	\$170.00
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
<i>Parking Fees and Fines:</i>		
Parking on campus	Per semester	\$120.00
Ralston Field Parking	Per semester	\$40.00
Parking Tickets	Each	\$25.00
Lost Parking Tag	Per semester	\$5.00
Storage Fee	Each	\$15.00
Towing Fee	Each	\$45.00
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



Exceptions	Assessment	Rate
Senior Citizens Discount (62 and older) all attached fees full price	Credit hour	\$413.00
Summer Co-op and Internship* all attached fees full price	Credit hour	\$497.50
Young Scholars	Credit Hour	\$50.00

Residence Hall Rates	Assessment	Per Semester
Residence Hall - Dorm Style	Per semester	\$4,562.00
Residence Hall - Single Room	Per semester	\$4,796.00
Residence Hall - Apartment Style	Per semester	\$5,059.00
Residence Hall - Michelini Hall	Per semester	\$5,059.00
Residence Hall - Rifkin	Per semester	\$4,814.00
Residence Hall - YMCA	Per semester	\$5,303.00
Summer Room Rent	Per week	\$267.00

Meal Plans	Assessment	Per Semester
Colonel Blue	Per semester	\$2,565.00
Colonel Blue Plus	Per semester	\$2,665.00
Colonel Blue Premier	Per semester	\$2,815.00
Colonel Gold	Per semester	\$2,942.00
Colonel Gold Plus	Per semester	\$2,992.00
Colonel Gold Premier	Per semester	\$3,142
Senior Plan	Per semester	\$1,259.00
25-Meal Plan	Per request	\$212.00
50-Meal Plan	Per request	\$524.00
<i>Summer Meal Plans:</i>		
Creative Writing: 10-Meal Block & Residency Meals	Per week	\$250.00
Summer RA Meal Plan		\$398.00

## 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 include in this bulletin is just a basic guide and [www.wilkes.edu](http://www.wilkes.edu) includes more information regarding the Office of Financial Aid.

## 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:

1. Wilkes University need- based grants
2. Federal grant programs
3. Pennsylvania Higher Education Assistance Agency (PHEAA) grant programs
4. Federal work-study

## Introduction

### 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 ([www.fafsa.ed.gov](http://www.fafsa.ed.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: Special students and non-degree seeking 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 2019-2020 could file the FAFSA on or after October 1, 2018.

## Financial Aid for Part-time Students

The Pell Grant, Supplemental Educational Opportunity Grants (S.E.O.G.), PHEAA Grant, College Work-Study, Nursing Loan, Federal Direct Stafford 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 qualify for these programs. In addition to financial need, eligibility is based on enrollment status. Limited funds from the S.E.O.G. Program are available to part-time students who demonstrate exceptional financial need. Except for the 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 course work that is considered to be at the post-baccalaureate level; this means, for financial aid purposes, years five and six of the program you are identified as "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 unsubsidized Direct Stafford Loans (with an annual loan maximum of \$33,000), Graduate Direct PLUS Loans (after the student has used his/her unsubsidized loan eligibility for the year), and private loans. ***Fifth-year and sixth-year Pharmacy students do not qualify for any federal, state, or institutional grants or scholarships.***

## Financial Aid for Students Seeking a Second Degree

Students seeking a second degree may be eligible for the Direct Loan program offered by the Federal Department of Education. In many cases, seeking a second degree does not mean a student is now independent in the Department of Education's view. Please refer to the FAFSA to determine your student status. Additional information is available on the Wilkes University web site.

## 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. Scholarships are applied against tuition only, are divided evenly between the fall and spring semesters (unless otherwise stated) and cannot be used at the graduate level regardless of the student's major and/or semester(s) pursuing a degree at Wilkes University. 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 filed each academic year that the student would like to be considered for grants.
- For a complete list of grants offered through the federal and state government and/or by Wilkes University, please visit [www.wilkes.edu](http://www.wilkes.edu).

## 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 list of all the Federal loan programs, please visit [www.wilkes.edu](http://www.wilkes.edu) or [studentloans.gov](http://studentloans.gov) 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 [www.elmselect.com](http://www.elmselect.com). Wilkes University does not endorse any outside lenders but does provide information through Elm Select of lenders families have used in the past plus other companies who can offer financial assistance.

## Student Employment

- All students applying for Federal and state work-study programs must first complete and file the Free Application for Federal Student Aid (FAFSA).
- When a student works on campus, he/she will receive a paycheck for hours work. These funds are **not** deducted from the student's balance due to student accounts.
- For all student employment opportunities available, please visit [www.wilkes.edu](http://www.wilkes.edu).

## Veterans' Assistance (VA) Programs

Interested persons should contact the Office of Admissions, 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: <http://wilkes.edu/admissions/financial-aid/yellow-ribbon-program-for-veterans>

## Withdrawal -- Return of Financial Aid Funds

This Return of Title IV Funds (R2T4) policy applies to any student who receives federal financial aid, has begun classes, and subsequently either withdraws from the courses the student was scheduled to complete and/or receives all failing grades ( as 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 has been calculated, the funds will be returned in the following order:

- Unsubsidized Direct Loans
- Subsidized Direct Loans
- 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 the repayment is made.

# Payment of Charges

## Payment Options

1. Cash or check payment – Payments may be made at the Bursar's Office Cashier's Desk 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. Credit Card payments – No credit card payments will be processed in person or over the phone. To pay with a credit card, log on to the Web site at [portal.wilkes.edu](http://portal.wilkes.edu). Enter your user name and password. Select "Student Services" and follow the remaining prompts. A password should have been assigned by the time the bill is due; if, however, a password has not been issued, please call (570) 408-4960 or 1-800-WILKES-U ext. 4960. Wilkes University accepts credit or debit cards with MasterCard, Discover, Visa, American Express. A 2.85% processing fee will be added to your total credit card payment by the credit card processor.

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

Financial aid shown on the invoice has been applied against the account balance.

Promissory Notes for Federal-, Perkins, Wilkes Nursing Loan, Rulison Evans Loan, and Blue and Gold Loan are signed electronically at [www.signmyloan.com](http://www.signmyloan.com). You will be notified by e-mail when the Promissory Notes are available.

## Full Time and Part Time Tuition

The unfunded cost of full-time tuition and fees will be paid or financial clearance obtained two weeks before the day on which classes begin. Unfunded costs are defined as the total of all appropriate charges for tuition, fees, room and board, etc., less the total of all approved financial aid awarded or credited to the student account for each semester or other instructional period. Satisfactory arrangements are defined as

1. enrollment in the Installment Payment Plan (participation in the deferred employer Reimbursement plan; and
2. enrollment in a third-party, sponsored tuition coverage plans (ROTC Scholarship, Bureau of Vocational Rehabilitation, Veteran's Assistance, etc.).

If the payment in full or financial clearance is not obtained by two weeks before the first day of class each semester, the registration for that semester may be cancelled and the student may not be allowed to attend classes. In addition, a financial hold will be placed on any tuition account with an open balance.

## Payment Options

### Participation in the Installment Payment Plan

Enrollment in the Installment Payment Plan should be completed for each semester, The current outstanding balance will be divided into three equal installments for the Summer Semester and five equal installments for the Fall and Spring Semesters, with the first payment due August 15th for the Fall semester.

### Participation in the Employer Tuition Deferment or Third Party Payment Plan

Deferred payments for employer reimbursement and third party payer arrangements will be permitted, provided the student has made application and received approval for this plan at least two weeks before the first day of the semester. Applications for Deferred Employer Tuition Deferment are available on the Wilkes Web site. Graduating seniors are not eligible for the deferred payment option.

## Pricing Schedule

2019-2020 Pricing Schedule	Cross Listed Courses	2019-2020
<b>Tuition/Fee Description</b>		
Creative Writing Fees		
Application Fee - Creative Writing Program		\$35
Thesis Reader Fee - Creative Writing Program		\$300
Acceptance Deposit - Creative Writing Program		\$250

2019-2020 Pricing Schedule	Cross Listed Courses	2019-2020
General University Fee - Creative Writing Program		\$72
<b>Other Mandatory Fees:</b>		
Applied Performance Fee (MUS 100-400)		\$400
Applied Performance Fee (MUS 100-400)		\$800
Musical Theater Major Fee		\$55
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
Disciplinary Fine		\$200
ERI Test Packaging		\$60
Health Care Charge		\$10
Insurance Malpractice (Pharmacy)		\$24
Insurance Late Fee		\$24
Lost Parking Tag		\$5
Miller Analogies Testing Fee		\$60
Parking Fee		\$120
Parking Tickets		\$25
Program Fee - BioEngineering (NDS_BEGR) (MS_BERG)		\$83
Ralston Field Parking		\$40
Storage Fee		\$15
Towing Fee		\$45
Replace Lost ID Card		\$30
Returned Check Charge		\$50
Study Abroad		\$75
Transcript / Verification -Same Day		\$20
Transcript Fee		\$15
Transcript Surcharge - FAX		\$20
<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>		
<b>Laboratory Fees: (by Department)</b>		
<b>Art Department (LART)</b>		

## Introduction

2019-2020 Pricing Schedule	Cross Listed Courses	2019-2020
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 198 T: Digital Photography		\$55
Art 220 Painting II		\$55
Art 234 Computer Graphics II		\$55
Art 298 T: Ceramics II		\$55
Art 198/298/398 Topics		\$55
<b>Integrative Media Department (LIMD)</b>		
IM 101 IM Foundations I		\$35
IM 198 Topics		\$55
IM 201 IM Foundations II		\$55
IM 298 Topics		\$55
IM 301 IM Principles of Motion and Layering		\$55
IM 302 IM Principles of Interactivity		\$55
IM 320 IM Concept Dev. And Practices		\$55
IM 350 3D Environments & Animation		\$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 398 Topics		\$55
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

<b>2019-2020 Pricing Schedule</b>	<b>Cross Listed Courses</b>	<b>2019-2020</b>
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 Crocodylians		\$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 366 Field Botany	EES 366 Field Botany	\$140
Bio 369 Plant Pathology		\$140
Bio 391 Senior Projects I		\$65
Bio 392 Senior Projects II		\$115
Bio 394 Biological Field Study		\$140
<b>BioEngineering (LBEG)</b>		
BioE 415		\$104
BioE 421		\$104
BioE 424		\$104
BioE 426		\$104
BioE 451		\$104
BioE 474		\$104
BioE 488		\$104
BioE 501		\$104
BioE 502		\$104
<b>Chemistry Department (LCHM)</b>		
Chm 111 Fundamentals of Chemistry Lab		\$135
Chm 113 Elements and Compounds Lab		\$135
Chm 114 Chemical Reaction		\$135
Chm117 Intro. Chemistry Lab for Engin		\$135
Chm 233 Organic Chemistry I Lab		\$135
Chm 234 Organic Chemistry II Lab		\$135
Chm 237 Essentials of Organic Chemistry Lab		\$135
Chm 246 Analytical Chemistry Lab		\$135
Chm 258 Polymer Chemistry Lab		\$135
Chm 323 Adv Inorganic Chemistry		\$135
Chm 343 Instrumental Methods...		\$135
Chm 353 Physical Chemistry I Lab		\$135
Chm 354 Physical Chemistry II Lab		\$135
Chm 357 Physical Chem. For Life Sciences Lab		\$135
Chm 363 Biochemistry Lab		\$135
Chm 370 Integrated Lab I		\$135
Chm 371 Integrated Lab II		\$135

## Introduction

2019-2020 Pricing Schedule	Cross Listed Courses	2019-2020
Chm 372 Integrated Lab III		\$135
Chm 391 Senior Research I		\$135
Chm 392 Senior Research II		\$135
Chm 395 Independent Research		\$135
Chm 396 Independent Research		\$135
<b>Communication Studies (LCOM)</b>		
COM 222 Basic Video Production		\$55
COM 321		\$55
COM 322		\$55
COM 323 Advanced Audio Production		\$55
COM 360		\$55
<b>Computer Science (LCS)</b>		
CS 125		\$50
CS 126		\$50
CS 225		\$50
CS 226		\$50
CS 246		\$50
CS 265		\$50
CS 283		\$50
CS 285		\$50
CS 317		\$50
CS 319		\$50
CS 321		\$50
CS 323		\$50
CS 324		\$50
CS 325		\$50
CS 326		\$50
CS 327		\$50
CS 328		\$50
CS 330		\$50
CS 334		\$50
CS 335		\$50
CS 340		\$50
CS 350		\$50
CS 355		\$50
CS 363		\$50
CS 366 3D Environments & Animation (LIMD)	IM 350 3D Environments & Animation	\$55
CS 367		\$50
CS 368 3D Game Development (LIMD)	IM 368 3D Game Development	\$55
CS 383		\$50
CS 391		\$50
CS 392		\$50
Mth 212		\$50
Mth 361		\$50
Mth 362		\$50
Mth 363		\$50
Mth 365		\$50
<b>Education -- Undergraduate</b>		



2019-2020 Pricing Schedule	Cross Listed Courses	2019-2020
ED 180 Educational Psychology (GAR)		\$40
ED 190 - Effective Teaching Practices		\$40
EDSP 210 - Teaching Students with Special Needs		\$30
EDSP 225 - Special Education Methodology I		\$40
EDSP 226 - Special Education Methodology II		\$30
EDSP 227 - Behavior Management		\$30
ED 263 - Child Development & Cognition I		\$30
ED 264 - Child Development & Cognition II		\$30
ED 300 - Special Methods - Foreign Language (7-12)		\$40
EDSP 302 - Methods in Special Education (Graham Academy)		\$40
ED 321 - Literacy Foundations I (Heights-Murray)		\$40
ED 322 - Literacy Foundations II (Heights-Murray)		\$40
ED 330 - Math for Elementary & Early Childhood (Heights-Murray)		\$40
ED 371 - Special Methods Sciences (7-12)		\$40
ED 375 - Middle & Secondary Education Methods (4-12)		\$40
ED 381 - Middle & Secondary Social Studies Methods (4-12)		\$40
ED 385 - Classroom Management		\$40
ED 390 Student Teaching With Seminar		\$100
Education -- EdD		
ED 615 INT		\$500
ED 615 HA1		\$200
ED 615 HA2		\$200
ED 615 HA3		\$200
ED 629 INT		\$500
ED 629 HA1		\$200
ED 629 HA2		\$200
ED 629 HA3		\$200
ED 697 W1 (Summer)		\$200
ED 697 W2		\$200
ED 697 INT		\$500
ED 697 HA1		\$200
<b>Electrical Engineering (LEE)</b>		
EE 140 Scientific Programming for EE		\$115
EE 241 Digital Design		\$115
EE 247 Programming for Embedded Applications		\$115
EE 252 Electronics II		\$115
EE 283 Electrical Measurement Lab		\$115
EE 314 Control Systems		\$115
EE 339 Engineering Electromagnetics II		\$115
EE 342 Microcomputer Oper & Des		\$115
EE 345 Computer Organization		\$115
EE 373 CAD for Microfabrication		\$115
EE 381 Microfabrication Lab		\$115
EE 382 Modern Communication Lab		\$115

## Introduction

2019-2020 Pricing Schedule	Cross Listed Courses	2019-2020
EE 391 Senior Projects I		\$125
EE 392 Senior Projects II		\$125
EE 398 Special Topics		\$125
EE 403 (Graduate Course)		\$115
EE 405 (Graduate Course)		\$115
EE 442 (Graduate Course)		\$115
EE 481 Microfabrication Lab (Graduate Course)		\$115
EE 482 Modern Communication Lab (Graduate Course)		\$115
<b>Engineering (LEGR)</b>		
EGR 222 Mechatronics		\$115
EGR 327 Thin Film Processing		\$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 321 Hydrology		\$115
ENV 330 Water Quality		\$115
ENV 332 Air Quality		\$115
ENV 351 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 211 Physical Geology	Geo 211 Physical Geology	\$115
EES 212 Historical Geology	Geo 212 Historical Geology	\$115
EES 213 Climate Modeling		\$115
EES 230 Ocean Science		\$115
EES 240 Principles of Environmental Science		\$115
EES 251 Synoptic Meteorology		\$115
EES 271 Environmental Mapping I		\$115
EES 272 Environmental Mapping II		\$115
EES 280 Principles of Astronomy		\$115
EES 298 Topics	GEO A 298 Paleoclimatology	\$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 370 Geomorphology	Geo 370 Geomorphology	\$115
EES 381 Mineralogy	GEO 281 Mineralogy	\$115
EES 382 Petrology	GEO 282 Petrology	\$115
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>		

<b>2019-2020 Pricing Schedule</b>	<b>Cross Listed Courses</b>	<b>2019-2020</b>
GEO 211 Physical Geology	EEES 211 Physical Geology	\$115
GEO 212 Historical Geology	EEES 212 Historical Geology	\$115
GEO 281 Mineralogy	EEES 381 Mineralogy	\$115
GEO 282 Petrology	EEES 382 Petrology	\$115
GEO 198/298	EEES 198/298	\$115
GEO 345 Stratigraphy & Sedimentation		\$115
GEO 349 Structure & Tectonics		\$115
GEO 351 Paleoclimatology		\$115
GEO 370 Geomorphology	EEES 370 Geomorphology	\$115
GEO 380 Geology Field Camp Course (Summer Only)		\$2420
GEO 388 Regional Studies		\$115
GEO 390 Applied Geophysics		\$115
GEO 391 Senior Projects I	EEES 391 Senior Projects I	\$125
GEO 392 Senior Projects II	EEES 392 Senior Projects II	\$125
GEO 398 Field Camp Course (Summer Only)		\$2420
<b>Mechanical Engineering (LME)</b>		
ME 140 Scientific Programming for ME		\$115
ME 175 Intro to Mfg and Machining		\$115
ME 180 CADD Lab		\$115
ME 317 Robotics		\$115
ME 323 Fluid Mechanics Lab		\$115
ME 326 Heat Transfer Lab		\$115
ME 330 Vibrations Lab		\$115
ME 335 Engineering Modeling and Analysis		\$115
ME 337 Micro Electro Mechanical Systems Engineering		\$115
ME 384 Mechanical Design Lab		\$115
ME 391 Senior Projects I		\$125
ME 392 Senior Projects II		\$125
ME 398 Special Topics		\$125
<b>Nursing (LNSG)</b>		
NSG 210 - Principles of Nursing, Individual, Family & Comm.		\$600
NSG 212 - Nursing Care of the Adult Client I		\$0
NSG 214		\$200
NSG 330 - Nursing Practice I		\$700
NSG 331 - Nursing Practice II		\$700
NSG 332 - Nursing Practice III		\$900
NSG 235 - Med Surg I		\$600
NSG 237 - Med Surg II		\$600
NSG 340 - Advanced Care Concepts		\$900
NSG 345 - Senior Practicum		\$900
<b>Graduate Nursing (LNPL)</b>		
NSG 506 - Advanced Practice in Adult-Gerontology Clinical I		\$20
NSG 515 - Advanced Practice in Adult-Gerontology Clinical II		\$20

## Introduction

2019-2020 Pricing Schedule	Cross Listed Courses	2019-2020
NSG 535 - Advanced Practice in Psychiatric/Mental Health Nursing I		\$20
NSG 536 - Advanced Practice in Psychiatric/Mental Health Nursing II		\$20
NSG 563 - Nurse Executive Practicum I		\$20
NSG 564 - Nurse Executive Practicum II		\$20
NSG 544 - Classroom Practicum in Nursing Education		\$20
NSG 545 - Clinical Practicum in Nursing Education		\$20
NSG 546: Family Nurse Practitioner Clinical I		\$20
NSG 547: Family Nurse Practitioner Clinical II		\$20
NSG 549: Family Nurse Practitioner Clinical with Children and Families		\$20
NSG 568 - Nursing Informatics Practicum I		\$20
NSG 569 - Nursing Informatics Practicum II		\$20
NSG 608a - Professional Liability Fee		\$20
NSG 608b - Professional Liability Fee		\$20
NSG 608a - Scholarly Project		\$40
NSG 608b - Scholarly Project		\$40
NSG 630 Professional Liability fee		\$20
NSG 631 Professional Liability fee		\$20
NSG 631 Dissertation (Binding)		\$20
<b>AHA Course Fee (ELN5) 1258-314-5187-100</b>		
NSG 117		\$100
NSG 217		\$100
NSG 317		\$50
<b>Pharmacy (Professional Fees)</b>		
Professional Fee - P1		\$500
Professional Fee - P2		\$500
Professional Fee - P3		\$500
Professional Fee - P4		\$500
<b>Physics (LPHY)</b>		
PHY 105 - Concepts in Physics		\$115
PHY 170 Concepts in Physics and Chemistry		\$115
PHY 171 Princ Of Classical and Modern Physics		\$115
PHY 174 App of Classical and Modern Physics		\$115
PHY 201 General Physics I		\$115
PHY 202 General Physics II		\$115
PHY 206 Modern Physics Lab		\$115
EGR 214 Linear Systems		\$115
PHY 374		\$115
PHY 391		\$115
PHY 392		\$115
<b>Psychology (LPSY)</b>		
PSY 300 Research Design and Stat II		\$45
PSY 311 Behavioral Neuroscience		\$35
PSY 400 Senior Capstone		\$65
PSY 401 Applied Capstone		\$25

2019-2020 Pricing Schedule	Cross Listed Courses	2019-2020
PSY 399 Internship Experience		\$60
<b>Theatre Laboratory (LTHE)</b>		
THE 190 Theater Laboratory		\$55

## 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.

##### 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 after 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 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.

## 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) 408-4239.

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 2019-20 Approved Academic Calendar, go to the end of this bulletin or click [2019-2020 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 School of Pharmacy was fully reaccredited in January 2006 to grant the Doctor of Pharmacy degree (Pharm.D.) by the Accreditation Council for Pharmacy Education. For further information on the School of Pharmacy, please see the discussion under "School of Pharmacy" in this bulletin.

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 (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.

## Introduction

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

## Attendance

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

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 Dean of Student Affairs; and 3) discourage absence from classes prior to the beginning of a holiday period.

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 work missed.

If students are ill and will be missing a test, examination, or presentation, it is their responsibility to contact the instructor by phone the day of the test.

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.

It should be understood that the Office of Student Affairs is not responsible for granting excuses for class absence.

## 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.

## Introduction

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.

**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

## Introduction

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.

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

## Introduction

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 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 acknowledgement.

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.

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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. The following are considered to be serious violations and will not be tolerated:

1. **Plagiarism:** the use of another's ideas, programs, or words without proper acknowledgment.
2. **Collusion:** improper collaboration with another in preparing assignments, computer programs, or in taking examinations.
3. **Cheating:** giving improper aid to another, or receiving such aid from another, or from some other source.
4. **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. Students assume the responsibility for providing original work in their courses without plagiarizing. According to the seventh edition of the Little, Brown Handbook, plagiarism "is the presentation of someone else's ideas or words as your own" (578).

Similarly, the seventh edition of the MLA Handbook for Writers of Research Papers 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 75 expressions as your own to gain an advantage constitutes fraud" (26).

Academic writing assignments that require the use of outside sources generally are not intended to teach students to assemble a collection of ideas and quotes, but rather to synthesize the ideas they find elsewhere in order to construct new knowledge for themselves. This process requires a higher level of thinking than some students may have been trained to engage in, and inexperienced writers may be sorely tempted to copy wording they feel inadequate to improve or even restate. Plagiarism is a serious issue that violates most people's sense of property rights, honest representation, and fairness.

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### 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. 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. Students can avoid plagiarizing by carefully organizing and documenting materials gathered during the research process. Notes attached to these materials, whether in the form of informal notes, photocopied articles, or printouts of electronic sources, should carefully identify the origin of the information. Such attention to detail at every stage of the process will ensure an accurate bibliography that documents all the outside sources consulted and used.

Students should follow these general principles when incorporating the ideas and words of others into their writing:

1. 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.
2. 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.
3. 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.
4. Sources must be acknowledged using the systematic documentation method required by the instructor for specific assignments and courses.
5. 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.

## 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

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.

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**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: <http://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: <http://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:

$$\text{COM 101 } 3.0 \times 4.0 = 12.0$$

$$\text{FR 101 } 3.0 \times 3.0 = 9.0$$

$$\text{HST 101 } 3.0 \times 1.5 = 4.5$$

$$\text{MUS 101 } 3.0 \times 2.5 = 7.5$$

$$\text{PSY 101 } 3.0 \times 0.0 = 0.0$$

Total credit hours attempted 15.0

Total credit hours passed 12.0

Total quality points earned 33.0

$$\text{GPA}(33\text{qp}/15 \text{ hrs. attempted}) = 2.20$$

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

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:**

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- 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

- 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 appropriate paperwork must be returned to the Registrar in order for a student to graduate.

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. Accepted first-year students with SAT scores of 1190 or higher or who rank in the top 20 percent of their high school class are invited to apply. Students accepted into the program are notified during the spring prior to their first semester in the fall.

### 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 GPA Requirements

- 3.0 by end of first year
- 3.2 by end of second year

## Introduction

- 3.3 by end of third year
- 3.4 by end of fourth year/for eligibility to graduate from the Honors Program

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 3.0 or higher. Students falling below the GPA minimum requirement for their year have one semester to increase the GPA to reach that minimum. 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. 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 events – which range from meeting on-campus with prominent guest speakers to engaging with prospective Honors students - helps students not only to contribute to the experience of community, but also to enact and further develop core Honors Program values such as academic rigor, leadership, integrity, and self-awareness.

All Honors students must participate in at least one Honors-sponsored event per semester. This commitment is waived during the semester a student is studying abroad.

## 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

An Honors education generally enables students to pursue breadth, depth, complexity, and/or interdisciplinarity within their coursework. 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-reflection), importance of building community, and appreciating diversity. Honors course components should therefore also reflect one or more of these core values.

### &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.

### 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.

### Potential modes of learning could include:

- Independent research, case study, or creative project within student's discipline (in-depth learning)
- Exploration of broad themes and/or enduring questions across disciplines (breadth of learning)
- Experiential learning (including 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

### Characteristic course topics could include:

- Trends, issues, and/or best practices within a student's discipline
- Communities, ideas, practices, methodologies, and/or values unfamiliar to the student
- Meta-awareness – the analysis of not just what is known, but also of how it comes to be known

### Cultivated skills could include:

- Problem solving
- Critical reading
- Critical thinking
- Clear and persuasive writing
- Oral presentation
- Ability to make evidence-based arguments and judgments

- Artistic literacy
- Metacognition

## Study Abroad

- A full semester abroad earns a waiver of six Honors credits at the 300 level
- A summer term abroad earns 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, earns 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]]H

This course serves as a platform for Honors students to discover the dynamic aspects of leadership, begin reflecting on individual leadership characteristics and develop a plan for self-discovery that culminates in connecting the student as a leader in the context of his/her primary academic interests. Therefore, upon completion of the course, students will be able to:

- understand several leadership theories and apply them to a variety of contexts
- demonstrate an understanding of self in relation to past and future leadership opportunities
- understand the breadth and scope of leadership and apply it in an interdisciplinary context
- understand self-reflection as a tool for learning
- discuss opportunities to serve as change agents relative to careers and community
- understand basic research skills
- developed oral proficiencies as both a presenter and facilitator
- developed skills necessary for effective group collaboration
- developed deeper multicultural understanding

## 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

- [Intensive English Program](#)
- [University College](#)
- [University Library Services](#)
- [University Writing Center](#)
- [Upward Bound](#)

## Intensive English Program

The mission of the Intensive English Program (IEP) at Wilkes University is to provide quality academic instruction in English as a second language (ESL) to both international and English-language learning students planning to pursue university studies in the United States. To this end, the IEP provides a curriculum,

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certified faculty, classroom materials, and teaching methods that are well grounded in both theory and practice and based on the latest research findings in the field of second language learning and teaching. This fully accredited program provides

- quality academic English language instruction for students whose native language is not English;
- preparation for further academic study in the U.S.;
- learner-centered instruction;
- advising for successful attainment of academic or professional goals;
- opportunities for intercultural experiences and cooperation;
- services relating to admission, counseling, academic life, and the general success of international students attending Wilkes University;
- English language instruction for personal growth; and
- instruction in accordance with Wilkes University's Writing Across the Curriculum (WAC) program.

All policies and governances found within this bulletin apply to all students participating in the IEP at Wilkes University.

## 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.

### Day Care Service

The University provides partially subsidized day care service for children of full-time Wilkes students. The program offers regular day care services, which are provided by a specified group of approved local providers and available at a reduced fee to students enrolled full-time at Wilkes. Children must attend on a regular, scheduled basis in order to be eligible for the reduced fee. The Day Care Service Program is coordinated through University College.

### 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, 11,000 electronic books, over 60 journals and newspaper subscriptions, 75,000 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 11:00 am to 12:00 midnight 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.
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.

### Pharmacy Information Center (PIC)

The Pharmacy Information Center (PIC) provides resources and services for student and faculty of the Nesbitt School of Pharmacy. It houses an up-to-date collection of drug information materials in print and electronic forms and provides a means for pharmacy students to become more proficient in the selection, evaluation, and use of drug information. The collection in the PIC is non-circulating; however, many additional books that support the pharmacy curriculum are housed in the Farley Library and non-reference titles may be borrowed from there. All School of Pharmacy journals are housed in the PIC. In addition to these print sources, students have access to a number of computerized resources, both on and off campus.

The PIC is generally open Monday – Thursday from 8:00 am to 5:30 pm and Friday from 8:00 am – 4:00 pm. The PIC follows the University holiday schedule. The librarian is available only until 4:00 pm.

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Telephone: (570) 408-4286

PIC Regulations:

1. Books, periodicals, and reserve materials may not be taken from the center.
2. Smoking and food and beverages other than water are prohibited in the PIC.
3. Students will respect others' need for quiet and refrain from behavior that can be regarded as disruptive or a detriment to a positive learning environment.
4. Cell phones must be turned off or set to vibrate while in the PIC. Calls must be answered outside

PIC Services:

1. Reference Assistance: The librarian will assist students in locating materials and using library resources.
2. Bibliographic Instruction: The librarian will give individual or group instruction in the use of specific reference tools.
3. Interlibrary Loan: Needed books or journal articles that are not owned by Wilkes University may be obtained through Interlibrary Loan at no charge. Most article requests are filled within a few days.
4. Photocopying: A card-operated photocopier is available in the PIC. Please see the librarian to purchase or add money to a debit card.

## 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

## Upward Bound Program

A federal program at Wilkes since 1967, the Upward Bound Program provides disadvantaged high school students with a college preparatory program of curricular and extracurricular activities designed to improve academic skills and self-confidence and to deepen curiosity and human understanding. Students attend weekly classes and tutoring and counseling sessions on campus. In the summer, the six-week residential program prepares students for fall classes and provides intensive career guidance.

## Degree Programs & Curricula

Wilkes University offers undergraduate programs leading to the Bachelor of Arts, the Bachelor of Business 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.
- 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

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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:

- define the relationship between hardware and software, in particular, the relationship between hardware and the operating system and the operating system and applications;
- develop an understanding of privacy and security issues with respect to networks, email, social media and WWW usage;
- know intellectual property laws with respect to software, music, and video, and understand the ethical use of information for academic and personal purposes;
- utilize software such as word processing, spreadsheet, and database software to effectively organize, manage, and communicate information; and
- understand the roles of computers and technology in mass communication, including social media.

**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 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

[[PHL-101]] Introduction to Philosophy or [[PHL-110]] Introduction to Ethical Problems

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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]] or [[BIO-121]]

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

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

Physics [[PHY-105]], [[PHY-174]], or [[PHY-201]]

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: Applied and Engineering Sciences; 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 Science and Engineering. 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, Humanities, and Social 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.

[[ART-101]] - Experiencing Art, [[ART-140]] - History of Art I, [[ART-141]], or [[IM-101]]
[[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, Humanities, and Social 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

The College of Graduate and Professional Studies 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

## Introduction

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 College of Graduate and Professional Studies.

## 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.

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.

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.

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.



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:

Biochemistry	English	Philosophy
Biology	History	Physics
Chemistry	Individualized Studies	Political Science
Communication Studies	Integrative Media	Psychology
Computer Science	International Studies	Sociology
Criminology	Mathematics	Spanish
Earth and Environmental Sciences	Middle Level Education	Theatre Arts
Elementary and Early Childhood Education		Theatre Design and Technology

### Bachelor of Business Administration Degree

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

- Accelerated B.B.A.
- Entrepreneurship
- Finance
- Management
- Marketing

### 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	Individualized Studies
Applied and Engineering Sciences	Earth and Environmental Sciences	Mathematics
Biochemistry	Electrical Engineering	Mechanical Engineering
Biology	Engineering Management	Medical Technology
Chemistry	Environmental Engineering	Nursing
Computer Information Systems		

## 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.

## Introduction

### Undergraduate Academic Calendars and Schedules

<b>UNDERGRADUATE ACADEMIC CALENDAR 2019-2020</b>	Approved 8-15-2018	
<b>PRE-SESSION</b>		
Classes Commence	Monday, May 20, 2019	8:00 a.m.
Classes End	Friday, June 7, 2019 (INCLUDING FINAL EXAMINATIONS)	12:00 p.m.
<b>FIRST DAY SESSION</b>		
Classes Commence	Monday, June 10, 2019 (No class July 4th)	8:00 a.m.
Classes End	Friday, July 12, 2019 (INCLUDING FINAL EXAMINATIONS)	12:00 p.m.
<b>NINE-WEEK EVENING SESSION</b>		
Classes Commence	Monday, June 10, 2019 (No class July 4th)	6:00 p.m.
Classes End	Tuesday, August 13, 2019 (INCLUDING FINAL EXAMINATIONS)	10:00 p.m.
<b>SECOND DAY SESSION</b>		
Classes Commence	Monday, July 15, 2019	8:00 a.m.
Classes End	Friday, August 16, 2019 (INCLUDING FINAL EXAMINATIONS)	12:00 p.m.
<b>FALL SEMESTER - 2019</b>		
Classes Commence	Monday, August 26, 2019	8:00 a.m.
Labor Day Recess Begins	Saturday, August 31, 2019	8:00 a.m.
Classes Resume	Tuesday, September 3, 2019	8:00 a.m.
Summer Commencement	Sunday, September 8, 2019	1:00 p.m.
Fall Recess Begins	Thursday, October 10, 2019	8:00 a.m.
Classes Resume	Monday, October 14, 2019	8:00 a.m.
<b>FOLLOW THURSDAY CLASS SCHEDULE</b>		
Thanksgiving Recess Begins	Wednesday, November 27, 2019	8:00 a.m.
Classes Resume	Monday, December 2, 2019	8:00 a.m.
<b>FOLLOW FRIDAY CLASS SCHEDULE</b>		
Classes End	Monday, December 9, 2019	5:00 p.m.
Final Examinations Begin	Monday, December 9, 2019	6:30 p.m.
Final Examinations End	Wednesday, December 16, 2019	4:00 p.m.
<b>INTERSESSION 2020</b> Monday, December 23, 2019 to Friday, January 10, 2020		

<b>SPRING SEMESTER - 2020</b>		
Classes Commence	Tuesday, January 13, 2020	8:00 a.m.
Martin Luther King Day Recess Begins	Saturday, January 18, 2020	8:00 a.m.
Winter Commencement	Sunday, January 19, 2020	1:00 p.m.
Classes Resume	Tuesday, January 21, 2020	8:00 a.m.
Spring Recess Begins	Saturday, February 29, 2020	8:00 a.m.
Classes Resume	Monday, March 9, 2020	8:00 a.m.
Holiday Recess Begins	Thursday, April 9, 2020	8:00 a.m.
Classes Resume	Monday, April 13, 2020	8:00 a.m.
<b>FOLLOW THURSDAY CLASS SCHEDULE</b>	Tuesday, April 28, 2020	
Classes End	Wednesday, April 29, 2020 (FOLLOW FRIDAY CLASS SCHEDULE)	5:00 p.m.
Final Examinations Begin	Thursday, April 30, 2020	6:30 p.m.
Final Examinations End	Saturday, May 7, 2020	4:00 p.m.
<b>SPRING COMMENCEMENT</b>	Saturday, May 16, 2020	TBA

# DEPARTMENT OF AEROSPACE STUDIES

## Department of Aerospace Studies

**Chairperson:** Lieutenant Colonel Robert Hartmann

### Faculty

Professor: Lt. Col. Hartmann

Instructor: Mr. William Perles

### 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.

### Uniforms and Materials

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

# **DEPARTMENT OF BIOLOGY AND HEALTH SCIENCES**

## **Department of Biology and Health Sciences**

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

### **Faculty**

**Professors:** Klemow, Pidcock, Steele, Terzaghi

**Associate Professors:** Biggers, Gutierrez, Harms, Kadlec, Kalter, Stratford

**Assistant Professor:** Fortunato, Williams

**Faculty Emeriti:** Hayes, Turoczi

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

**Lab Preparation Supervisor:** Elias

**Lab Preparation Assistant:** Stull

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

# DEPARTMENT OF CHEMISTRY & BIOCHEMISTRY

## Department of Chemistry & Biochemistry

**Chairs:** Dr. Amy Bradley

### Faculty

**Professor:** Castejon

**Associate Professors:** Bradley, Henkels, Mencer, Trujillo, Wignot

**Assistant Professors:** Bleche, Henry, Youmans

**Faculty of Practice:** Flynn, Pitchford, Williams

**Faculty Emeriti:** Faut, Rozelle, Stine

**Laboratory Director:** Bianco

**Lab Assistant and Technician:** Tambasco

Total minimum number of credits required for a major in Biochemistry leading to the B.S. degree – 122

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

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 Wilkes Chemistry and Biochemistry programs are accredited by the American Chemical Society for the professional training of chemists. ACS accreditation will be maintained for the B.S. programs in Chemistry and Biochemistry. Students who complete either of these B.S. programs are certified for membership eligibility in the Society at graduation. Students completing the B.A. program in Chemistry may be certified, dependent upon students' choice of chemistry courses.

# DEPARTMENT OF COMMUNICATION STUDIES

## Department of Communication Studies

**Chairperson:** Dr. Mark D. Stine

### Faculty

**Professors Emeriti:** Elmes-Crahall, Kinney

**Professor:** Stine

**Associate Professors:** Briceño, Churcher, Estwick

**Instructor:** Mellon

**Director of the Television Center:** Mattern

**Radio Station Manager:** Rock

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:** Hnasko

**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 that specify a grade band of pre-kindergarten through eighth grades (PK-8) or seventh through twelfth grades (7-12) (these have replaced the pre-kindergarten through twelfth grade [PK-12] generalist certificate). NOTE: Special Education Dual Certification (PK-8) is not a stand-alone program; it must be coupled with the major in Elementary and Early Childhood Education or Middle Level Education. On the Secondary level, Special Education Dual Certification (7-12) is not a stand-alone program; it may be added to any one of the nine academic majors with the Secondary Education major or minor.

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:
  - Act 34 State Police Criminal Record Check [must report 'NO CRIMINAL RECORD IN PA'];
  - ACT 151 Child Abuse History Clearance [must report 'NO RECORD EXIST IN PA DEPARTMENT OF HUMAN SERVICES DATABASE'];
  - Act 114 FBI Fingerprint Check, [must report 'SEARCH OF FINGERPRINTS HAS REVEALED NO PRIOR ARREST'] and a
  - completed Act 24 Arrest/Conviction Report and Certification Form.

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](http://www.education.pa.gov/Teachers%20-%20Administrators/Certifications/Pages/Certification-Testing.aspx#tab-1) is the information from the Pennsylvania Department of Education indicating required scores for all tests of basic skills: <http://www.education.pa.gov/Teachers%20-%20Administrators/Certifications/Pages/Certification-Testing.aspx#tab-1>

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

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
  - earn a final course grade of 2.50 in [[ED-180]]: Educational Psychology and
  - achieve an overall Grade Point Average (GPA) of 2.50.-

**2. 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 <http://longsdalepub.com/praxis/> School number: 84332 School Key: praxis core.

**3. 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.]\*

**4. Prior to enrolling in:**

- [[ED-220]]: Teaching Culturally and Linguistically Diverse Learners
- [[EDSP-210]]: Teaching Students with Special Needs
- [[ED-263]]: Child Development and Cognition I (15 hours of field experience)
- [[ED-264]]: Child Development and Cognition II (30 hours of field experience)-
- [[EDSP-225]]: Special Education Methodology I with Field Experience (30 hours)
  - Students must earn a final course grade of 2.5 in [[ED-180]], [[ED-190]] and [[ED-191]],
  - earn an overall Grade Point Average (GPA) of 2.85,
  - complete an authentic test of basic skills [SAT/ACT or Praxis Core or PAPA].

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

- [[EDSP-226]]: Special Education Methodology II with Field Experience (20 hours)
- [[EDSP-227]]: Behavior Management with Field Experience (20 hours)
  - Students must meet all of the requirements for [[ED-220]], [[ED-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].-

**6. 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.

**7. 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

### 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.

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:
    - [[ENG-101]]—Composition (4 cr.)
    - [[ENG-120]]—Introduction to Literature and Culture (3 cr.)
  - Mathematics - 6 credits, completed within first 48 credit hours as required by the PDE
    - [[MTH-101]]—Solving problems Using Mathematics or
    - [[MTH-103]]—Mathematics for Elementary School Teachers I or
    - [[MTH-104]]—Mathematics for Elementary School Teachers II or two higher numbered courses in mathematics
  - Computer Literacy - [[CS-115]] (3 cr.)
  - Foreign Language or Philosophy ( [[PHL-101]], [[PHL-110]] ) - 3 credits (Foreign Language is highly recommended)
  - History - 3 credits:
    - [[HST-101]]--Historical Foundations of the Modern World
    - additionally [[HST-125]]—American History I (3 credits) is required for certification
  - Science - 6 credits in two different areas and at least one course that includes a laboratory component:
    - [[BIO-105]] or higher --Biology
    - [[EES-105]] or higher --Earth Environmental Sciences
    - [[CHM-105]] or higher-- Chemistry
    - [[PHY-105]] or higher-- Physics
  - Psychology - 3 credits: [[PSY-101]]—General Psychology
  - Social Sciences - 3 credits in one of the following areas:
    - [[ANT-101]] – Introduction to Anthropology
    - [[EC-102]] - Principles of Economics II
    - [[PS-111]] - Introduction to American Politics (highly recommended)
    - [[SOC-101]] - Introduction to Sociology
  - Visual and Performing Arts - 3 credits in one of the following areas:
    - [[ART-101]] - Experiencing Art or [[ART-140]] or
    - [[DAN-100]] - Dance Appreciation: Comprehensive Dance Forms or
    - [[MUS-101]] - Introduction to Music I or
    - [[THE-100]] - Approach to Theater
    - [[IM 101]] - Integrated Media Foundations I
3. 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
  - [[ED-220]] - Teaching Culturally and Linguistically Diverse Learners
  - [[EDSP-225]] - Special Education Methodology I with Field Experience (30 hours of field experience; OPO course)
  - [[ED-263]] - Child Development and Cognition I (15 hours of field experience)
  - [[ED-264]] - Child Development and Cognition II (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.

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- [[ED-310]] - Health, Physical Education, and Safety in Early Childhood and Elementary Education
- [[ED-321]] - Literacy Foundations I (30 hours of field experience; )
- [[ED-322]] - Literacy Foundations II
- [[ED-323]] - Differentiated Reading
- [[ED-324]] - Children's Literature
- [[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 replaces [[EDSP-300]], Assessment in Special Education, for students completing dual certification in PK-4 and Special Education, PK-8.)
- [[ED-345]] - Assessment in Education
- [[ED-350]] - The Arts in Early Childhood and Elementary Education
- [[ED-360]] - Social Studies in Early Childhood and Elementary Education
- [[ED-363]] - School, Family, and Community (This course is not required for students completing dual certification in PK-4 and Special Education, PK-8.)
- [[ED-370]] - Science in Early Childhood and Elementary Education
- [[ED-385]] - Classroom Management
- [[EDSP-388]] - Inclusionary Practices (taken in conjunction with [[ED-390]])
- [[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 Major with Dual Special Education Certification in PK-8

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]] - 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

### 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:
  - [[ENG-101]]—Composition (4 cr.)
  - [[ENG-120]]—Introduction to Literature and Culture (3 cr.)
- 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:
  - [[HST-101]]--Historical Foundations of the Modern World
- 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:
  - [[ART-101]] - Experiencing Art or [[ART-140]] or
  - [[DAN-100]] - Dance Appreciation: Comprehensive Dance Forms or
  - [[MUS-101]] - Introduction to Music I or
  - [[THE-100]] - Approach to Theater
  - [[IM 101]] - Integrated Media Foundations I

3. 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 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]] - Special Education Methodology I with Field Experience (30 hours; OPO course)

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-326]] - Adolescent Literature (English, Language Arts and Reading Concentration only)
- [[EDSP- 300]] - Assessment in Special Education
- [[ED-345]] - Assessment in Education (this course is replaced by [[EDSP-302]] - Special Education Methods - for students completing the dual certification in Middle Level and Special Education)
- [[ED-375]] - Middle Level and Secondary Education Methods with Field Experience (40 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);
  - English concentration - [[ENG-393]];
  - Science concentration - [[ED-371]];
  - Social Science concentration - [[ED-381]];
  - Mathematics concentration - [[MTH-303]];
  - Mathematics and Science concentration - [[MTH-303]] and [[ED-371]]
- [[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]]

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- [[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]]
- [[EES-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]], [[HIS-125]], [[HIS-126]], and one 300-level history course
- [[EC-102]] or [[ANT 101]] or [[ANT102]]
- [[PS-111]]
- [[PS-141]] or [[PS-151]]
- [[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]], [[EES-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-8

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-8 will complete the following courses in addition to the afore-cited Middle Level Education program requirements (not the course substitutions permitted):

- [[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
- [[EDSP-302]] – Special Education Methods (this course replaces the Middle Level ED 345 Assessment)

Special Education certification candidates will complete half their student teaching in a special education setting and half in a regular 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 with Coordinator of the Secondary Education Program:** Students should plan to meet with the Education Department Coordinator of the Secondary Education Program as early as possible in their matriculation at Wilkes to ensure completion of the certification program within four years. At that meeting, students will receive an information packet about their programs of study in their academic major and 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 7-12 is completed register for PECT Special Education 7-12 Test:** 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]] - Special Education Methodology I with Field Experience (30 hours of field experience; OPO course)

*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 hours) (required for major only)
- [[ED-380]] - Content Area Literacy (*not* required for English majors who are only pursuing the minor.)
- ED 3XX (Secondary Methods course in the area of the major degree)
  - These method courses are offered in the fall semester, *except* MTH 303, which is offered *in the fall semester of odd years only*.
    - [[ED-300]] - Teaching of Foreign Languages with Field Experience (40 hours)
    - [[ED-371]] - Teaching Methods in Science with Field Experience (40 hours)
    - [[ED-381]] - Teaching Methods Social Studies with Field Experience (40 hours)
    - [[ENG-393]] - The Teaching of English with Field Experience (40 hours)
    - [[MTH-303]] - The Teaching of Mathematics with Field Experience (40 hours)
- [[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:
  - [[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-391]] – Senior Research Project I
  - [[BIO-392]] – Senior Research Project II
  - [[BIO-397]] – Professional Preparation Techniques
  - [[CHM-113]] – Elements and Compounds Lab
  - [[CHM-115]] – Elements and Compounds
  - [[CHM-114]] – The Chemical Reaction Lab
  - [[CHM-116]] – The Chemical Reaction
  - [[CHM-231]] – Organic Chemistry I
  - [[CHM-233]] – Organic Chemistry I Lab
  - [[CHM-232]] – Organic Chemistry II
  - [[CHM-234]] – Organic Chemistry II Lab
  - [[MTH-111]] – Calculus I
  - [[MTH-114]] – Calculus
  - [[PHY-171]] – Principles of Classical and Modern Physics
  - [[PHY-174]] – Application of Classical and Modern Physics
  - Major Electives (12 – 16 credits): One from each of the four areas: Molecular and Cellular; Structural and Functional; Diversity and Populational; and Botanical

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.

- **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:
  - [[CHM-113]] – Elements and Compounds Lab
  - [[CHM-115]] – Elements and Compounds
  - [[CHM-114]] – The Chemical Reaction Lab
  - [[CHM-116]] – The Chemical Reaction
  - [[CHM-231]] – Organic Chemistry I
  - [[CHM-233]] – Organic Chemistry I Lab
  - [[CHM-232]] – Organic Chemistry II
  - [[CHM-234]] – Organic Chemistry II Lab
  - [[CHM-246]] – Analytical Chemistry Lab
  - [[CHM-248]] – Analytical Chemistry
  - [[CHM-322]] – Advanced Inorganic Chemistry
  - [[CHM-323]] – Inorganic Chemistry Lab
  - [[CHM-341]] – Instrumental Methods for Chemical Analysis
  - [[CHM-343]] – Instrumental Methods for Chemical Analysis Lab
  - [[CHM-355]] – Physical Chemistry for Life Science
  - [[CHM-357]] – Physical Chemistry for Life Science Lab
  - [[CHM-365]] – Medical Biochemistry
  - [[CHM-370]]/371/372 (one credit total required)
  - [[CHM-390]] – Junior Seminar
  - [[CHM-391]] – Senior Research I (OPO)
  - [[CHM-392]] – Senior Research II (OPO)
  - [[CS-125]] – Computer Science I
  - [[MTH-111]] – Calculus I
  - [[MTH-112]] – Calculus II
  - [[MTH-212]] – Multivariable Calculus
  - [[PHY-201/203]] – General Physics I
  - [[PHY-202/204]] – General Physics II
  - Major Electives (six credits required)



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:
  - [[CHM-113]] – Elements and Compounds Lab
  - [[CHM-115]] – Elements and Compounds
  - CS Elective
  - [[EES-210]] – Global Climatic Change
  - [[EES-211]] – Physical Geology
  - [[EES-212]] – Historical Geology
  - [[EES-230]] – Ocean Science
  - [[EES-240]] – Principles of Environmental Science
  - [[EES-251]] – Synoptic Meteorology
  - [[EES-280]] – Principles of Astronomy
  - [[EES-302]] – Literature Methods
  - [[EES-304]] – Environmental Data Analysis
  - [[EES-394]] – Field Study
  - [[EES-391]] – Senior Projects I
  - [[EES-392]] – Senior Projects II
  - EES Elective:
    - [[EES-271]] – Environmental Mapping I or
    - [[EES-272]] – Environmental Mapping II
  - [[MTH-150]] – Elementary Statistics
  - [[PHY-171]] – Principles of Classical and Modern Physics
  - [[PHY-174]] – Applications of Classical and Modern Physics

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:
  - [[ENG-101]] – Composition
  - [[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
  - Three of four survey courses (it is recommended that students seeking certification take all four survey courses):
    - [[ENG-233]] – Survey of English Literature I
    - [[ENG-234]] – Survey of English Literature II
    - [[ENG-281]] – Survey of American Literature I
    - [[ENG-282]] – Survey of American Literature II
  - 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

## DEPARTMENT OF EDUCATION

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 and Computer Science. Students seeking certification in Mathematics must take the following courses for the major:

- [[CS-125]] – Computer Science I
- [[MTH-111]] – Calculus I
- [[MTH-112]] – Calculus II
- [[MTH-212]] – Multivariable Calculus
- [[MTH-214]] – Linear Algebra
- [[MTH-231]] – Discrete Mathematics
- [[MTH-302]] – Introduction to Higher Mathematics
- [[MTH-311]] – Real Analysis
- [[MTH-331]] – Introduction to Abstract Algebra I
- [[MTH-343]] – Introduction to Geometry
- [[MTH-351]] – Probability and Mathematical Statistics I
- [[MTH-391]] – Senior Seminar
- [[PSY-101]] – General Psychology
- Mathematics Electives: nine credits for B.A.; twelve credits for B.S.
- Science Electives: six credits for B.A.; twelve credits for B.S.

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-202]] – General Physics II
- [[PHY-203]] – General Physics III
- [[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]] – Electricity & Magnetism I
- [[EGR-140]] – Comp. & Stat Analysis *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
- [[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.

### 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
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
Elem and Early Childhood			
Special Education Certification Tests (PECT <a href="http://www.pa.nesinc.com">http://www.pa.nesinc.com</a> )			
Special Education PK-8	Sped Ed: PreK-8 Module 1 (8011)	PreK-8 Certification	220
Special Education PK-8	Spec Ed: PreK-8 Module 2 (8012)	PreK-8 Certification	220
Special Education 7-12	Spec Ed: 7-12 Module 1 (8015)	Certification in Special Education 7-12	220
Special Education 7-12	Spec Ed: 7-12 Module 2 (8016)	Certification in Special Education 7-12	220

# DEPARTMENT OF ELECTRICAL ENGINEERING AND PHYSICS

## Department of Electrical Engineering and Physics

**Chairperson:** Mr. Robert R. Taylor

### Faculty

**Professors:** Gilmer, Srinivasan

**Associate Professors:** Harms, Lucent, Nazzal, Sabouni

**Assistant Professors:** Du, Sha

**Visiting Professors:** Dimitrov

**Faculty Emeriti:** Placek

**Staff:** Saporito

### Mission

Our Mission is to mentor the engineering leaders of the future by

- establishing a solid foundation in Science and Mathematics
- intensive development in problem analysis and design in Electrical Engineering
- fostering of students into professionals through internships for Industry or through undergraduate research experiences for Graduate School, both of which improve communication and teamwork skills and introduce life-long learning
- enhancing an awareness of Ethics and Social Responsibilities as consequences of our actions

### Electrical Engineering

Total minimum number of credits required for a Bachelor of Science Degree in Electrical Engineering – 130.

Total minimum number of credits required for a minor in Computer Engineering –20- 22

Engineering is a creative profession in which technological problems are met within the framework of scientific possibilities, economic constraints, and cultural preferences. The four-year Bachelor of Science degree program in Electrical Engineering (EE) is dedicated to the principle of preparing its students for industry and graduate study with the expectation of eventual leadership responsibilities. It provides the knowledge and investigative skills, both theoretical and experimental, to responsibly address professional and societal needs through modern curricula, hands-on experience, and a personalized academic environment. Students are encouraged to be well-prepared in the sciences and mathematics. To that end, its faculty and facilities focus on an emphasis of 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 EE program is designed to achieve a balance among the major areas of Communication Systems, Microelectronics, and Computer Systems. The student may choose to specialize within the EE program in any of the following areas: Communication and Information Systems, Microcontroller Based System Design, and Design and Fabrication of Microelectronic Devices and Circuits.

The Electrical Engineering program maintains professional accreditation by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET, 111 Market Place, Suite 1050, Baltimore, MD 21202-4012; Telephone: (410) 347-7700).

Our program objectives are encompassed in the mission statement above. Our program educational outcomes are:

1. Ability to apply knowledge of mathematics, science, and engineering.
2. Ability to design and conduct experiments, as well as to analyze and interpret data.
3. Ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.
4. Ability to function on multi-disciplinary teams.
5. Ability to identify, formulate, and solve engineering problems.
6. Understanding of professional and ethical responsibility.
7. Ability to communicate effectively.
8. Broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context.
9. Recognition of the need for, and an ability to engage in life-long learning.
10. Knowledge of contemporary issues.
11. Ability to use the techniques, skills, and modern engineering tools necessary for engineering practice. (Include program educational objectives here.)

A description of individual course outcomes and updated program educational objectives and outcomes is available in the Department office and on the [Department Website](#).

A Master of Science degree in Electrical Engineering (MSEE) and a Master of Science degree in Bioengineering (MSBEGR) are also available. These degree programs are described in the Graduate Bulletin. Engineering students may also elect to complete a minor in Computer Engineering and/or Physics.

## Honors in Engineering

Upon the recommendation and approval of the Engineering faculty, the honor student in Engineering will be recognized upon completion of the following requirements:

- achievement of an overall GPA of 3.25 or better;
- receipt of grades of 3.00 or better in all engineering courses of his or her field of study;
- pursuit of independent research or special projects in engineering; and
- presentation of research results or special project at meetings, conferences, or through the publication of a paper.

The distinction "Honors in Engineering" will be recorded on the student's transcript upon graduation.

## Student Activities

Professional societies in which students participate include the Institute of Electrical and Electronic Engineers (IEEE), the Society of Women Engineers (SWE), the Pennsylvania Society of Professional Engineers (PSPE), and the Engineering Student Activities Council (ESAC). Students also participate in various on-campus activities and design competitions.

## Transfer Credit Policy

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.

## Cooperative Education

An important feature of the electrical engineering program is the Cooperative Education experience, a valuable option usually scheduled during the junior year. The co-op option may be continued into the summer preceding the senior year. Participants derive three advantages from a co-op experience: a determination of how they wish to fill their elective courses during the senior year; 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.

## Student Classification Categories

Students attain Sophomore standing after successfully completing all Freshman year required courses.

Students attain Junior standing after successfully completing all Sophomore year required courses.

Students attain Senior standing after successfully completing all Junior year required courses.

# DEPARTMENT OF ENGLISH

## English Department

**Chairperson:** Dr. Mischelle Anthony

## Faculty

**Associate Professors:** Anthony, Davis, Hamill, Kelly, Kuhar, Stanley

**Assistant Professor:** Makkar

**Faculty Emeriti:** Fiester, R. Heaman, Karpinich



# DEPARTMENT OF ENVIRONMENTAL ENGINEERING AND EARTH SCIENCES

## Department of Environmental Engineering and Earth Sciences

**Chairperson:** Dr. Marleen Troy

### Faculty

**Professors:** Bruns, Halsor, Murthy, Troy, Whitman

**Associate Professors:** Frederick

**Assistant Professor:** Finkenbinder, Karimi, Karnae

**Lecturers:** Kaster, McMonagle

**Laboratory Manager:** McMonagle

The Department of Environmental Engineering and Earth Sciences (EEES) offers the following degree programs: the B.S. in Environmental Engineering; the B.S. in Environmental Science; the B.S. in Geology; and the B.A. in Earth and Environmental Science. The Environmental Engineering program is accredited by the Accreditation Board for Engineering and Technology (ABET). The program incorporates a strong background in the fundamentals of engineering with a blend of science and advanced engineering courses. The Environmental Science program combines a foundation in the related sciences and primary earth reservoirs (water, land, air and life) with concentrations in either Earth Science or Biology. The Geology program provides a comprehensive curriculum that includes the fundamentals of geology with courses responsive to the needs of industrial employment sectors. The Geology program meets the academic requirements for Pennsylvania State professional licensure.

All EEES 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 EEES programs and research/project activities in the science and engineering fields.

### Environmental Science

Total minimum number of credits required for a major in Environmental Science leading to the B.S. degree – 126

Total minimum number of credits required for a major in Earth and Environmental Science leading to the B.A. degree with Secondary Teaching Certification in Earth and Space Science – 129

### Environmental Engineering

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

### Geology

Total minimum number of credits required for a major in Geology leading to the B.S. degree -127

### Minors

Total minimum number of credits required for a minor in Earth and Environmental Science -18

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

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

# 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

**Assistant Professors:** Bui, Erenay, Kim, Wang

**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](#)
- [Accelerated Bachelor of Business Administration](#)
- [Financial Investments](#)
- [Corporate Finance](#)
- [Management](#)
- [Supply Chain Management](#)
- [Business Analytics Minor](#)
- [Personal & Professional Development](#)

# 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, Marketing, or Theatre Arts – Acting and Directing, or Theatre Arts – Theatre Design). This minor area of study provides for each 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

## DEPARTMENT OF INTEGRATIVE MEDIA, ART AND DESIGN

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**

**Chairperson:** Dr. Ge Grace Xiao

### **Faculty**

**Associate Professors:** Xiao

**Assistant Professors:** Lee, Lee, Ma, Schmidt, Tessema, Turner

**Faculty Emeriti:** Alves, Batory, Liuzzo, Raspen

**Director of Allan P. Kirby Center:** Dr. Rodney Ridley

**Director of Graduate Programs:** Dr. Marianne Rexer

**Director of ABBA:** Dr. Marianne Rexer

**Director of SBDC:** Dorothy Lane

**Director of Personal & Professional Development Programming:** Bridget Turel

- [Marketing](#)
- [Entrepreneurship](#)
- [Leadership](#)
- [Sports Management](#)
- [Hospitality Leadership](#)

# **DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE**

## **Department of Mathematics and Computer Science**

**Chairperson:** Dr. Barbara A. Bracken

### **Faculty**

**Professors:** Koch, Kong

**Associate Professors:** Bracken, Harrison, Kapolka, Lew, Sullivan

**Assistant Professor:** Sullivan, Young, Chepushtanova, Luo

**Faculty of Practice:** Gapinski, Pryor

**Faculty Emeriti:** Merrill, Tillman, Wong, Berard

# DEPARTMENT OF MECHANICAL ENGINEERING & ENGINEERING MANAGEMENT

## Department of Mechanical Engineering & Engineering Management

**Chairperson:** Dr. Henry Castejon

### Faculty

**Professors:** Castejon, Ghorieshi, Kalim, Razavi

**Associate Professors:** Bednarz, Zhu

**Assistant Professors:** Baddour, Ghamari, Mu

**Visiting Assistant Professor:** Wu

**Faculty of Practice:** Greiner

**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 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.

### Engineering

Total minimum number of credits required for a major in Applied and Engineering Sciences leading to the B.S. degree – 120

Total minimum number of credits required for a major in Engineering Management leading to the B.S. degree – 130

Total minimum number of credits required for a major in Mechanical Engineering leading to the B.S. degree – 130

Engineering is a creative profession in which technological problems are met within the framework of scientific possibilities, economic constraint, and cultural preference. The Wilkes University engineering programs provide the knowledge and investigative skills, both theoretical and experimental, to responsibly address professional and societal needs through modern curricula, hands-on experience, and a personalized academic environment. Students intending to major in Engineering are encouraged to be well prepared in the sciences and mathematics. Wilkes offers a Bachelor's of Arts Degree in Physics, which provides a substantive physics foundation in a two-track program. Engineering students may also elect to complete a minor in Physics.

Wilkes University offers five engineering programs. Three programs—Electrical Engineering, Environmental Engineering, and Mechanical Engineering—maintain professional accreditation by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET, III Market Place, Suite 1050, Baltimore, MD 21202-4012; telephone: (410) 347-7700).

Two additional engineering programs are configured to provide greater flexibility to pursue depth and breadth in specific areas of interest to the student: Applied and Engineering Sciences and Engineering Management. Mechanical Engineering, Applied and Engineering Sciences, and Engineering Management are housed in the Department of Mechanical Engineering and Engineering Management, and Electrical Engineering and Physics are housed in the Department of Electrical Engineering and Physics.

## Honors in Engineering

Upon the recommendation and approval of the Engineering faculty, the honor student in Engineering will be recognized upon completion of the following requirements:

- achievement of an overall GPA of 3.25 or better;
- receipt of grades of 3.00 or better in all engineering courses of his or her field of study;
- pursuit of independent research or special projects in engineering; and
- presentation of research results or special project at meetings, conferences, or through the publication of a paper.

The distinction "Honors in 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 Society of Women Engineers (SWE), the Pennsylvania Society of Professional Engineers (PSPE), the Society of Automotive Engineers (SAE), the American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE), and the Engineering Student Activities Committee (ESAC). Students also participate in various on-campus activities and design competitions such as the Mini-Baja Off-Road Design Competition.

## Department Transfer Credit Policy

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.

## 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 isn't taken for credit. Participants derive three advantages from a 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 can only be taken one time for either 3 or 6 credits as described below:

1. 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 company, project background, technical work, and project reflection.
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 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:** Bohlander, Charnetski, Garr, Kreider, Schicatano, Tindell, Tuttle

**Associate Professors:** Miller, Newell, Seeley, Thomas, Wilczak

**Assistant Professors:** Maieran, Toll, Wiernik

**Faculty Emeriti:** Baldino, DeYoung, Farrar, 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), Hepp (History), Morrison (Diversity/Cultural Studies), Riggs (History), Winkler (Anthropology)

**Associate Professors:** Garcia (Spanish), Paul (Philosophy), Zarpentine (Philosophy)

**Assistant Professors:** Kuiken (History), Muller (American Studies), Shimizu (History), Sopcak-Joseph (History)

**Faculty Emeriti:** Berlatsky (History), Cox (History), Hupchick (History), Karpinich (Foreign Languages), Marban (Foreign Languages), Rodechko (History), Wenger (History)

# DIVISION OF PERFORMING ARTS

## Division of Performing Arts

**Chairperson:** Dr. Steven Thomas

The Division of Performing Arts comprises the programs in Theatre, Musical Theatre, Music and Dance.

### Theatre Faculty

**Director of Theatre:** Jon Liebetrau

**Associate Professor:** Dawson

**Assistant Professor:** Liebetrau

**Assistant Professor:** Camillucci

**Technical Director:** Rupp

### Dance Faculty

**Director of Dance:** Kristin Degnan-Boonin

**Faculty of Practice:** Mariani

### Music Faculty

**Coordinator of Music:** Steven Thomas

**Professor:** Thomas

**Assistant Professor:** Johnson

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: Applied and Engineering Sciences; Biology with a minor in Earth and Environmental Sciences and a Marine Science option; Computer Information Systems; Criminology; Earth and Environmental Sciences with a Marine Science option; 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](#)
- [Pre-Law Studies](#)
- [Pre-MBA Studies](#)
- [Other Special Programs](#)
  - [Cooperative Education and Internships](#)
  - [Study Abroad](#)

# THE PASSAN SCHOOL OF NURSING

## The Passan School of Nursing

Dean: Dr. Deborah A. Zbegner

### Faculty

**Associate Professors:** Hirthler (Chairperson, Graduate Program), Malkemes (Chairperson, Undergraduate Program), Grandinetti, Havrilla, Lucas, Merrigan, Miskovsky, Stewart, Zielinski,

**Assistant Professors:** Frascella, Skoronsky, Sweeney, Victor

**Faculty of Practice:** Dennis, Jones, Olengenski, Ruppert

**Visiting Instructor:** Burry

**Faculty Emeriti:** Castor, Druffner, Schreiber

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

**Simulation Coordinator:** Hauze

**Student Affairs Coordinator:** Drozdis

**Clinical Placement Coordinator:** Lennon

# THE SCHOOL OF PHARMACY

## The School of Pharmacy

**DEAN:** Dr. Scott Stolte

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

**Chairperson, Department of Pharmaceutical Sciences:** Dr. Zbigniew Witczak

**Chairperson, Department of Pharmacy Practice:** Dr. Judith Kristeller

## Faculty

**Professors:** Kristeller, Olenak, Witczak

**Associate Professors:** Bolesta, Bommareddy, J. Ference, K. Ference, Jacobs, Malinowski, Manning, McManus, Roke-Thomas, Trombetta, VanWert

**Assistant Professors:** Franko, Hong, Kheloussi, Kieck, Lewis, McCutcheon, Nguyen, Pezzino, Shah, Warunek, Zagar

**Instructors:** Conlogue, Holt-Macey, Powers

**Professor Emeriti:** Kibbe

**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 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.



# 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 Military Science

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 concurrently with each Military Leadership course.

# **ETHICS CONCENTRATION**

## **Requirements**

The Concentration in Ethics consists of 12 credit hours, including:

(1) [[PHL-110]] Intro to Ethical Problems or [[PHL-101]] Introduction to Philosophy,

(2) [[PHL-310]] Ethical Theory, and

(3) Two courses from among the following:

1.
  - a. [[PHL-214]] Medical Ethics,
  - b. [[PHL-216]] Violence and Nonviolence,
  - c. [[PHL-217]] Animal Minds, Animal Lives,
  - d. [[PHL-218]] Environmental Ethics,
  - e. [[PHL-242]] The Meaning of Life,
  - f. [[PHL-314]] Advanced Topics in Bioethics,
  - g. [[PHL-316]] Moral Psychology, or
  - h. Special topics courses ([[PHL-298]] or [[PHL-398]]) as appropriate.

# 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>

# 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>
<b>Second Semester</b>	
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>
<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 101 – Historical Foundations. of the Modern World	3
MTH 150 – Elementary Statistics	3
<b>Total Credits</b>	<b>18</b>
<b>Fourth Semester</b>	
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>
<b>Fifth Semester</b>	
	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>
<b>Sixth Semester</b>	
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>
<b>Seventh Semester</b>	
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>
<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</i>	

**Middle Level Education Major leading to Certification with a Concentration in Mathematics and Science and Dual Certification in Special Education (PK-8)**

<i>during the first two weeks of the eighth semester.</i>	
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# 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

<b>First Semester</b>	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>
<b>Second Semester</b>	
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>
<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 101 – Historical Foundations. of the Modern World	3
MTH 150 – Elementary Statistics	3
<b>Total Credits</b>	<b>18</b>
<b>Fourth Semester</b>	
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>
<b>Fifth Semester</b>	
	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>
<b>Sixth Semester</b>	
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>
<b>Seventh Semester</b>	
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>
<b>Eighth Semester</b>	
ANT 101/EC 102/PS 111/SOC 101	3
ED 390 – Student Teaching (40)**	12
EDSP 388 – Inclusionary Practices	3
<b>Total Credits</b>	<b>18</b>
*Denotes field experience hours	
**Denotes pre-student teaching hours completed during the first two weeks of the eighth semester.	

## **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 internship placements is readily available to eligible students. Students are urged to explore the various possibilities with the Coordinator of Cooperative Education as early as the sophomore year.

#### **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

# **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>

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# 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 – (20)* Behavior Management in Spec. Ed.	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
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 – 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
<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.

# BACHELORS

## 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

First Semester	
[[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>

Second Semester	
Distribution Requirements	6
[[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>

Third Semester	
Distribution Requirements	6
Elective	3
[[THE-190]] Theatre Laboratory	1
[[THE-232]] Acting II	3
<b>Total Credits</b>	<b>13</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
Electives	9
[[THE-190]] Theatre Laboratory	1
[[THE-211]] Theatre History I	3
<b>Total Credits</b>	<b>16</b>

Sixth Semester	
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>

Seventh Semester	
Electives	9
[[THE-190]] Theatre Laboratory	1
Theatre Elective	3
[[THE-393]] Senior Capstone	1
<b>Total Credits</b>	<b>14</b>

Eighth Semester	
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.

# ACCELERATED BACCALAUREATE PROGRAM

## Accelerated Baccalaureate Program for Second Degree Students

This 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.
- The following courses are required prerequisites:
  - a 3-credit course in Elementary Statistics
  - 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.
- 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 make arrangements with the School of Nursing to complete the Assessment Technologies Institute (ATI) Nursing Admission Exam, Test of Academic Skills (TEAS) before July 1st of the year preceding the start of the entry level clinical nursing course. Candidates must have a composite score of 70.0 or better in the following areas: reading, mathematics, science, and English/language usage, in order to be considered for admission into the School of Nursing. The exam may only be repeated once.
- 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.
- Nutrition, a co-requisite course, is to be completed no later than the student's first semester in the Accelerated Baccalaureate Program for Second Degree Students.

### 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

Any grade below 79 in a nursing course is a failure. Students must earn an 79 or better in ALL nursing courses. A nursing student who earns less than an 79 in a second nursing course is ineligible to continue in the nursing program. A student may be required to submit, at any time, to a health evaluation by a physician 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 - Fall	Credits
[[NSG-211]] Physical Assessment	3
[[NSG-330]] Nursing Practice I	12
<b>Total Credits</b>	<b>15</b>
<b>(with Nutrition)</b>	<b>18)</b>

Second Semester - Spring	
[[NSG-224]] Pharmacotherapeutics and Decision-Making in Nursing	3
[[NSG-331]] Nursing Practice II	12
[[NSG-341]] Nursing Informatics	3
<b>Total Credits</b>	<b>18</b>

Third Semester - Summer	
[[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	\$45		



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		
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 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>
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### 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>

\* Accounting 462 may be taken for 6 credits in place of the Free Elective in semester 8.

# APPLIED AND ENGINEERING SCIENCES

## Applied and Engineering Sciences

The four-year Bachelor of Science degree program in Applied and Engineering Science (A&ES) blends a core of engineering preparation with flexibility for students to focus on areas of specific interest. It is ideal for students with specific engineering interests outside the configuration of traditional engineering programs. Successful examples include medicine, performing arts engineering (sound, lighting, staging, recording), computer science, safety and reliability, information technology, and patent law. To this end, faculty and facilities center on the individual, incorporating the adoption of new technological developments with an emphasis on analysis, design, and application, on student-faculty-industry cooperative projects, on the concept of teamwork, and on the hands-on student utilization of modern laboratories and computer systems. Wilkes University does not maintain professional accreditation for the A&ES program.

The A&ES program demands careful planning by the student with his or her faculty advisor to assure a clear and well-planned program configured realistically to the students' interests and needs.

## Applied and Engineering Sciences Major - Required Courses and Recommended Course Sequence

### First Semester

[[MTH-111]] Calculus I	4
[[CHM-117]] Intro Chem 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	4
[[ME-140]] Scientific Programming	3
Distribution Requirement	6
	<b>17</b>

### Third Semester

[[PHY-202]] General Physics II	4
Free Elective	3
Distribution Requirement	6
	<b>13</b>

### Fourth Semester

[[EGR-200]] Intro. to Materials Science	3
Free Electives	9
Distribution Requirements	3
	<b>15</b>

### Fifth Semester

[[EE-283]] Electrical Measurement Lab	1
[[ME-231]] Statics	3
[[EE-211]] Electrical Circuits & Devices	3
Free Electives	6
Distribution Requirement	3
	<b>16</b>

### Sixth Semester

[[EGR-399]] Cooperative Education* or Technical Electives**	6
Technical Elective	3
[[EGR-201]] Professionalism and Ethics	1
[[EGM-320]] Engineering Project Management & Analysis	3
	<b>13</b>

### Seventh Semester

[[EGR-391]] Senior Project I*	1
Technical Electives**	6
Free Elective	9
	<b>16</b>

### Eighth Semester

[[EGR-392]] Senior Projects II*	2
Electives	6
Technical Electives	6
	<b>14</b>

\*[[EGR-391]] and [[EGR-392]] may be replaced by EE/EGM/ENV/ME 391 and 392, depending on the student's concentration.

\*\*Technical Electives may be selected from advisor approved science, math, or engineering courses numbered 200 or above.

# 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 Wilkes Chemistry and Biochemistry programs are accredited by the American Chemical Society for the professional training of chemists. Students who complete either of these B.S. programs are certified for membership eligibility in the Society at graduation. Students completing the B.A. program in Chemistry may be certified, dependent upon the student's choice of chemistry courses.

## 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
[[BIO-122]] - Princ. of Modern Biology II	4
[[MTH-112]] - Calculus II	4
[[ENG-101]] - Composition	4
	<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-203]] - General Physics I Lab	1
[[CS-125]] - Computer Science I	4
Distribution Requirements	6
	<b>18</b>

### Fourth Semester

[[CHM-232]] - Organic Chemistry II	3
[[CHM-234]] - Organic Chem. II Lab	1
[[PHY-202]] - General Physics II	3
[[PHY-204]] - General Physics II Lab	1
[[MTH-212]] - Multivariable Calculus	4
[[CHM-248]] - Analytical Chemistry	3
[[CHM-246]] - Analytical Chemistry Lab	1
	<b>16</b>

### Fifth Semester

[[CHM-351]] - Physical Chemistry: Quantum & Spectro	3
[[CHM-353]] - Physical Chem: Quantum & Spectro Lab	1
[[CHM-361]] - Biochemistry I	3
[[CHM-363]] - Biochemistry Lab*	1
Distribution Requirement	3
[[CHM-341]] - Instrumental Analysis	3
[[CHM-343]] - Instrumental Analysis Lab	1
	<b>15</b>

### Sixth Semester

[[CHM-352]] - Physical Chemistry: Kinetics & Thermo	3
[[CHM-354]] - Physical Chem: Kinetics & Thermo Lab	1
[[CHM-362]] - Biochemistry II	3
[[CHM-390]] - Junior Seminar	1
[[BIO-226]] - Cellular and Molecular Biology	4
Distribution Requirement	3
	<b>15</b>

### Seventh Semester

[[CHM-391]] - Senior Research I	2
[[CHM-371]] Integrated Laboratory*	1
Major Elective**	3-4
Distribution Requirement	6

## Biochemistry

Free Elective	3
	<b>15-16</b>

## Eighth Semester

[[CHM-322]] - Inorganic Chemistry	3
[[CHM-323]] - Inorganic Laboratory*	1
[[CHM-392]] - Senior Research II	2
Major Elective**	3-4
Free Elective	3
	<b>12-13</b>

\*All biochemistry majors are required to take the Biochemistry Laboratory (CHM 363) plus two (2) credits total of Inorganic Laboratory (CHM 323) and/or Integrated Laboratory (CHM 370, 371, 372).

\*\* All biochemistry majors are required to take a total of 2 major electives (6-8 credits) chosen from [[BIO-324]], [[BIO-326]], [[BIO-327]], [[BIO-329]], [[BIO-330]], [[BIO-345]], [[PHY-377]] 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>

## Biology

<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 [396](#) will count toward the major.

\*\*\*Any course other than a biology course.

## 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 395-396](#) (Independent Research), will be selected after consultation with the department chairperson.

## Honors Program 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. 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).



# BUSINESS ADMINISTRATION

## Accelerated BBA Program

[[ABBA-354]] - Organizational Studies

[[ABBA-462]] - Professional Business Experience

**Director:** Dr. Marianne Rexer

The Sidhu School offers a Bachelor of Business Administration degree through an accelerated degree completion option for adult learners. Applicants are required either: 1) to have five or more years of professional, military, and/or equivalent experience; and to have completed undergraduate coursework at an accredited institution of higher education; or 2) to possess an earned associate's degree or higher from an accredited institution of higher education.

In order to fulfill the requirements for graduation, students are responsible for satisfying all Wilkes bachelor's degree requirements, including general education requirements and the Accelerated Bachelor of Business Administration (ABBA) curriculum. A total of 66 credit hours, covering the general education requirements for a Wilkes undergraduate degree and free electives, must be earned outside the courses specifically included in the Accelerated BBA.

The program provides preparation that is equivalent to the traditional undergraduate Bachelor of Business Administration degree. It consists of 54 credits earned through eighteen courses, each of which is worth three credits. The design ensures that students will receive complete equivalent coverage of all learning outcomes in compliance with the standards of the Accreditation Council for Business Schools and Programs (ACBSP). Students may take three courses each term, including fall, summer, and spring, leading to the completion of the program in six trimesters over a period of two years.

### Business Administration Major (Accelerated BBA Program) Required Courses and Course Sequence

<b>Trimester 1</b>	<b>Trimester 2</b>
[[ABBA-151]] - Entrepreneurship and Innovation	[[ABBA-154]] - Business Economics
[[ABBA-152]] - The Leadership Process	[[ABBA-161]] - Financial Accounting
[[ABBA-153]] - Business Communications	[[ABBA-162]] - Managerial Accounting
<b>Trimester 3</b>	<b>Trimester 4</b>
[[ABBA-235]] - The Legal Environment and Business Law	[[ABBA-319]] - Statistics for Business
[[ABBA-251]] - Principles of Management	[[ABBA-221]] - Principles of Marketing
[[ABBA-257]] - Information Technology for Business	[[ABBA-240]] - Corporate Finance
<b>Trimester 5</b>	<b>Trimester 6</b>
[[ABBA-352]] - Production and Operations in Business	[[ABBA-358]] - International Business Management
[[ABBA-353]] - Management of Human Resources	[[ABBA-461]] - Business Strategy and Decision-Making

# 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 accredited 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 accredited, 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	4-3
[[FYF-101]] – First-Year Foundations	3
[[MTH-111]] – Calculus I	4
<b>Total Credits</b>	<b>14 – 15</b>

Second Semester	Credits
[[CHM-114]] – The Chemical Reaction Lab	1
[[CHM-116]] – The Chemical Reaction	3
[[CS-125]] – Computer Science I	4
[[ENG-101]] – Composition or Distribution Requirement	4-3
[[MTH-112]] – Calculus II	4
<b>Total Credits</b>	<b>15 – 16</b>

Third Semester	Credits
[[CHM-231]] – Organic Chemistry I	3
[[CHM-233]] – Organic Chemistry Lab I	1
Distribution Requirements	6
[[PHY-201]] – General Physics I	3
[[PHY-203]] – General Physics I Lab	1
<b>Total Credits</b>	<b>14</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
[[MTH-212]] – Multivariable Calculus	4
[[PHY-202]] – General Physics II	3
[[PHY-202]] – General Physics II Lab	1
<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
Distribution Requirement	6
<b>Total Credits</b>	<b>14</b>

Sixth Semester	Credits
[[CHM-322]] – Inorganic Chemistry	3
[[CHM-323]] – Advanced Inorganic Chemistry Lab	1
[[CHM-352]] – Physical Chem: Kinetics & Thermo	3
[[CHM-354]] – Physical Chem: Kinetics & Thermo Lab	1
[[CHM-365]] – Medical Biochemistry	4
[[CHM-370]] – Integrated Chemistry Lab*	1
[[CHM-390]] – Chemistry Junior Seminar	1
Distribution Requirements	3
<b>Total Credits</b>	<b>17</b>

<b>Seventh Semester</b>	
[[CHM-371]] – Integrated Chemistry Lab*	1
[[CHM-391]] – Senior Research I	2
Free Electives	9
Major Elective	3
<b>Total Credits</b>	<b>15</b>

<b>Eighth Semester</b>	
[[CHM-372]] – Integrated Chemistry Lab*	1
[[CHM-392]] – Senior Research	2
Free Electives	9
Major Elective	3
<b>Total Credits</b>	<b>15</b>

\*Students pursuing the B.S. in Chemistry are required to complete three (3) credits of Integrated Laboratory (CHM 370, 371, 372), one of which may be replaced with CHM 363 Biochemistry Laboratory.

## 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).

## Chemistry

### 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.  
PSY 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  
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
[[CS125]] – Computer Science I	4
Distribution Requirement	3
[[MTH-112]] – Calculus II	4
<b>Total Credits</b>	<b>15</b>

<b>Third Semester</b>	
[[CHM-231]] – Organic Chemistry I	3
[[CHM-233]] – Organic Chemistry Lab I	1
Distribution Requirements	6
[[PHY-201]] – General Physics I	3
[[PHY-203]] – General Physics I Lab	1
Concentration Area or Minor Course	3
<b>Total Credits</b>	<b>17</b>

<b>Fourth Semester</b>	
[[CHM-232]] – Organic Chemistry II	3
[[CHM-234]] – Organic Chemistry Lab II	1
[[CHM-246]] – Analytical Chemistry Lab	1
[[CHM-248]] – Analytical Chemistry	3
[[MTH-212]] – Multivariable Calculus	4
[[PHY-202]] – General Physics II	3
[[PHY-204]] – General Physics II Lab	1
<b>Total Credits</b>	<b>16</b>

<b>Fifth Semester</b>	Credits
[[CHM-341]] – Instrumental Methods	3
[[CHM-343]] – Instrumental Methods Lab	1
[[CHM-355]] – Physical Chemistry for the Life Sciences	3
[[CHM-357]] – Physical Chemistry for the Life Sci. Lab	1
Distribution Requirement	3
Concentration Area or Minor Course	3
<b>Total Credits</b>	<b>14</b>

<b>Sixth Semester</b>	
[[CHM-322]] – Inorganic Chemistry	3
[[CHM-323]] – Advanced Inorganic Chemistry Lab	1
[[CHM-365]] – Medical Biochemistry	4
[[CHM-390]] – Chemistry Junior Seminar	1

Concentration Area or Minor Courses	6
<b>Total Credits</b>	<b>15</b>

<b>Seventh Semester</b>	
[[CHM-371]] – Integrated Chemistry Lab*	0-1*
[[CHM-391]] – Senior Research	2
Distribution Requirement	3
Free Electives (see Concentration Area & Minor courses)	6
Concentration Area or Minor Course	3
<b>Total Credits</b>	<b>14 – 15</b>

<b>Eighth Semester</b>	
[[CHM-372]] – Integrated Chemistry Lab*	0-1*
[[CHM-392]] – Senior Research	2
Distribution Requirement	3
Free Elective (see Concentration Area & Minor courses)	3-4
Concentration Area or Minor Courses	6
<b>Total Credits</b>	<b>15 – 16</b>
*Students pursuing the B.A. in Chemistry are required to complete Inorganic Lab (CHM 323) and one (1) credit of Integrated Laboratory (CHM 370, 371, 372), which may be replaced with Biochemistry Lab CHM 363.	

# COMMUNICATIONS, B.A. - MEDIA PRODUCTION CONCENTRATION

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
Total Credits	15-16

Second Semester	
[[COM-102]] Principles of Communication	3
[[COM-124]] Mass Media Literacy	3
Distribution Requirements	6
[[ENG-101]] Composition or Distribution Requirement	4
Total Credits	15-16

Third Semester	
[[COM-202]] Interpersonal Communication	3
[[COM-260]] Basic Newswriting	3
Free Electives	9
[[COM-144]] Practicum	1
Total Credits	16

Fourth Semester	
Concentration Selection	3
Distribution Requirements	9
[[COM-261]] Multimedia Communication	3
Total Credits	15

Fifth Semester	
[[COM-304]] Intercultural Communication	3
Concentration Selections	6
Free Electives	6
Total Credits	15

Sixth Semester	
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

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

<b>First Semester Credits</b>	
[[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
<b>Total Credits</b>	<b>15</b>

### Sixth Semester

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
Total Credits	15

<b>Eighth Semester</b>	
[[COM-397]] Senior Seminar	3
Free Electives	12
Total Credits	15

# COMMUNICATIONS, B.A. - RHETORICAL STUDIES CONCENTRATION

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
<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
<b>Total Credits</b>	<b>15</b>

Sixth Semester	
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

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>

## Communications, B.A. - Strategic Communication Concentration

<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 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
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[[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
	<b>13-16</b>

### Eighth Semester

[[CS-392]] Senior Projects II	2
Distribution Requirements <b>OR</b> Free Electives	13
	<b>15</b>

## 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) 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

#### **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

# 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 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 4/3 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 4 or Distribution Requirement	4 3	4 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>



<b>Sixth Semester</b>	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>

<b>Seventh Semester</b>	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>

<b>Eighth Semester</b>	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]]; [[PHY-202]]

#### 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

[[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

## Computer Science

[[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. Dean Frear

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 for the Corporate Finance Major (27 credits total) Credits

### Each student with a major in Financial Investments 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
[[FIN-230]] Money and Banking	3
[[MKT-221]] Marketing	3
[[FIN-341]] Managerial Finance	3
	<b>15</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

## Corporate Finance

[[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
[[ACC-341]] Accounting Information Systems	3
Arts Distribution Requirement (Area IV)	3
	<b>12</b>

# 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-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

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
	3

## Criminology, B.A.

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>

<b>Second Semester</b>	
Distribution Requirements	6
ENG 101 Composition or	4
Distribution Requirement	3
Major Elective	3
Free Elective	3
<b>Total Credits</b>	<b>15-16</b>

<b>Third Semester</b>	
Distribution Requirement	3
Free Electives	6
SOC 222 Criminology	3
Major Elective	3
<b>Total Credits</b>	<b>15</b>

<b>Fourth Semester</b>	
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>

<b>Fifth Semester</b>	
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>

<b>Sixth Semester</b>	
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>

<b>Seventh Semester</b>	
Free Electives	12
Major elective	3
<b>Total Credits</b>	<b>15</b>

<b>Eighth Semester</b>	
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
[[EES-211]] Physical Geology	4
[[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
[[EES-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	4
[[CS-115]] Computers & Applications	3
EES Elective	3
Distribution Requirement	3
	<b>16</b>

#### Fifth Semester

[[EDSP-225]] Special Education Methods I 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]] Literature Methods	1
[[EES-304]] Environmental Data Analysis	2
[[EES-210]] Global Climate Change	3
[[PHY-174]] Applications of Classical & Modern Physics	4
[[EES-271]] Environmental Mapping I	3
Distribution Requirement	3
	<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

## Earth and Environmental Science, B.A.

[[EES-392]] Senior Projects II	2
	<b>18</b>

### Grand Total - 129 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: 129 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

### Electrical Engineering 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]] English 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
[[EGR-140]] Scientific Programming	3
[[EGR-200]] Introduction to Materials Science	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-211]] Electrical Circuits and Devices	3
[[EE-283]] Electrical Measurements Lab	1
[[ME-231]] Statics	3
	<b>15</b>

#### Fourth Semester

[[MTH-212]] Multivariable Calculus	4
[[EE-251]] Electronics I	3
[[EGR-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

[[EGR-399]] Cooperative Education** OR	
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 & Analysis	3
	<b>17</b>

#### Seventh Semester

[[EE-314]] Control Systems	3
[[EE-337]] Engineering Electromagnetics I	3
[[EE-391]] Senior Project I	1
[[EE-325]] Energy Conversion Devices	3
General Education	6
	<b>16</b>

#### Eighth Semester

[[EE-339]] Engineering Electromagnetics II	4
[[EE-382]] Modern Communication Systems	4
[[EE-392]] Senior Projects II	2
Technical Elective*	3
Free Elective	2
	<b>15</b>

\*Technical electives may be chosen from any advisor-approved math, science, or engineering course numbered 200 or above.

\*\*Students must consult with the Cooperative Education Coordinator to determine availability and proper scheduling of the Cooperative Education experience.

# 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 Special Education Methodology I *30	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
	<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-8)

## 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
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*

**Elementary and Early Childhood Education Major leading to PK-4 Certification with Dual Certification in Special Education (PK-8)**

*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 afore-cited 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 EGM program demands careful academic program planning by the student with his or her faculty advisor to assure a clear and well-planned program configured realistically to the student's interests and needs.

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 for Engineers Lab	1
[[CHM-118]] Chemistry for Engineers	3
[[ME-180]] CADD Lab	1
[[ENG-101]] English 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]] Physics I Laboratory	1
[[ME-140]] Scientific Programming	3
[[EGR-200]] Introduction to Materials Science	3
[[EC-102]] Principles of Economics	3
	<b>17</b>

### Third Semester

[[MTH-211]] Introduction to Differential Equations	4
[[PHY-202]] General Physics II	3
[[PHY-205]] Physics II Laboratory	1

[[EE-211]] Electrical Circuits and Devices	3
[[EE-283]] Electrical Measurements Lab	1
[[ME-231]] Statics	3
Distribution Requirement	3
	<b>18</b>

### Fourth Semester

[[EGM-320]] Engineering Project Management and Analysis	3
[[ME-232]] Strength of Materials	3
[[ME-175]] Intro. to Manufacturing and Machining	1
[[MTH-150]] Statistics	3
[[MKT-221]] Marketing	3
[[EGR-222]] Mechatronics	3
	<b>16</b>

### Fifth Semester

[[ME-333]] Machine Design I	3
[[MGT-251]] Management of Organizations and People	3
[[ME-215]] Intro. to Manufacturing Processes	3
[[FIN-240]] Introduction to Finance	3
[[ACC-161]] Accounting	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 & Programming Methods	3
[[ME-322]] Engineering Thermodynamics	3
[[BA-335]] Business Law	3
Distribution Requirement	3
	<b>16</b>

### Seventh Semester

[[EGM-391]] Senior Project I	1
[[EGM-336]] Engineering and Management Models	3
[[EGM-325]] Project Analysis and Resource Allocation	3
[[EGR-398]] Principles of Quality Management	3
[[PPD-301]] Personal and Professional Development	1

Distribution Requirement	3
	<b>14</b>

### **Eighth Semester**

[[EGM-392]] Senior Project II	2
[[EGM-310]] Project Decision Process	3
[[EGM-322]] Operations Analysis and Resource Allocation	3
Technical Elective*	3
[[PPD-401]] Personal and Professional Development	1
Distribution Requirement	<b>3</b>
	<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.*

# ENTREPRENEURSHIP

## Entrepreneurship Major

**Coordinator:** Dr. Ge Grace Xiao

Total minimum number of credits required for a major in Entrepreneurship leading to the Bachelor of Business Administration degree – 122

Entrepreneurship creates value and improves society's standard of living. It is an integrating discipline that draws on knowledge and skills developed in a variety of areas. Entrepreneurial endeavors are successful when they identify opportunities, assess those opportunities, and take action to pursue the opportunities. Students who are pursuing the Bachelor of Business Administration in Entrepreneurship will understand the motivations, behaviors, and strategies necessary to create, implement, and sustain new ideas and ventures. The Entrepreneurship program is closely affiliated with the Allan P. Kirby Center for Free Enterprise and Entrepreneurship and the Small Business Development Center. Both offer academic and experiential opportunities under the direction of senior professional staff.

Change is an accepted constant in today's world. And change, whether it is gradual or radical, is a rich source of opportunity. The Entrepreneurship major and minor will prepare students to recognize and act upon opportunities and meet the challenges that lie ahead.

The entrepreneurship curriculum blends the traditional components of a management education with the study of those content, skill, and sensitivity areas that uniquely define entrepreneurship. Through a combination of academic and clinical experiences, students will develop an appreciation and understanding of the entrepreneurial process. The Entrepreneurship major builds upon the knowledge and experience from courses in the Personal and Professional Development Series, the Sidhu Foundations courses, and the Sidhu Undergraduate Core Courses.

The Entrepreneurship major requires an additional 27 credits, including:

### Requirements for the Entrepreneurship Major 18 Credits

- [[BA-336]] – Advanced Topics in Business Law 3
- [[ENT-203]] – Opportunity Identification: Innovation and Creativity 3
- [[ENT-342]] – Entrepreneurial Finance 3
- [[ENT-385]] – Opportunity Assessment: Technical, Economic, and Market Feasibility 3
- [[MGT-209]] – Business Correspondence & Reports 3
- [[MGT-356]] – Social Responsibility of Business 3

### Electives for the Entrepreneurship Major 6 Credits

- [[MKT-322]] – Advertising 3
- [[MKT-327]] – Marketing Seminar 3
- [[MKT-328]] Consumer Behavior 3
- [[ENT-384]] – Small Business Consultancy 3
- [[ENT-395]] – Independent Study 3
- [[ENT-396]] – Independent Research 3
- [ENT 198/298/398](#) – Topics

### Additional Requirement for the Entrepreneurship Major 3 Credits

Each student with a major in Entrepreneurship must complete 3 additional credits in a course with the prefix ART, COM, EGM, DAN, ENG, MUS, or THE

## Entrepreneurship Major- Required Courses and Recommended Course Sequence

First Semester	Credits	Fifth Semester	
[[BA-151]] – Integrated Management Experience I	3	[[BA-335]] – Law & Business	3
[[CS-115]] – Computers and Applications	3	[[ENT-321]] – Analyzing Markets & Competitions	3
[[ENG-101]] – Composition	4	[[FIN-240]] – Introduction to Finance	3
[[FYF-101]] – First-Year Foundations	3	[[MGT-356]] – The Social Responsibility of Business	3
[[HST-101]] – Historical Fnds. of the Modern World	3	Social Science Distribution Requirement (Area III)	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>
Second Semester		Sixth Semester	
Arts Distribution Requirement (Area IV)	3	[[BA-336]] – Advanced Topics in Business	3
[[BA-152]] – Integrated Management Exp. II	3	[[ENT-342]] – Entrepreneurial Finance	3
[[COM-101]] – Fundamentals of Public Speaking	3	[[ENT-385]] – Tech, Economic, & Market Feasibility	3
Humanities Distribution Requirement (Area I)	3	Free Elective	3
[[MTH-101]] – Solving Problems Using Mathematics	3	Major Elective	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	[[ENT-461]] - Practicing Entrepreneurship	3
[[EC-101]] – Principles of Economics	3	Free Elective	3
[[ENT-201]] – Nature & Essence of Entrepreneurship	3	Major Elective	3
[[ENT-203]] – Opportunity Identification	3	Major Elective	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 Accounting & Decision Making	3	[[ENT-462]] - Entrepreneurship Internship	3
[[EC-102]] – Principles of Economics II	3	Free Elective	3
[[ENT-252]] – The Entrepreneurial Leader	3	Humanities Distribution Requirement (Area I)	3
[[MGT-209]] – Business Correspondence and Reports	3	Major Elective	3
[[MKT-221]] - Marketing	3	<b>Total Credits</b>	<b>12</b>
<b>Total Credits</b>	<b>15</b>		

# ENVIRONMENTAL ENGINEERING

## Environmental Engineering Major

The Department of Environmental Engineering and Earth Sciences (EEES) offers a four-year 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.

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 Environmental Engineering and Earth Sciences periodically offer seminars on subjects of a timely nature. Attending these seminars and taking the Engineers-in-Training (E.I.T.) Exam 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-113]] Elements and Compounds lab	1
[[CHM-115]] Elements and Compounds	3
[[ENG-101]] Composition	4
[[FYF-101]] First-Year Foundations	3
[[ME-180]] CADD Lab	1
[[MTH-111]] Calculus I	4
	<b>16</b>

### Second Semester

Distribution Requirements	6
[[ENV-205]] Environmental Microbiology	3

[[MTH-112]] Calculus II	4
[[PHY-201]] General Physics I	4
	<b>17</b>

### Third Semester

Distribution Requirement	3
[[EES-240]] Principles of Environmental Engineering and Science	4
[[ME-231]] Statics	3
[[MTH-211]] Intro. to Differential Equations	4
[[PHY-202]] General Physics II	4
	<b>18</b>

### Fourth Semester

Distribution Requirements	6
[[EES-211]] Physical Geology	4
[[ENV-201]] Environmental Engineering Systems I	1
[[ME-232]] Strength of Materials	3
[[ME-322]] Thermodynamics	3
	<b>17</b>

### Fifth Semester

[[ENV-315]] Soils	3
[[ENV-202]] Environmental Engineering Systems II	2
[[ENV-321]] Hydrology	4
[[ME-321]] Fluid Mechanics	3
[[ME-323]] Fluid Mechanics Lab	1
Technical Elective**	3
	<b>16</b>

### Sixth Semester

Distribution Requirement	3
[[EGM-320]] Engineering Project Analysis	3
[[EGR-201]] Engineering 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-301]] Environmental Engineering Systems III	1
[[ENV-305]] Solid Waste Management	3
[[ENV-350]] Water and Wastewater Treatment Lab	1

[[ENV-356]] Physical Chemical Treatment Processes	2
[[ENV-357]] Biological Treatment Processes	3
[[ENV-391]] Senior Projects I	1
Technical Elective**	3
	<b>14</b>

**Eighth Semester**

[[ENV-322]] Water Resources Engineering	3
[[ENV-352]] Hydraulic Engineering	3
[[ENV-353]] Air Pollution Control	3
[[ENV-354]] Hazardous Waste Management	3
[[ENV-392]] Senior Projects II	2
	<b>14</b>

\*\*Technical electives must include [[EES-271]] (3 credits) or ENV (3 credits); has to be 200 or above or SUS 4XX and 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.

### 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
[[EES-211]] Physical Geology	4
[[MTH-114]] Calculus II and Modelling	4
	<b>16</b>

#### Third Semester

[[EES-251]] Synoptic Meteorology	4
[[MTH-150]] Elementary Statistics	3
[[ENG-101]] Composition	4
Distribution Requirement	3
[[PHY-171]] Principles of Classical and Modern Physics	4
	<b>18</b>

#### Fourth Semester

[[EES-210]] Global Climate Change	3
[[EES-213]] Climate Modeling	1

[[EES-240]] Principles of Environmental Engineering & Science	4
[[PHY-174]] Applications of Classical & Modern Physics	4
Distribution Requirement	3
	<b>15</b>

#### Fifth Semester

[[EES-230]] Ocean Science	4
[[ENV-321]] Hydrology	4
[[EES-271]] Environmental Mapping I	3
[[EES-394]] Field Study	1
Distribution Requirements	6
	<b>18</b>

#### Sixth Semester

[[ENV-330]] Water Quality	4
[[EES-272]] Environmental Mapping II	3
[[EES-302]] Literature Methods	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:

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]] Chemical Reactions Lab	1
[[CHM-116]] Chemical Reactions	3
[[BIO-122]] Principles of Modern Biology II	4
[[EES-211]] Physical Geology	4
[[MTH-114]] Calculus II and Modelling	4
	<b>16</b>

### Third Semester Credits

[[EES-251]] Synoptic Meteorology	4
[[MTH-150]] Elementary Statistics	3
[[ENG-101]] Composition	4
Distribution Requirement	3
[[PHY-171]] Principles of Classical and Modern Physics	4
	<b>18</b>

### Fourth Semester Credits

[[EES-210]] Global Climate Change	3
[[EES-213]] Climate Modeling	1
[[EES-240]] Principles of Environmental Engineering & Science	4
[[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
[[EES-271]] Environmental Mapping I	3
[[CHM-231]] Organic Chemistry I	3
[[CHM-233]] Organic Chemistry I Lab	1
Distribution Requirement	3
	<b>18</b>

### Sixth Semester Credits

[[EES-272]] Environmental Mapping II	3
[[EES-302]] Literature Methods	1
EES/BIO Electives	6
Distribution Requirement	3
Free Elective	3
	<b>16</b>

### Seventh Semester Credits

[[EES-201]] Environmental Ethics and Sustainability	1
[[ENV-315]] Soils	3
[[ENV-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>

# 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 (27 credits total) Credits

<b>Each student with a major in Financial Investments must complete the following 27 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

## 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
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
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[[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
	<b>12</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.

### Geology B.S. Degree- Required Courses and Recommended Course Sequence

#### First Semester Credits

[[ENG-101]] Composition	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
Distribution Requirement	3
[[GEO-211]] Physical Geology	4
[[MTH-112]] Calculus II	4
	<b>15</b>

#### Third Semester

[[GEO-212]] Historical Geology	3
[[MTH-150]] Elementary Statistics	3
[[GEO-281]] Mineralogy	4
Distribution Requirement	3
[[PHY-171]] Principles of Classical and Modern Physics	4
	<b>17</b>

#### Fourth Semester

[[GEO-206]] Solid Earth Energy & Mineral resources	3
[[EES-240]] Principles of Environmental Engineering & Science	4
[[PHY-174]] Appl of Classical and Modern Physics	4
[[GEO-282]] Petrology	3
Distribution Requirement	3
	<b>17</b>

#### Fifth Semester

[[GEO-345]] Stratigraphy and Sedimentation	4
[[ENV-321]] Hydrology	4
[[EES-271]] Environmental Mapping I: GPS	3
Program Elective	3
Distribution requirement	3
	<b>17</b>

#### Sixth Semester

[[GEO-349]] Structure and Tectonics	4
[[EES-272]] Environmental Mapping II: GIS	3
[[EES-302]] Literature Methods	1
[[EES-304]] Environmental Data Analysis	2
[[GEO-351]] Paleoclimatology	3
Distribution Requirement	3
	<b>16</b>

#### Summer Session

[[GEO-380]] Geology Field Camp	4
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#### Seventh Semester

[[GEO-390]] Applied Geophysics	3
[[GEO-391]] Senior Projects I	1
Distribution Requirements	3
Program Elective	3
Free Elective	3
	<b>13</b>

#### Eighth Semester

[[GEO-370]] Geomorphology	3
[[GEO-388]] Regional Studies	2
[[GEO-392]] Senior Projects II	2
Program Elective	3
Free Elective	3
	<b>13</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

### Adjunct Faculty

Dr. Joseph Scopelliti, CEO, Guthrie Health System, Sayre, PA;  
Brian D. Spezialetti, Program Director, Medical Technology Program, Robert Packer Hospital, Sayre, PA;  
Joseph King, M.D., Medical Director, Medical Technology Program, Robert Packer Hospital, Sayre, PA;  
Christine M. Wheary, MT(ASCP), Program Director, Clinical Laboratory Science, Williamsport Regional Medical Center, Williamsport, PA;  
Marie Wood, MS, MT(ASCP), Program Director & Chair, Medical Laboratory Science Program, Lancaster General College of Nursing & Health Sciences.

### Health Sciences Committee (reports to the Dean of the College of Science and Engineering)

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., Associate Professor of Biology  
Christopher H. Henkels, Ph.D., Associate Professor of Chemistry  
Lisa Kadlec, Ph.D., Associate Professor of Biology  
Val Kalter, Ph.D., Associate Professor of Biology  
Kenneth M. Klemow, Ph.D., Professor and Chair of Biology, Division of Biology and Health Sciences

Prahlad Murthy, *Ph.D., P.E., BCEE, QEP, Interim Dean, College of Science & Engineering*

Edward J. Schicatanò, Ph.D., Associate 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

## Health Sciences

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)
- One course in Biochemistry (although both courses are highly recommended)
  - [[CHM-361]] – Biochemistry: Structure and Function or
  - [[CHM-362]] – Biochemistry: Metabolism
- 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 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

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University College of Medicine at Hershey, which leads to a baccalaureate degree from Wilkes University and the doctoral degree. 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 minimum combined SAT score of 1350 in the math and verbal reasoning sections.
    - 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
    - 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 to 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, a combined SAT score of 1310 or better.
  - 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.

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, a combined SAT score of 1270 or better in the math and verbal sections, 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.

## 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 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, a combined SAT score of 1310 or better.
    - 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

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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 outlined 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 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 received 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, a combined SAT score of 1310;

- 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

## Health Sciences

- 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

## History, B.A.

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 Elective	3
Free Electives	9
<b>Total Credits</b>	<b>15</b>

Eighth Semester	
HST 397 or IM 391 Capstone	3
Free Electives	12
<b>Total Credits</b>	<b>15</b>

### Recommended Course Sequence - History Major

First Semester	
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

## History, B.A.

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

First Semester	
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>

Second Semester	
Distribution Requirements	9
HST 126 US History II	3
HST 211 Intro to Public History	3
<b>Total Credits</b>	<b>15</b>

Third Semester	
Distribution Requirements	12
HST 297 Research & Methods Seminar	3
<b>Total Credits</b>	<b>15</b>

Fourth Semester	
Distribution Requirements	6
Major Electives/Requirement	6
Free Elective	3

<b>Total Credits</b>	<b>15</b>
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Fifth Semester	
Free Electives	12
Major Elective/Requirement	3
<b>Total Credits</b>	<b>15</b>

Sixth Semester	
Free Electives	9
Major Elective/Requirement	6
<b>Total Credits</b>	<b>15</b>

Seventh Semester	
HST 399 Internship	3
Free Electives	6
HST 397 Capstone/Seminar	3
Major Elective/Requirement	3
<b>Total Credits</b>	<b>15</b>

Eighth Semester	
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 3
- [[HL-353]] – Human Resource Management in the Service Industry 3
- [[HL-325]] – Advanced Hospitality Marketing 3

Each student with a major in Hospitality Leadership must complete 6 credits from the following list:

- [[HL-355]] – Event Management 3
- [[HL-386]] – Gaming and Casino Management 3
- [[HL-198]]/[[HL-298]]/[[HL-398]] – Topics in Hospitality Leadership 3
- [[SM-355]] – Facility Management 3
- [[SM-201]] – Introduction to Sports Management 3
- [[SM-325]] – Sports Marketing 3
- [[MKT-328]] – Customer Behavior 3
- [[ENT-252]] – The Entrepreneurial Leader 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-356]] - Hospitality Law & Leadership Ethics	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>
Second Semester		Sixth Semester	
Arts Distribution Requirement (Area IV)	3	[[EC-102]] - Principles of Economics II	3
[[BA-152]] – Integrated Management Exp. II	3	[[HL-382]] – Food and Beverage Management	3
[[COM-101]] – Fundamentals of Public Speaking	3	[[HL-341]] - Hospitality Finance	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-353]] - Human Resource Management in the Service Industry	3
[[FIN-240]] – Introduction to Finance	3	[[HL-325]] - Advanced Hospitality 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 & Decision Making	3	[[HL-461]] – Capstone in Hospitality	3
[[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

First Semester	
[[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>

Second Semester	
[[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>

Third Semester	
Distribution Requirements	6
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
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>

Fifth Semester	
[[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>

Sixth Semester	
[[BA-322]] Advertising	3
Electives	9
[[IM-391]] Integrative Media Project I	3
<b>Total Credits</b>	<b>15</b>

Seventh Semester	
[[BA-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>

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 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]] Digital Storytelling and Design	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

<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>	
[[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>

<b>Third Semester</b>	
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>

<b>Fourth Semester</b>	
[[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>

<b>Fifth Semester</b>	
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>

<b>Sixth Semester</b>	
[[MKT-221]] Marketing	3
Distribution Requirement	3
Electives	6
[[IM-391]] Integrative Media Project I	3
<b>Total Credits</b>	<b>15</b>

<b>Seventh Semester</b>	
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>

<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 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

<b>First Semester</b>	
[[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>

<b>Second Semester</b>	
[[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>

<b>Third Semester</b>	
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>

<b>Fourth Semester</b>	
[[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>

<b>Fifth Semester</b>	
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>

<b>Sixth Semester</b>	
Distribution Requirement	3
Electives	6
[[IM-391]] Integrative Media Project I	3
THE Elective	3
<b>Total Credits</b>	<b>15</b>

<b>Seventh Semester</b>	
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>

<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 THEATRE ARTS AND A CONCENTRATION IN THEATRE DESIGN

## Recommended Course Sequence

<b>First Semester</b>	
[[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>

<b>Second Semester</b>	
[[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>

<b>Third Semester</b>	
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>

<b>Fourth Semester</b>	
[[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>

<b>Fifth Semester</b>	
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>

<b>Sixth Semester</b>	
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>

<b>Seventh Semester</b>	
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>

<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.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
[[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
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>

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.*

<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

## **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 Chair of the Undergraduate Nursing Department.

### **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 for the Management Major (27 credits total) Credits

<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

### 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	[[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 of the Modern World	3
[[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>

## Management

Second Semester		Sixth Semester	
[[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>
Third Semester		Seventh Semester	
[[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>
Fourth Semester		Eighth Semester	
[[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.

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>	
[[COM-302]] – Public Relations (*prerequisite COM 260)	3
[[MKT-322]] – Advertising	3
[[MKT-324]] – Retailing	3
[[MKT-326]] – The Selling Process	3
[[MKT-327]] – Marketing Seminar	3
[[MKT-328]] – Consumer Behavior	3
MKT 198/298/398 – Topics in Marketing	up to 12

<b>Each student with a major in Marketing may also complete up to 12 of the following credits (or additional courses above):</b>	
[[ENT-201]] – Nature and Essence of Entrepreneurship	3
[[ENT-203]] – Opportunity Identification: Innovation and Creativity	3
[[ENT-252]] – The Entrepreneurial Leader	3
[[ENT-384]] – Small Business Consultancy	3
[[ENT-385]] – Opportunity Assessment: Technical, Economic, and Market Feasibility	3

[[MGT-257]] – Management Information Systems	3
[[MGT-209]] – Business Correspondence and Reports	3
[[MGT-352]] – Production and Operations Management	3

### Marketing Major 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	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>
Second Semester		Sixth Semester	
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	3	MKT Major Course	3

## Marketing

Requirement (Area III)			
<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	3
[[MGT-354]] – Organizational Behavior	3	Total Credits	12
<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 — 21.

Total minimum number of credits required for a minor in Statistics — 21.

The Department of Mathematics 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 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 4/3 or Distribution Requirement		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 4/3 or Distribution Requirement		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	3	3
[[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>16</b>	<b>17</b>

Fourth Semester	B.A.	B.S.
[[MTH-214]] Linear Algebra	4	4
[[MTH-302]] Intro to Higher Math	3	3
Science Elective	3	4
Distribution Requirement	3	6

## Mathematics

Free Elective	3	0
	<b>16</b>	<b>17</b>

<b>Fifth Semester</b>	B.A.	B.S.
[[MTH-311]] Functions of a Real Variable or MTH 331Intro 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>	
[[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>	
[[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>	3
<b>Total Credits</b>	<b>16</b>

<b>Fourth Semester</b>	
[[CS-226]] – Computer Science IV	3
[[MTH-214]] – Linear Algebra	4
[[MTH-302]] - Intro to Higher Math	3
Science Requirement	4
<b>Total Credits</b>	<b>14</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 4/3 or Distribution Requirement		4/3
[[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 4/3 or		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	3	3
[[MTH-231]] Discrete Mathematics I	3	3
[[ED-190]] Effective Teaching	3	3
Lab Science Sequence II	3	4
Distribution Requirements	3	3
	<b>15</b>	<b>16</b>

<b>Fourth Semester</b>	B.A.	B.S.
[[MTH-214]] Linear Algebra	4	4
[[MTH-302]] Introduction to Higher Math	3	3
[[ED180]] Educational Psychology	3	3
Science Elective	3	4
Free Elective	3	-
	<b>16</b>	<b>14</b>

<b>Fifth Semester</b>	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

## Mathematics

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-202]]

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 B.A. candidates: [[MTH-231]], or any MTH or CS course numbered above 300, excluding [[MTH-303]]

B.S. candidates: Two of the following: [[MTH-231]], or 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:  
[[MTH-211]], [[MTH-231]], or 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

## Mathematics

[[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
[[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 Engineering and Engineering Management offers a four-year Bachelor of Science degree program in Mechanical Engineering. The four-year Bachelor of Science degree program in Mechanical Engineering (ME) is dedicated to the principle of preparing its students for industry and graduate study with the expectation of eventual leadership responsibilities. To that end, its faculty and facilities focus on an emphasis of design and industrial experience, student-faculty-industry cooperative projects, teamwork, the adoption of new technologies and on the hands-on student utilization of laboratories and computing systems. The Mechanical Engineering program maintains professional accreditation by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET, 111 Market Place, Suite 1050, Baltimore, MD 21202-4012; 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. Student may choose to specialize within the following areas: Thermal, Design, and Micro-Electro-Mechanical 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. This degree program is described in the Graduate Bulletin.

## Mechanical Engineering B.S. Degree - Required Courses and Recommended Course Sequence

### First Semester

[[MTH-111]] Calculus I	4
[[CHM-117]] Chemistry for Engineers Lab	1
[[CHM-118]] Chemistry for Engineers	3
[[ME-180]] CADD Lab	1
[[ENG-101]] English 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]] Intro. to Materials Science	3
Distribution Requirement	3
	<b>17</b>

### Third Semester

[[MTH-211]] Intro. to Differential Equations	4
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[[PHY-202]] General Physics II	3
[[PHY-205]] General Physics II Lab	1
[[EE-211]] Electrical Circuits and Devices	3
[[EE-283]] Electrical Measurements 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]] Engineering Thermodynamics	3
[[MTH-212]] Multivariable Calculus	4
[[ME-175]] Intro. to Manufacturing and Machining	1
	<b>17</b>

### Fifth Semester

[[ME-321]] Fluid Mechanics	3
[[ME-215]] Intro. to Manufacturing Processes	3
[[ME-335]] Engineering Modeling & Analysis	4
[[ME-333]] Machine Design I	3
Distribution Requirements	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]] Vibration of Dynamic Systems	3
[[ME-330]] Vibrations Laboratory	1
[[EGM-320]] Engineering Project Management & Analysis	3
Distribution Requirement	3
	<b>18</b>

### Seventh Semester

[[ME-326]] Heat Transfer Lab	1
Science Elective***	3
[[ME-384]] Mechanical Design Lab	3
[[ME-391]] Senior Project I	1
[[ME-317]] Robotics	3

## Mechanical Engineering

Distribution Requirement	3
	<b>14</b>

## Eighth Semester

ME Technical Elective**	3
[[ME-392]] Senior Project 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 may be chosen from these courses: CHM 256, EES 211, EES 240, GEO 211, MTH 214, MTH 231, MTH 314, MTH 351, MTH 361, MTH 362, PHY 203, PHY 312, PHY 374, PHY 377.*

*\*\*\*\*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

## 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 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 – Spec. Ed. Methodology I (30)*	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>	
	Credits
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
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 ENGLISH, LANGUAGE ARTS, AND READING WITH DUAL CERTIFICATION IN SPECIAL EDUCATION (PK-8)

## Recommended Course Sequence

132 Credits

<b>First Semester</b>	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 – Spec. Ed. Methodology I (30)*	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>	
	Credits
EDSP 226 – Spec. Ed. Method. II (20)*	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 Management (20)*	3
EDSP 300 - Special Education Assessment & Evaluation	3
ED 326 - Adolescent Literature	3
<b>Total Credits</b>	<b>16</b>
<b>Seventh Semester</b>	
EDSP 302 - Special Education Methods	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>

**Middle Level Education Major leading to Certification with a Concentration  
in English, Language Arts, and Reading with Dual Certification in Special Education (PK-8)**

<p><i>*Denotes field experience hours</i></p> <p><i>**Denotes pre-student teaching hours completed during the first two weeks of the eighth semester.</i></p>	
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# MIDDLE LEVEL EDUCATION MAJOR LEADING TO CERTIFICATION WITH A CONCENTRATION IN MATHEMATICS

## Recommended Course Sequence

127 Credits

First Semester	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 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

First Semester	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>	
CHM 105 – Chemistry & Modern Society	3
EES 211/251/280	4
ED 220 – Teaching ... Diverse Learners	3
EDSP 225 – Spec. Ed. Methodology I (30)*	3

MTH 150 – Elementary Statistics	3
<b>Total Credits</b>	<b>16</b>
<b>Fifth Semester</b>	
	Credits
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>
<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 MATHEMATICS WITH DUAL CERTIFICATION IN SPECIAL EDUCATION (PK-8)

## 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>	
	Credits
BIO/CHM/EES/PHY 105	3
EDSP 226 – Spec. Ed. Method. II (20)*	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>	
	CreDits
ED 375 – Middle-Level & Secondary Ed. Methods (40)*	4
EDSP 302 – Special Education Methods	3
EDSP 227 - Behavior Management in Spec. Ed. (20)*	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
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>
*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 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

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 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>
*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 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>
<b>Second Semester</b>	
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>
<b>Third Semester</b>	
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>
<b>Fourth Semester</b>	
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>
<b>Fifth Semester</b>	
	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>
<b>Sixth Semester</b>	
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>
<b>Seventh Semester</b>	
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>
<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.	

# 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	67 credits
Electives	21 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 (OPO)	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-233]] Voice & Diction II	3
[[THE-131]] Acting 1	3
[[THE-190]] Theatre Laboratory	1
<b>Total Credits</b>	<b>15</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
<b>Total Credits</b>	<b>15</b>

Eighth Semester	
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 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	Social 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
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## 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

[[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 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 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 make arrangements with the School of Nursing to complete the Assessment Technologies Institute

(ATI) Nursing Admission Exam, Test of Academic Skills (TEAS) before July 1st of the year preceding the start of the entry level clinical nursing course (NSG 210). Candidates must have a composite score of 70 or better in the following areas reading, mathematics, science, and English/language usage in order to be considered for admission into the School of Nursing. The exam may only be repeated once.

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 better 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:**

- Earn a 2.5 or higher in all nursing courses.
- A nursing student who earns less than a nursing course may repeat that course once.
- A nursing student who earns less than a 2.5 in a second nursing course or a senior level student earning less than a 2.5 in a course will meet with a committee comprised of three nursing faculty. A thorough investigation of student performance will be conducted. A recommendation from the committee will be forwarded to the Chairperson and the Dean for final approval. The student will be notified in writing of the decision which may result in termination from the program.
- Students are required to maintain a cumulative Grade Point Average (GPA) of 2.5 or higher.
- Students who do not achieve a cumulative GPA of 2.5 or higher will be placed on probation for the next semester to increase their GPA. Failure to achieve a cumulative GPA of 2.5 or higher after the probationary semester will result in program dismissal. Students will be provided only one semester for probation throughout the nursing program.
- Students must achieve a 2.5 or higher in EES 242 in order to progress in the program. A student who achieves less than 2.5 in two science courses **will not be** able to continue in the nursing program.

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
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[[CHM-111]] Fundamentals of Chemistry	4
[[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	1
[[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 NursingII	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 **PSY101** and **SOC101** 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 Nurses Association (NSNA)	\$45	\$45	\$45	\$45
Uniform Scrub Top		\$30 - \$35		
Uniform Scrub Pants		\$25		
Uniform Shoes		\$40 and up		
Stethoscope, penlight, bandage scissors		\$55 - \$85		

## Nursing

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
*May be covered by the student's medical insurance				
**Will be billed by the Financial Management Office.				

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.

## 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 4100, Chicago, IL 60503, (312) 664-3575, FAX (312) 664-4652, 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 (Enrollment Limit: up to 90)

Students may only enter the Pre-Pharmacy Guaranteed Seat Program as freshmen from high school with the exception of parallel students that may apply at the end of their freshman year, if academically qualified. Minimum criteria for consideration for admission are listed below (with the exception that parallel Wilkes students may apply at the end of their freshman year, if academically qualified).

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 Pre-Pharmacy Guaranteed Seat Program must complete the online Wilkes University Application. If a student indicates pharmacy, a supplemental application with instructions will become available to the applicant. Minimum requirements 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), SAT or ACT scores, 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. 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 must be completed by February 1. As applicants are admitted on a rolling basis, all seats may be awarded before the February 1 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 that are available at: <https://www.wilkes.edu/academics/colleges/nesbitt-college-of-pharmacy/program-information/pre-pharmacy-guaranteed-seat-program/technical-standards.aspx>

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%;
- attain a combined SAT score of 1080 or ACT 22 or greater;
- complete the School of Pharmacy Pre-Pharmacy Application (This application is in addition to the Wilkes University Admissions Application.), including the Letter of Intent;

## Pharmacy

- 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.

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	Credits
*[[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-231]] – Organic Chemistry I***	3
*[[CHM-237]] – Essentials of Organic Chemistry Lab***	1
*[[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	Credits
[[CHM-365]] Medical Biochemistry or [[CHM-232]] Organic Chemistry II	4

and CHM 234 Organic Chemistry II Lab]]	
Distribution Requirements	6
*[[MTH-150]] – Elementary Statistics	3
*[[PHY-174]] – Appls. of Classical & Modern Physics	4
<b>Total Credits</b>	<b>17</b>

\*Denotes prerequisite course.

\*\*Some requirements may be fulfilled via satisfactory achievement on advanced placement tests or Wilkes' challenge examinations.

\*\*\*Four credits of [[CHM-235]]: Essentials of Organic Chemistry and Essentials of Organic Chemistry lab [[CHM-237]] may be substituted for 8 credits of Organic I/II lecture and Organic I/II labs[[CHM-231]]/[[CHM-233]]/[[CHM-232]]/[[CHM-234]] .

### 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: 72)

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 automatically admitted to the Professional Program:

- You must complete four semesters as a full-time Pre-Pharmacy student and successfully complete, with a 2.0 or higher, ALL prerequisite courses at Wilkes University, specifically by the end of the spring semester prior to admission. PREREQUISITE COURSES are listed in the PRE-PHARMACY PROGRAM (previous page) marked with a (\*);
- You must maintain a PREREQUISITE COURSE cumulative GPA of 3.0 or better for the PREREQUISITE COURSES through the spring of the fourth semester (sophomore year). *Failure to maintain a prerequisite cumulative GPA of 3.0 or better in the PREREQUISITE COURSES through the spring of the fourth semester (sophomore) will result in forfeiture of the guaranteed seat,*
- You must maintain a cumulative GPA of 3.0 or better for all courses taken through the spring of the fourth semester (sophomore year). Advanced placement courses may be accepted in fulfillment of some of these requirements. However, grades for AP-accredited courses will not be factored into the prerequisite or overall GPAs. Although non-prerequisite course credit hours may be transferred to Wilkes from other colleges, you should be aware that grades do not transfer. In

other words, if you take courses somewhere else, the credit hours may be transferred, but your Wilkes GPA will not be affected. Failure to maintain a cumulative GPA of 3.0 or better in all courses taken through the spring of the fourth semester (sophomore year) will result in forfeiture of the guaranteed seat;

- You must earn grades of 2.0 or greater in all PREREQUISITE COURSES through the spring of the fourth semester (sophomore year). One PREREQUISITE COURSE grade of less than 2.0 may be repeated at Wilkes University with the higher grade replacing the lower grade on the official transcript. 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. Also, earning two or more PREREQUISITE COURSE grades of less than 2.0, even if one is successfully repeated, will result in forfeiture of the guaranteed seat and dismissal from the program. (Please see below, Admission through the Application Process.)*

- *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. The Nesbitt School of Pharmacy will include grades in the academic evaluation for prerequisite courses taken while in high school or any of the 8 credits taken while enrolled in the PPGS program. Wilkes University will not post grades on your transcript or apply these course grades to your overall GPA.*

\*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 score at least in the 25th percentile on the composite Pharmacy College Admission Test (PCAT). The School will only accept PCAT scores from the July, September, and October/November dates; we will not accept scores from the January test for the upcoming year. The School of Pharmacy will accept the highest PCAT scores of multiple attempts. *Failure to score at least in the 25th percentile in the PCAT after a single or multiple attempts will result in forfeiture of the guaranteed seat;*
- You must maintain the highest levels of academic and personal honesty and be free from criminal/drug-related offenses throughout the pre-pharmacy and pharmacy program. Pharmacy students must complete annual criminal background checks as a requirement for progression and retention within the School of Pharmacy;
- 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 semester prior to admission. Failure to receive a favorable recommendation from your Pre-Pharmacy advisor at the end of your spring semester prior to admission will result in forfeiture of the guaranteed seat; and

- 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 grades from Pre-Pharmacy courses, number of courses repeated, typical course loads, PCAT scores, total academic career, and references, as well as a successful 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. We must receive your PCAT results prior to the January 15th deadline.

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 are 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 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."

*Applicants should review the Technical Standards set forth by the School of Pharmacy, which are available at:*

<https://www.wilkes.edu/academics/colleges/nesbitt-college-of-pharmacy/program-information/pre-pharmacy-guaranteed-seat-program/technical-standards.aspx>

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



## Pharmacy

- 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;
  - must successfully (2.0 or higher) complete all Pharmacy Prerequisite Courses listed below by the end of the spring semester prior to admission
  - must obtain a minimum overall GPA of 2.50 and a minimum GPA of 2.50 in the Pharmacy Prerequisite Courses listed below by the end of the spring semester prior to admission.
  - must obtain a minimum overall GPA of 2.50 and a minimum GPA of 2.50 in the Pharmacy Prerequisite Courses listed below (non-Wilkes, transfer student) by the end of the spring semester prior to admission;
    - preferential consideration will be given to non-Wilkes transfer students with GPAs of 3.0 or higher;
    - We will evaluate the grades of higher-level courses to include in the GPA calculations.
  - must obtain a grade of C (2.0) or better in each of the Pharmacy Prerequisite Courses listed below by the end of the spring semester prior to admission. Prerequisite grades of less than 2.0 may be repeated with the higher grade factoring into the GPA.
    - However, applications will be placed at a lower priority if grades less than 2.0 in prerequisite courses are remediated and recorded.
    - Students repeating 4 or more prerequisite courses, even if all are successfully completed, will not be considered for admission.
    - 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, for various types of criminal background checks annually, and 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; and
  - must submit scores on the Pharmacy College Admission Test (PCAT) by January 15th. The School will only accept PCAT scores from the July, September, and October/November dates; we will not accept scores from the January test since we will not receive the results prior to the January 15th application deadline.
- 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 (4 credits) of General Physics with lab
- One semester (4 credits) of Calculus
- One semester (3 credits) of Statistics
- One semester (3 credits) of Microeconomics
- One semester (3 credits) or 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 8.0 credits of 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 Assistant 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.

#### Experiential Curriculum Component

Experiential learning is a critical component of the curriculum at Wilkes. Before being placed in an experiential setting, (and repeated at varying intervals), all students are required to:

- possess an active Pennsylvania Pharmacy Intern License (comply with ACT 31 relating to CHILD ABUSE RECOGNITION AND REPORTING);
- possess professional liability insurance;
- have documentation of immunizations;
- pass a physical examination;



- be certified in Basic Cardiac Life Support (healthcare provider), Basic First Aid, and complete OSHA training;
- have a criminal background check completed and clear per site requirements, by an approved provider when required; and
- complete and clear other site-specific requirements, such as FBI fingerprint check, PA child abuse background check, etc.

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) Introductory Pharmacy Practice Experience (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 a two-semester course in service learning (longitudinal care) and 20 hours of IPPE IV. 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. 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 start and end 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
Total Credits	16-18

### P-1 Summer

[[PHA-335]]* IPPE I*	2
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## Pharmacy

### 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
Total Credits	18-19

### P-2 Summer

[[PHA-445]]* IPPE III	2
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### P-3 Fall Semester

[[PHA-501]] Pharmacy Care Lab IV	1
[[PHA-503]] Longitudinal Care I	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	17-18

### P-3 Spring Semester

[[PHA-502]] Pharmacy Care Lab V	1
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[[PHA-504]] Longitudinal Care II	1
[[PHA-526]]** Pharmacotherapeutics X	3
[[PHA-528]]** Pharmacotherapeutics XI	2
[[PHA-530]]** Pharmacotherapeutics XII	4
[[PHA-532]] Integrative Medicine/ Nutrition	2
[[PHA-555]]* IPPE IV	.5
[[PHA-560]]* IPPE V	.5
Elective	2-3
	16-17

*\*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 PHL 101(Introduction to Philosophy) or PHL 110 (Introduction to Ethical Problems), PHL 122 (Introduction to Symbolic Logic), and at least nine credits at the 300-level, including PHL 301 (Origins of Western Thought), PHL 310 (Ethical Theory), and a one-credit capstone experience (PHL 390).

# 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*	3
[[CHM-113]] Elements and Compounds Lab*	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*	4
[[EGR-140]] Scientific Programming* <sup>A</sup>	3
Physics Elective @	3
Distribution Requirement	3
	<b>17</b>

### Third Semester

[[MTH-211]] Intro. to Differential Equations*	4
[[PHY-202]] General Physics II*	4
Physics Elective @	3
Distribution Requirement	6
	<b>17</b>

### Fourth Semester

[[MTH-212]] Multivariable Calculus*	4
[[PHY-203]] Modern Physics*	3
Physics Elective@	6
Distribution Requirement	3
	<b>16</b>

### Fifth Semester

[[PHY-311]] Thermodynamics*	3
[[PHY-312]] Analytical Mechanics*	3
[[EE-337]] Engineering Electromagnetics I*	3
Physics Electives@	3
Distribution Requirement	3
	<b>16</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.

<sup>A</sup>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]] – Special Education Methods I 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 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).

# 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
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## 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 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 257	Neuropsychology	3
PSY 358	Psychological Tests and Measurements	3
PSY 359	Psychopharmacology	3

\*\*Course was formerly called "Pscycopathology"

## 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

<b>First Semester Credits</b>	
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>

<b>Second Semester</b>	
Distribution Requirements	9
ENG 101 Composition or Distribution Requirement	3-4
PSY 242 Personality	3
<b>Total Credits</b>	<b>15-16</b>

<b>Third Semester</b>	
Distribution Requirements	6
Free Electives	6
PSY 221 Developmental Psychology	3
<b>Total Credits</b>	<b>15</b>

<b>Fourth Semester</b>	
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>

<b>Fifth Semester</b>	
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>

<b>Sixth Semester</b>	
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>

<b>Seventh Semester</b>	
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>

<b>Eighth Semester</b>	
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.



# PUBLIC ADMINISTRATION

## Requirements

### Public Administration

Total minimum number of credits for a major in Public Administration leading to the B.A. degree — 120

A major in Public Administration requires 120 hours. These include 43 hours in the University's General Education Requirements and 56 credits in the Public Administration major. All majors must take the following courses that comprise the Core in Public Administration: PS111, 151, 221, 224, 260, 261, 265, 309 (2 credits) 311, 312, 380, EC101, 102, and 330, BA335 and 336, and MGT351 and 354. Students are also required to take three (3) credits in either an Internship (PS399) or a PS elective.

The Public Administration major is consistent with the Political Science Department's mission "to educate students to understand the significance of politics in America and the world and the relevance of politics to their lives."

This major will benefit students who are interested in pursuing professional careers, specifically in the public or non-profit sectors.

#### First Semester - Fall

ENG 101 Composition or Distribution Requirement	4/3
FYF 101 First-Year Foundations	3
Distribution Requirements	6
PS 111 Intro. to American Government	3
Total Credits	16/15

#### Second Semester - Spring

ENG 101 Composition or Distribution Requirement	4/3
Distribution Requirements	12
Total Credits	16/15

#### Third Semester - Fall

Distribution Requirements	6
PS 151 Intro to Comparative Politics	3
PS 221 Intro to Public Administration	3
EC 101 Principles of Econ I	3
Total Credits	15

#### Fourth Semester - Spring

Distribution Requirements	9
PS 260 Intro to Political Thinking	6
EC 102 Principles of Econ II	3
Total Credits	15

#### Fifth Semester - Fall

BA 335 Law and Business	3
PS 311 American Presidency	3

PS 261 Research Methods in Political Science	3
EC 330 Public Finance	3
PS 399 Internship or PS Elective	3
Total Credits	15

#### Sixth Semester - Spring

BA 336 Advanced Topics in Business Law*	3
PS 312 The US Congress	3
PS 265 Quantitative Reasoning	3
PS 224 Public Policy Analysis	3
PS 399 Internship or PS Elective	3
Total Credits	15

#### Seventh Semester - Fall

PS 380 Capstone Research	3
MGT 351 Management of Organizations and People	3
PS 309 Careers in PS	2
Free Electives	9
Total Credits	17

#### Eighth Semester - Spring

Free Electives	9
MGT 354 Organizational Behavior**	3
PS Electives	3
Total Credits	15

Total credits for the Public Administration major - 56

Credits in Political Science - 35

Credits in Business Administration - 12

Credits in Economics -9

**\*BA 335 is a prerequisite.**

**\*\*BA 351 is a prerequisite.**

# 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 41 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 18 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 41 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
- 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

First Semester	
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>

## Spanish, B.A.

<b>Second Semester</b>	
Distribution Requirements	9
Eng 101 Composition or Distribution Requirement	4
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.*

# 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 (30 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]] – Special Events 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-298]] - Management of Athletics	3
[[SM-398]] - Global Sport Business	3
[[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
[[MGT-328]] – Consumer Behavior	3
[[MKT-352]] – Production and Operations Management	3

### Sports Management Major- Required Courses and Recommended Course Sequence

First Semester	Credits	Fifth Semester	Credits
[[BA-151]] – Integrated Management Experience I	3	[[SM-261]] – Sport Psychology	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]] – <i>Personal &amp; Professional Development I</i>	1	[[PPD-301]] – <i>Personal &amp; Professional Development V</i>	1
<b>Total Credits</b>	<b>17</b>	<b>Total Credits</b>	<b>16</b>
Second Semester		Sixth Semester	
[[BA-152]] – Integrated Management Experience II	3	Major Elective # 1	3
[[COM-101]] – Fundamentals of Public Speaking	3	[[SM-325]] – Sport Marketing	3

## Sports Management

[[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]] – 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 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	3

		in Sports Management	
[[SOC-261]] – Sociology of Sport	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>

# SUPPLY CHAIN MANAGEMENT

## Supply Chain Management Major

**Coordinator:** Dr. Bulent Erenay

Total minimum number of credits required for a major in Accounting leading to the B.S. degree — 123.

The B.S. in Supply Chain Management program will offer students the knowledge, quantitative, and technological skills they need in order to ensure employment in leading supply chain management roles. According to the Bureau of Labor Statistics, Supply Chain Management is projected to continue to be one of the fastest growing industries for employment over the next ten years. Supply Chain Management students will be prepared for positions such as supply chain manager/analyst, logistics analyst/manager, procurement/sourcing manager, global purchasing manager, acquisition project analyst, demand planning manager, production planner, operations manager, marketing analyst, business process improvement analyst, and sales/distribution managers.

The Supply Chain Management major requires an additional 31 credits, including:

Requirements for the Supply Chain Management Major (31 credits total)  
Credits

<b>Each student with a major in Supply Chain Management must complete the following 19 credits:</b>	
[[BA-119]] Data Analysis in Excel	1
[[SCM-201]] Intro. to Supply Chain Management	3
[[MGT-352]] Operations Management	3
[[SCM-251]] Logistics & Transportation Management	3
[[SCM-257]] Supply Chain Info. Systems	3
[[SCM-358]] Global Supply Chain Management	3
[[SCM-352]] Quality Management	3

<b>Each student with a major in Supply Chain Management must complete 12 additional elective credits.</b>	
<b>Students will need to complete two of the following courses in advanced Supply Chain Management:</b>	
[[BA-419]] Quantitative Decision Making	3

[[MGT-301]] Project Management	3
[[SCM-351]] Inventory Management & Control	3
[[SCM-198]] / [[SCM-298]] / [[SCM-398]] Topics in Supply Chain Management	3
<b>Students will also need to complete two of the following advanced business courses:</b>	3
[[BA-338]] Intl Business Law	3
[[HL-353]] Human Resource Management in the Service Industry	3
[[HL-355]] Event Management	3
[[MGT-353]] Human Resources	3
[[MGT-356]] Social Responsibility	3
[[MGT-198]] / [[MGT-298]] / [[MGT-398]] Topics in Management	3
[[MKT-357]] Global eBusiness	3
[[SM-355]] Facility Management	3
[[SUS-402]] Metrics of Sustainability	3

## Supply Chain Major- Required Courses and Recommended Course Sequence

### First Semester

[[BA-151]] Integrated Management Experience I	3
[[CS-115]] Survey of Computers	3
[[HST-101]] Intro. Of the Modern World	3
[[ENG-101]] Composition	4
[[FYF-101]] First-Year Foundations	3
[[PPD-101]] Personal and Professional Development	1
	<b>17</b>

### Second Semester

[[BA-152]] Integrated Management Experience II	3
[[COM-101]] Fundamentals of Public Speaking	3
[[MTH-101]] or higher	3
Social Science Distribution Requirement	3
[[ENG-120]] Reading Classical Traditions	3
[[BA-119]] Data Analysis in Excel	1

## Supply Chain Management

	<b>16</b>
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### Third Semester

[[ACC-161]] Financial Accounting & Decision Making	3
[[SCM-201]] Introduction to Supply Chain Mgmt	3
[[BA-319]] Business Statistics	3
[[MGT-251]] Management of Organizations & People	3
Science Distribution Requirement	3
[[PPD-201]] Personal and Professional Development III	1
	<b>16</b>

### Fourth Semester

[[ACC-162]] Managerial Accounting & Decision Making	3
Free Elective	3
[[MKT-221]] Marketing	3
[[MGT-352]] Production & Operations Management	3
Humanities Distribution Requirement	3
	<b>15</b>

### Fifth Semester

[[EC-101]] Principles of Economics I	3
[[BA-335]] Law and Business	3
[[SCM-251]] Logistics & Transportation Management	3
[[SCM-257]] Supply Chain Information Systems	3
Free Elective	3
	<b>15</b>

### Sixth Semester

[[EC-102]] Principles of Economics II	3
[[FIN-240]] Introduction to Finance	3
[[SCM-352]] Quality Management	3
SCM Major Elective Course	3
Arts Distribution Requirement	3
	<b>15</b>

### Seventh Semester

[[MGT-358]] International Business	3
[SCM-358] Global Supply Chain Management	3
SCM Major Elective Course	3
Science Distribution Requirement (Area III)	3

[[PPD-401]] Personal and Professional Development VII	3
[[MGT-358]] International Business	1
	<b>16</b>

### Eighth Semester

[[BA-461]] Business Strategy and Decision Making	3
[[SCM-462]] Supply Chain Management Internship	3
SCM Major Elective Course	3
SCM Major Elective Course	3
Free Elective	3
	<b>15</b>



# 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	6
[[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	6
[[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

[[ART-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	6
[[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
[[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	6
[[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 Statistics: 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. Bulent Erenay

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-391]] Business Statistics	3
either [[ACC-341]] or [[MGT-257]]	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**

### **Minor in Computer Engineering**

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:

[[CS-125]] – Computer Science I **or** [[EGR-140]] - Scientific Programming  
[[CS-126]] – Computer Science II **or** [[EE-247]] Programming for Embedded Applications

[[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.
[[BA-322]] Advertising 3 cr.
[[BA-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 - 25 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 4 cr.
[[CS-226]] Computer Science IV 4 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 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)
[[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]] Marketing Seminar or
[[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.

## Digital Design + Media Art - Cognate Minors

[[THE-334]] Directing II 3 cr.
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Two Theater Arts Elective 6 cr.
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## 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)
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[[IM-350]] 3-Dimensional Environments & Animation 3 cr.
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[[THE-121]] Stagecraft 3 cr.
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[[THE-226]] Scene painting 3 cr.
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[[THE-321]] Scene Design 3 cr.
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One Theater Arts Elective 3 cr.
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# 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.
[[IM-302]] – Principles of Interactivity 3 cr.
IM Electives (2) 6 cr.
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**

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

Required courses are as follows:

EGY 105 Introduction to Energy;

A 200-level course in each of three subject areas – Science/Engineering,  
Humanities/Policy and Business;

One additional course 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 and Analysis
- [[EC-102]] - Principles of Economics II
- [[EGM-321]] - Quantitative Analysis and Programming Methods
- [[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 Process
- [[EGM-315]] - Quality Practices for Design and Operations
- [[EGM-322]] - Operations Analysis and Resource Allocation
- [[EGM-325]] - Project Analysis and Resource Allocation
- [[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. Ge Grace Xiao

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 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-151]] – Integrated Management Experience I	3
[[ENT-152]] – Integrated Management Experience II	3
(OR [[BA-153]] – Management Foundations + [[ENT-252]] or [[LDR-202]])	3
[[ENT-201]] – Nature and Essence of Entrepreneurship	3
[[ENT-461]] – Practicing Entrepreneurship	3
AND ONE OF THE FOLLOWING:	
[[ENT-384]] – Small Business Consultancy or	3
[[ENT-462]] – Entrepreneurship Internship	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>
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PS 212 - Urban Government and Politics
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PS 242 - International Law and Organization
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<b>Electives in Environmental Engineering and Earth Science</b>
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EES 205 - The Global Environment
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EES 261 - Regional Geography
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# ETHICS MINOR

## Requirements

The Minor in Ethics consists of 18 credit hours, including:

- (1) [[PHL-110]] Intro to Ethical Problems or [[PHL-101]] Introduction to Philosophy,
- (2) [[PHL-310]] Ethical Theory, and
- (3) Four courses from among the following:
  1. a. [[PHL-214]] Medical Ethics,
  - b. [[PHL-216]] Violence and Nonviolence,
  - c. [[PHL-217]] Animal Minds, Animal Lives,
  - d. [[PHL-218]] Environmental Ethics,
  - e. [[PHL-242]] The Meaning of Life,
  - f. [[PHL-314]] Advanced Topics in Bioethics,
  - g. [[PHL-316]] Moral Psychology,
  - h. [[PHL-122]] Introduction to Symbolic Logic or [[PHL-301]] Origins of Western Thought, but not both, or
  - i. 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 - 18

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 for the Financial Investments Minor Credits**

[[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	3



# GEOLOGY

## Geology Minor

### Geology Minor Course Offerings

Students must select from the following list to satisfy the requirements for the minor in Geology

Course	Credits
[[EES-105]] Planet Earth	3
[[EES-211]] / [[GEO-211]] Physical Geology*	4
[[GEO-206]] Historical Geology	3
[[EES-212]] / [[GEO-212]] Historical Geology	3
[[EES-381]] / [[GEO-281]] Mineralogy	4
[[EES-382]] / [[GEO-282]] Petrology	3
[[GEO-345]] Stratigraphy and Sedimentation	4
[[GEO-349]] Structure and Tectonics	4
[[GEO-351]] Paleoclimatology	3
[[EES-370]] / [[GEO-370]] Geomorphology	3
[[GEO-380]] Field Camp	4

[[GEO-390]] Applied Geophysics 3

[[GEO-395]] Independent Research I 1-3

[[GEO-396]] Senior Projects II\*\* 1-3

\* Required

### GUIDELINES AND STIPULATIONS

Course offerings are subject to change.

[[EES-105]] can substitute [[EES-211]] / [[GEO-211]] as a prerequisite.

Special topics geology courses, [[EES-298]] / [[GEO-298]] or [[EES-398]] /

[[GEO-398]], may be applied to the minor.

Environmental Engineering and Environmental Science majors can use

[[ENV-32]] Hydrology toward the geology minor.

Environmental Engineering majors can use [[ENV-315]] Soils 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

#### 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 History (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
[[LDR-201]] – Introduction to Leadership	3
[[HL-381]] – Hotel Operations Management	3
(OR [[HL-382]] – Food and Beverage Management)	3
[[HL-466]] – Advanced Hospitality Internship	3
AND TWO OF THE FOLLOWING COURSES:	
[[HL-355]] – Event Management	3
[[HL-386]] – Gaming and Casino Management	3
[[HL-198]]/[[HL-298]]/[[HL-398]] - Topics in Hospitality Leadership	3
[[HL-341]] – Hospitality Finance	3
[[SM-355]] – Facility Management	3
[[SM-201]] – Introduction to Sports Management	3
[[SM-325]] – Sports Marketing	3
[[MKT-328]] – Customer Behavior	3
[[ENT-252]] – The Entrepreneurial Leader	3
[[BA 419]] – Quantitative Decision Making	3

# INTERNATIONAL RELATIONS MINOR

## Requirements

A minor in International Relations consists of 18 hours, including ANT-102, PS 141, 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, 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

# 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]]. Advanced Leadership Theory and Practice  
[[LDR-461]]. Leadership Capstone

**Each student with a minor in Leadership Studies must complete one course from each of the following content areas, for a total of 9 credits:**

Leadership Issues (see options below)  
Leadership Skills (see options below)

Leadership in Context (see options below)

Leadership Issues (3 credits) (Courses listed have no or minimum prerequisite requirements)

[[EES-218]]. Environmental Ethics

[[EES-210]]. Global Climatic Change

[[MGT-356]]. The Social Responsibility of Business

[[PHL-110]]. Introduction to Ethical Problems

[[PHL-216]]. Philosophies of Nonviolence

[[SOC-251]]. Sociology of Minorities

[[WS-101]]. Introduction to Women's Studies

Or 3 credits of Personal and Professional Development courses pertaining to leadership issues

## Leadership Behaviors/Skills (3 credits) (Courses listed have no or minimum prerequisite requirements)

[[COM-202]]. Interpersonal Communication

[[COM-203]]. Small Group Communication

[[COM-301]]. Persuasion

[[COM-303]]. Organizational Communication

[[COM-304]]. Intercultural Communication

[[ENG-202]]. Technical and Professional Writing

[[ENT-203]]. Opportunity Identification: Innovation and Creativity

[[MGT-209]]. Business Correspondence and Reports

Or 3 credits of Personal and Professional Development courses pertaining to leadership behaviors/skills

## Leadership In Context (3 credits)

[[ANT-212]]. People and Cultures of the World

[[ENT-252]]. The Entrepreneurial Leader

[[MGT-358]]. International Business

[[MGT-251]]. Management of Organizations and People

[[PS-260]]. Introduction to Political Thinking

[[SOC-352]]. Social Stratification

Or 3 credits of Personal and Professional Development courses pertaining to leadership in context

# MANAGEMENT MINOR

## Management Minor

**Coordinator:** Dr. Ruth Hughes

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

For majors in other business disciplines, The Jay S. Sidhu School of Business and Leadership offers an 18-credit minor in Management

The following Minor requirements are applicable 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:

<b>MKT 221 - Marketing</b>	<b>3</b>
<b>Plus, 15 credits of marketing or marketing related courses from the following list</b>	<b>15</b>
<i>MKT-322 – Advertising</i>	3
<i>MKT-324 – Retailing</i>	3
<i>MKT-326 – The Selling Process</i>	3
<i>MKT-327 – Marketing Seminar</i>	3
<i>MKT-328 – Consumer Behavior</i>	3
<i>MKT357 – Global eBusiness</i>	3
<i>MKT 198/298/398 – Topics in Marketing</i>	3
<i>MKT462 - Marketing Internship</i>	3
<i>SM325 Sport &amp; Event Marketing</i>	3
<i>HL325 Adv. Hospitality Marketing</i>	3
<i>ENT321 Analyzing Market &amp; Competitions</i>	3
<i>COM-302 – Public Relations (prerequisite COM 260)</i>	3



# **MATHEMATICS MINOR**

## **Requirements**

### **Mathematics Minor**

A minor in Mathematics requires the completion of a minimum of 21 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): 7-8

[[MTH-211]]

[[MTH-212]]

[[MTH-214]]

[[MTH-231]]

[[MTH-232]] or [[MTH-302]]

**Minimum total credits required for a minor in Mathematics: 21-24**

# MUSIC MINOR

## Requirements

**Music Coordinator:** Dr. Steven Thomas

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 Schicatanò

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>	3
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>	4
BIO 321	Mammalian Physiology <b>OR</b>	4
PHA 331	Medical Anatomy <b>AND</b>	4
PHA 332	Physiology I & II	4

# **PHILOSOPHY MINOR**

## **Requirements**

The minor in Philosophy consists of 18 credit hours, including PHL 101 (Introduction to Philosophy), PHL 122 (Introduction to Symbolic Logic), and at least six credits at the 300-level, including PHL 301 (Origins of Western Thought).

# 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:

Eleven credits of required introductory courses in Physics:

[[PHY-201]] – General Physics I	4
[[PHY-202]] – General Physics II	4
[[PHY-203]] – General Physics III	3

### 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

Six credits of electives selected from the following:

[[PHY-311]] - Thermodynamics and Statistical Mechanics	3
[[PHY-312]] - Analytical Mechanics	3
[[PHY-314]] - Quantum Mechanics	3
[[CHM-251]] – Physical Chemistry I	3
[[CHM-252]] – Physical Chemistry II	3
[[EES-251]] – Synoptic Meteorology	4
[[EES-280]] – Principles of Astronomy	4
[[EE-337]] – Engineering Electromagnetics I	4
[[EGR-200]] – Introduction to Materials Science & Engineering	3
[[ME-231]] – Statics and Dynamics I	3
[[ME-321]] – Fluid Dynamics	3
[[ME-322]] – Engineering Thermodynamics	3
[[MTH-361]] – Applied Mathematics I	3
[[MTH-362]] – Applied Mathematics II	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. 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	
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	
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	
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	
EDSP 225 – Sp. Educ. Methodology I (30)*	3
FL or PHL 101, 110	3
Major Electives	9
<b>Total Credits</b>	<b>15</b>

Sixth Semester	
Major Electives	18
<b>Total Credits</b>	<b>18</b>

Seventh Semester	
ED 380 – Content Area Literacy	3
EDXXX – Concentration Methods (40)*	4
Major Electives	9
<b>Total Credits</b>	<b>16</b>

Eighth Semester	
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 Psychology ([[SOC-341]]); 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 22 credits, including these core courses:

[[PSY-101]] – General Psychology[[PSY-242]] – Personality[[PSY-298]] – Peak Performance Coaching[[PSY-352]] – Abnormal Psychology[[PSY-399]] – Cooperative Education[[PSY-402]] – Field Experience in Sport Psychology[[SM-261]] – Sport Psychology  
[[SOC-261]] / [[EC-298]] – The Sociology of Sports/ The Economics of Sports, or [[SM-201]] – Intro to Sports Management, or [[PSY-353]] Clinical Methods in Psychology

Note: [[SM-261]], [[PSY-399]], and [[PSY-402]] must be taken in sequence and cannot be taken concurrently.

### **FOR MORE INFORMATION**

Contact:

Carl J. Charnetski, Ph.D.

Professor, Department of Psychology

carl.charnetski@wilkes.edu

## **Recommended Course Sequence**

# 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-298]] - Management of Athletics	3
[[SM-398]] - 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]] – Advertising	3
[[MKT-328]] - Consumer Behavior	3
[[MKT-352]] - Production and Operations Management	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. Bulent Erenay

For majors in other disciplines, 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
[[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	4
[[ENV-305]] Solid Waste Management	3
[[ENV-330]] Water Quality	4
[[ENV-332]] Air Quality	3
ENV-TE Engineering Technical Elective***	3

\*Required

\*\*Non EEES students only

\*\*\*Required approval by Sustainability Management minor coordinators

### GUIDELINES AND STIPULATIONS

Course offerings are subject to change.

For environmental engineering majors, at least one technical elective must be a course in engineering

# 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**

### **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 Maieran, Political Science; Dr. Ellen Newell, Psychology; Heather Sincavage, Integrative Media, Art and Design; Dr. Wagiha 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.

# SCHOOLS AND COLLEGES

## College of Science and Engineering

### College of Science and Engineering

Interim Dean: Dr. Prahlad Murthy

#### Mission

It is the mission of the College of Science and Engineering to provide challenging academic programs that promote understanding of principles in basic and applied sciences and mathematics, foster intellectual curiosity and critical thinking, develop skill in research, information technology, and engineering design, and facilitate student professional growth and development. The College cultivates faculty-student mentoring to promote application of advanced science and engineering concepts to help solve "real-world" problems and to encourage students to participate in leadership roles in their communities and in Northeastern Pennsylvania and to sustain individual initiative and lifelong learning.

#### Vision

Academic programs of the College of Science and Engineering will build on historic strengths of a traditional Wilkes education, revitalized through a new core and participatory strategic planning. Programs of the College emphasize experiential "hands-on" learning, teamwork in laboratories and class projects, state-of-the-art technology, individualized teacher-student mentoring, and a capstone senior research or design project, including cooperative education opportunities in the regional business community. These practical experiences, integrated with our diverse and innovative curricula, enhance our emphasis on core values of academic excellence and student-centered learning. The College seeks to foster agility and technical innovation in response to a rapidly changing marketplace and global economy, competition for quality students in higher education, changing population demographics (traditional students vs. adult learners), and increased requirements of employers for science and engineering graduates. The College will play an integral role in the overall success of the University's strategic goals and will expand its service section to the Mid-Atlantic region.

#### Programs

Our best students and their professional career achievements illustrate the power of a cooperative and supportive learning environment that cuts across individual courses, programs, departments, and curricula. Individual faculty, departments, and programs of the College have demonstrated academic excellence and success in partnering with industry, working with local community groups and local government, conducting research, serving on national panels and professional organizations, providing student internships, and fostering student-centered research and cooperative education. The College hosts a number of state-of-the-art laboratory facilities, often equipped through faculty grants and research projects that involve undergraduate students. A strong connection to our region enhances cultural, academic, and industrial opportunities for our students. National professional boards have accredited engineering programs within the College and various student chapters of professional organizations are active on campus. Our programs offer diverse opportunities for technical careers in education, industry, and government.

The College includes the following academic departments and divisions:

- [Air and Space Studies](#)
- [Biology & Health Sciences](#)
- [Chemistry & Biochemistry](#)
- [Electrical Engineering & Physics](#)
- [Environmental Engineering and Earth Sciences](#)
- [Mathematics & Computer Science](#)
- [Mechanical Engineering and Engineering Management](#)

Bachelor's and major programs of study offered in the College are as follows:

- Applied and Engineering Sciences
- Biochemistry
- Biology
- Chemistry
- Computer Information Systems
- Computer Science
- Earth and Environmental Sciences
- Electrical Engineering
- Engineering Management
- Environmental Engineering
- Geology
- Mathematics
- Mechanical Engineering
- Medical Technology

- Physics

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.

### Accreditation

- The Bachelor of Science in Mechanical Engineering program is accredited by the Engineering Accreditation Commission (EAC) of ABET. ([www.abet.org](http://www.abet.org))
- The Bachelor of Science in Electrical Engineering program is accredited by the Engineering Accreditation Commission (EAC) of ABET. ([www.abet.org](http://www.abet.org))
- The Bachelor of Science in Environmental Engineering program is accredited by the Engineering Accreditation Commission (EAC) of ABET. ([www.abet.org](http://www.abet.org))

## College of Arts, Humanities, and Social Sciences

**Dean:** Dr. Paul Riggs

The College of Arts, Humanities, and Social Sciences delivers programs of study across the broad array of liberal arts that are characterized by exceptional teaching, scholarship, and mentoring. The College prepares students for lifelong learning, graduate study, and a variety of professional careers. The College provides educational experiences that foster effective written and oral communication skills, critical thinking research abilities, and an understanding of the arts. We place emphasis on ethics and aesthetics, as well as the celebration of diversity, civic responsibility, and community engagement.

The College of Arts, Humanities, and Social Sciences advances the Wilkes tradition of liberal arts 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 explores the interconnections of human experience through the foundation study of communication, art, culture, and society. Within the major programs of study in the College, students are challenged academically and benefit from close faculty interaction and attention. 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, Humanities, and Social Sciences seeks to promote the following values in our programs:

- discipline-specific and interdisciplinary knowledge and scholarship relevant to the various programs of study offered within and across the College;
- discipline-specific and interdisciplinary written communication, oral communication, and research skills that enable innovative academic inquiry, scholarship, and lifelong learning;
- discipline-specific and interdisciplinary critical thinking skills relevant to the various programs of study offered within and across the College;
- ethical reasoning, civic responsibility, and community engagement that demonstrate an appreciation of multiculturalism, diversity, and the liberal arts; 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.

In addition, the College has many special programs, resources, and state-of-the-art facilities that support the student's learning journey. The Dorothy Dickson Darte Center for the Performing Arts showcases campus performances in music, theatre, and dance. Students may gain professional experience in a variety of media at the radio station, WCLH, the campus newspaper, The Beacon, Manuscript, a literary magazine, Inkwell, a student literary publication, Zebra Communications, the student run public relations firm, at Studio 20, the student run design firm, and the professional television studio. In the Writing Center, the faculty director and specially trained student writing consultants provide assistance in writing to the entire University.

The College comprises the following academic departments and divisions:

- [Behavioral & Social Sciences](#)
- [Communication Studies](#)
- [English](#)
- [Global Cultures: History, Languages, and Philosophy](#)
- [Integrative Media, Art and Design](#)
- [Performing Arts](#)

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

- [Art History](#) (minor only)
- [Communication Studies](#)
- [Creative Writing](#)
- [Criminology](#)
- [Dance](#) (minor only)
- [Digital Design and Media Art](#)
- [Economics](#) (minor only)
- [English](#)
- [Global Cultures](#) (minor only)

## Schools and Colleges

- History
- Individualized Studies (minor only)
- International Relations
- Music (minor only)
- Musical Theatre
- Neuroscience
- Philosophy
- Policy Studies (minor only)
- Political Science
- Psychology
- Public Administration
- 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)

## Mission Statement

The College of Arts, Humanities, and Social Sciences seeks to deliver programs of study within and across the broad array of liberal arts that are characterized by exceptional teaching, scholarship, and mentoring. The College is dedicated to preparing students for lifelong learning, graduate studies, and a variety of professional careers. The College provides educational and co-curricular experiences that foster effective written and oral communication skills, critical thinking capacities, research abilities, an understanding of the arts, and knowledge relevant to programs of study within and across the College. We place emphasis on ethics and aesthetics, and on promoting multicultural awareness, the celebration of diversity, civic responsibility, and community engagement.

The College of Arts, Humanities, and Social Sciences sees its vision as advancing the Wilkes tradition of liberal arts education by offering innovative educational experiences emphasizing academic excellence, scholarship, and civic responsibility, so as to prepare students for lifelong learning, rewarding careers, and creative and meaningful lives in our multicultural world. Toward that end, the College of Arts, Humanities, and Social Sciences prepares students for life and work in a diverse and changing world. The faculty of the College conveys an understanding of the interconnections of human experience through the foundation study of communication, art, expression, culture, and society. Within the programs of study in the College, students discover challenging academic preparation for successful professional lives. They benefit from close faculty interaction and attention throughout their learning journey toward becoming intellectually resourceful and civically responsible citizens of the world. Due to the broad interdisciplinary nature of the College, 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, Humanities, and Social Sciences seeks to promote the following values in our programs:

1. discipline-specific and interdisciplinary knowledge and scholarship relevant to the various programs of study offered within and across the College;
2. discipline-specific and interdisciplinary written communication, oral communication, and research skills that enable innovative academic inquiry, scholarship, and lifelong learning;
3. discipline-specific and interdisciplinary critical thinking skills relevant to the various programs of study offered within and across the College;
4. ethical reasoning, civic responsibility, and community engagement that demonstrate an appreciation of multiculturalism, diversity, and the liberal arts; and
5. 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 Wilkes Community Conservatory, the Sordoni Art Gallery, and the Wyoming Valley History Project enhance the liberal arts tradition on campus and in the community.

In addition, the College has many special programs, resources, and state-of-the-art facilities that incorporate professional and practical experiences into the student's learning journey. The Dorothy Dickson Darte Center for the Performing Arts showcases campus performances in music, theatre, and dance. Students may gain professional experience in a variety of media at the radio station, WCLH, the campus newspaper, The Beacon, Manuscript, a literary magazine, Inkwell, a student literary publication, Zebra Communications, the student run public relations firm, at Studio 20, the student run design firm, and the professional television studio at the Shelburne Telecommunications Center. In the Writing Center, the faculty director and specially trained student writing consultants provide assistance in writing to the entire University.

The College comprises the following academic departments and divisions:



- Behavioral and Social Sciences
- Communication Studies
- Global History and Foreign Languages
- Humanities
- Integrative Media, Art + Design
- Performing Arts

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

- Art (minor only) Musical Theatre
- Communication Studies Neuroscience (minor only)
- Criminology Philosophy
- Dance (minor only) Policy Studies (minor only)
- Digital Design + Media Art
- Economics (minor only) Political Science
- English Psychology
- History Sociology
- International Studies Theatre Arts
- Music (minor only) Women's and Gender Studies (minor only)

## School of Education

**Interim Dean:** Dr. Rhonda Wasiewicz

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 teachers.

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 offers degrees and certifications in Elementary and Early Childhood Education, Middle Level Education, minors in Reading and Secondary Education. Wilkes also offers certification programs in Special Education. Opportunities are also available for post-baccalaureate students in all certification areas. All certification programs are fully accredited by PDE.

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. All relevant 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 Jay S. Sidhu School of Business and Leadership

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

**Associate Dean:** Dr. Ruth Hughes

### Faculty and Staff

- **Professors:** Rexer, Taylor
- **Associate Professors:** Chisarick, Frear, Hughes, Matus, Xiao
- **Assistant Professors:** Bui, Erenay, Kim, Lee, Lee, Ma, Schmidt, Tessema, Turner, Wang
- **Faculty of Practice:** Ghai, Pyke
- **Faculty Emeriti:** Alves, Batory, Liuzzo, Raspen
- **Director of Allan P. Kirby Center:** Dr. Rodney Ridley
- **Director of Graduate Programs:** Dr. Marianne Rexer
- **Associate Director of MBA:** Karen Alessi
- **Director of ABBA:** Dr. Marianne Rexer
- **Director of SBDC:** Dorothy Lane
- **Director, Personal & Professional Development Program:** 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 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 entrepreneurship, management, marketing and sports management, an accelerated degree completion option for adult learners, and the Bachelor of Science degree with majors in Accounting, Corporate Finance, Financial Investments, Hospitality Leadership, and Supply Chain Management. 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 and provides 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 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 submitted its initial self-study for the body's accreditation status.

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 Wilkes Enterprise Center. 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, Phi Beta Lambda, and Semester in Mesa. 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:

- Accelerated B.B.A. (B.B.A.)

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

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
  - MTH 101. Solving Problems Using Math (or higher)
- \*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 or ENT 321 (if ENT major)
- MKT 221. Marketing
- FIN 240. Introduction to Finance
- MGT 251. Management of Organizations and People or ENT 201 (if ENT major)
- MGT 354. Organizational Behavior or ENT 252 (if ENT major)
- MGT 358. International Business
- BA 461. Business Strategy and Decision Making (ENT 461 for entrepreneurship majors)

The fourth tier requires completion of at least 27 credits which are specific to each of the majors (Accounting, Entrepreneurship, 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 six 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, ENT 462 for entrepreneurship 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

## Schools and Colleges

- PPD 301. Personal & Professional Development V: Topics in Leadership Competencies
- PPD 401. Personal & Professional Development VII: Leadership Legacy

# The Nesbitt School of Pharmacy

## The Nesbitt School of Pharmacy

**Dean of Pharmacy:** Scott Stolte, Pharm.D.

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

**Chairperson, Department of Pharmaceutical Sciences:** Dr. Zbigniew Witczak

**Chairperson, Department of Pharmacy Practice:** Dr. Judith Kristeller

### Faculty

**Professors:** Kristeller, Witczak

**Associate Professors:** Bolesta, Bommareddy, J. Ference, K. Ference, Jacobs, Malinowski, Manning, McManus, Olenak, Roke-Thomas, Trombetta, VanWert

**Assistant Professors:** Franko, Hong, Kheloussi, Kieck, Lewis, McCutcheon, Nguyen, Pezzino, Shah, Warunek, Zagar

**Instructors:** Conlogue, Holt-Macey, Powers

**Professor Emeriti:** Kibbe

**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.

# The Passan School of Nursing

## The Passan School of Nursing

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

### Faculty

**Associate Professors:** Hirthler (Chairperson, Graduate Program), Malkemes (Chairperson, Undergraduate Program), Grandinetti, Havrilla, Lucas, Merrigan, Miskovsky, Stewart, Zielinski,

**Assistant Professors:** Frascella, Skoronsky, Sweeney, Victor

**Faculty of Practice:** Dennis, Jones, Olengenski, Ruppert

**Visting Instructor:** Burry

**Faculty Emeriti:** Castor, Druffner, Schreiber

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

**Simulation Coordinator:** Hauze

**Student Affairs Coordinator:** Drozdys

**Clinical Placement Coordinator:** Lennon

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.

# UNIVERSITY PERSONNEL

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## Academic Departments

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## College of Arts, Humanities, & Social Sciences

**Division of Behavioral and Social Sciences**, Dr. Kyle L. Kreider, Chair

**Department of Communication Studies**, Dr. Mark D. Stine, Chair

**Division of Global Cultures: History, Languages & Philosophy**, Dr. Chris Zarpentine, Chair

**Division of Humanities**, Dr. Mischelle B. Anthony, Chair

**Department of Integrative Media and Art**, Mr. Eric A. Ruggiero, Chair

**Division of Performing Arts**, Dr. Steven Thomas, Chair

## College of Science & Engineering

**Air and Space Studies**, Lt. Col. Robert Hartmann, Chair

**Division of Biology and Health Sciences**, Dr. Kenneth Klemow, Chair

**Department of Chemistry**, Dr. Amy Bradley, Co-Chair and Dr. Donald Mencer, Co-Chair

**Department of Electrical Engineering and Physics**, Prof. Robert Taylor, Chair

**Department of Environmental Engineering and Earth Sciences**, Dr. Marleen Troy, Chair

**Department of Mathematics and Computer Science**, Dr. Barbara Bracken, Co-Chair and Dr. John Harrison, Co-Chair

**Department of Mechanical Engineering and Engineering Management**, Dr. Henry Castejon, Chair

## Office of the Vice President for Student Affairs

**PAUL S. ADAMS (1979), Vice President for Student Affairs**

B.A., M.S. Wilkes, Ph.D. Pennsylvania

**MARK R. ALLEN (1986), Dean of Students**

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

## University College

**THOMAS J. THOMAS (1982), Dean, University College**

B.S. East Stroudsburg, M.S. Wilkes

## Athletics

### **ADELENE MALATESTA (1989), Director of Athletics**

B.S. Slippery Rock, M.Ed. East Stroudsburg

## Center for Global Education and Diversity

### **GEORGIA COSTALAS (2008), Executive Director, Center for Global Education and Diversity**

B.A. Barnard, M.A. Columbia, M.A. Western Carolina, Ed.D. Wilkes

## 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

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**ABBA Program**, Dr. Marianne Rexer, Director

**MBA Program**, Dr. Marianne Rexer, Director

## The Nesbitt School of Pharmacy

### School of Pharmacy

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**Department of Pharmacy Practice**, Dr. Edward F. Foote, Chair

## The School of Nursing

**Undergraduate Nursing Department**, Dr. Susan J. Malkemes, Chair

**Graduate Nursing Department**, Dr. Kathleen A. Hirthler, Chair

## Administration

### **PAUL S. ADAMS (1979), Interim President**

B.A., M.S. Wilkes, Ph.D. Pennsylvania

### **TERESE M. WIGNOT (1989) Interim Senior Vice President and Provost**

B.A., Ph.D. Lehigh

### **JONATHAN FERENEC (2008), Associate Provost for Student Success**

Pharm.D. Wilkes

### **LOREN D. PRESCOTT (2008), Vice President for Finance and Support Operations**

B.A. University of Washington, LL.M. Florida College of Law, J.D. Willamette University College of Law

### **MARGARET STEELE (2016), Chief Development Officer for Advancement**

B.A. Salem College

### **MICHAEL J. WOOD (2006), Special Assistant to the President**

B.A. Alderson-Broaddus College

### **KISHAN ZUBER, Vice President of Enrollment Management**

B.A., M.A. Binghamton

## University Personnel

**JOSEPH HOUSENICK (2008), Assistant Vice President/Chief Human Resources Officer**

B.S. King's College

**JANET KOBYSKI (2009), Assistant Vice President of Finance/Treasurer**

B.S. King's College, CPA

**JUSTIN KRAYNACK (2002), Assistant Vice President of Operations and Compliance**

B.S. Misericordia University, CSR

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 DANIEL KLEM, JR., '68 Secretary and Assistant Treasurer  
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 MELANIE MASLOW KERN  
 ALLAN P. KIRBY, JR.  
 ROBERT A. MUGFORD '58  
 MARY B. RHODES M'77  
 EUGENE ROTH '57  
 ELIZABETH A. SLAUGHTER '68  
 STEPHEN SORDONI  
 WILLIAM H. TREMAYNE '57

## Correspondence Directory

Write to or contact these persons for additional information on specific matters:

Paul S. Adams, *Interim President*  
 General Institutional Policy  
 (570) 408-4000

Terese M. Wignot, *Interim 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*  
 Admission to Wilkes Undergraduate Program, visits to the campus, tours, and interviews  
 (570) 408-4405

Jane Dessoys, Director of Financial Aid  
 Financial aid and scholarships  
 (570) 408-4512

Paul S. Adams, Vice President for Student Affairs  
 Student Affairs, readmission  
 (570) 408-4114

## University Personnel

Mark R. Allen, Dean of Students  
Student life, development, and leadership  
(570) 408-4103

Georgia Costalas, Executive Director, Center for Global Education and Diversity  
International student admission and advisement; diversity initiatives and support  
(570) 408-7854

Jonathan A. Summers, Associate Director, Center for Global Education and Diversity  
International student admission and advisement  
(570) 408-4106

Erica Acosta, Associate Director, Center for Global Education and Diversity  
Diversity Initiatives  
(570) 408-7856

Kimberly A. Niezgoda, Director, Intensive English Program  
Intensive English Program  
(570) 408-4170

Deborah L. Scheibler, Director of Residence Life  
Residential matters for enrolled students  
(570) 408-4353

Thomas J. Thomas, Dean, University College  
Student academic support services and advisement  
(570) 408-4154

Katy Betnar, Director, University College  
Student academic support services and advisement  
(570) 408-4233

Janet M. Kobylski, Assistant Vice President of Finance/Treasurer  
Student accounts and other financial matters for new and enrolled students  
(570) 408-4501

## 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.

MISCHELLE B. ANTHONY (2003), Associate Professor of English  
B.A. Central State University, M.A. Central Oklahoma, Ph.D. Oklahoma State

VIJAY K. ARORA (1985), Professor of Electrical Engineering  
B.Sc., M.Sc. Kurukshetra University (India), M.S. Western Michigan, M.S., Ph.D. Colorado

CAROLE E. BADDOUR (2017), Assistant Professor of Mechanical Engineering  
BESc., MEd. 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), Assistant Professor of Chemistry  
B.S. Truman State, Ph.D. Colorado State

ROBERT W. BOHLANDER (1979), Professor of Psychology  
B.A. Lebanon Valley, M.A., Ph.D. Rochester

SCOTT BOLESTA (2005), Associate Professor of Pharmacy Practice  
B.S., Pharm. D. Wilkes

AJAY BOMMAREDDY (2009), Associate Professor of Pharmaceutical Sciences  
B.Pharm. Osmania University, Ph.D. South Dakota State

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

DALE A. BRUNS (1991), Professor of Earth and Environmental Sciences  
B.S. Xavier, M.S. Arizona State, Ph.D. Idaho 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

DWIGHT CAMILLUCCI (2019), Assistant Professor of Theatre  
B.A. University of Montana Western, M.F.A. Utah State University

HENRY J. CASTEJON (2003), Professor of Materials Science and Chemistry  
B.S., M.S. Simon Bolivar, Ph.D. Yale

CARL J. CHARNETSKI (1976), Professor of Psychology  
B.A. Wilkes, M.A., Ph.D. Temple

SOFIA CHEPUSHTANOVA (2015), Assistant 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), Assistant Professor of Communication Studies  
B.A. Wilkes, M.S. Scranton, Ph.D. Penn State

LORI COOPER (2014), Assistant 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

BONNIE CULVER (1990), Associate Professor of English  
B.A. Waynesburg, M.A., Ph.D. SUNY, Binghamton

SHERRY L. DAUGHTRY (2008), Faculty of Practice, Nursing  
B.S.N., M.S.N. Wilkes

HELEN HOLTZCLAW DAVIS (2008), Associate Professor of English

## University Personnel

B.A. Duke, M.A. Wake Forest, Ph.D. CUNY

JOSEPH DAWSON (1994), Associate Professor of Theatre  
B.A. Seton Hill, M.F.A. Catholic

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

KURT EISELE (2014), Assistant Professor of Education,  
B.S., M.S. University of Scranton, Ph.D. Marywood University  
EVE S. A. ESTWICK (2005), Associate Professor of Communication Studies  
B.A., M.A. Howard, Ph.D. Temple

KIMBERLY FERENGE (2008), Associate Professor of Pharmacy Practice  
Pharm.D., Wilkes

MATTHEW FINKENBINDER (2016), Assistant Professor of Geology  
B.S., Shippensburg University, M.S. West Virginia University, Ph.D. U. of Pittsburgh

CONOR FLYNN (2018), Faculty of Practice of Chemistry  
B.S, B.A Bloomsburg, M.S. Bucknell

CAROLINE S. FORTUNATO (2017), Assistant Professor of Biology  
B.A., M.S. American University, Ph.D. University of Maryland  
THOMAS FRANKO (2013), Assistant Professor of Pharmacy Practice  
Pharm.D. University of the Sciences

KAREN FRANTZ-FRY (2013), Associate Professor of Education  
B.S., M.S. Bloomsburg, Ph.D. Marywood

JANET FRASCELLA (2015), Assistant Professor of Nursing  
B.S.N. Wilkes, M.S.N. University of Phoenix

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 Environmental Engineering  
B.S. Wilkes, M.S., Ph.D. Pennsylvania State

TY FREDERICKSON (2017). Assistant Professor of Education  
B.S.E. Emporia State, M.A. Wichita State, Ed.D. Wilkes

RAFAEL GARCIA (2011), Associate Professor of Spanish  
Licenciaturas, University of Valladolid (Spain), Ph.D. Cincinnati

MICHAEL S. GARR (1984), Professor of Sociology and Anthropology  
B.A., M.A. Ohio, Ph.D. Indiana

ANU C. GHAI, CPA, CFE (2017), Assistant Professor of Accounting  
B.A. Duke University, MAcc, University of West Florida

MOSHEN GJAMARI (2016), Assistant 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

JOHN B. GILMER, JR. (1991), Professor of Electrical Engineering  
B.S. United States Naval Academy, M.S.E.E., Ph.D. Virginia Polytechnic Institute

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

JACK B. GRIER (2002), Faculty of Practice, English  
B.A. Penn State, M.S. Wilkes

LINDA S. GUTIERREZ (2002), Associate Professor of Biology  
M.D. Universidad de Carabobo, Venezuela

SID HALSOR (1987), Professor of Geology  
B.S. Oregon, M.S., Ph.D. Michigan Technological University

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

EMILY SISCO HAVRILLA (2006), Assistant Professor of Nursing  
B.S., M.S.N. Misericordia, Ph.D. Rutgers

CHRISTOPHER HENKELS (2012), Assistant Professor of Chemistry  
A.B. Colgate, M.S. Cornell, Ph.D. Duke

RYAN A. HENRY, Assistant Professor of Chemistry  
B.S. Johns Hopkins, M.S. and Ph.D. University of Rochester School of Medicine and Dentistry

JOHN HEPP (1999), Professor of History  
B.A. Temple, M.A., Ph.D. North Carolina (Chapel Hill), J.D. Pennsylvania

KATHLEEN A. HIRTHLER (2010), Associate Professor of Nursing  
B.S.N., M.S.N. Misericordia, D.N.P. Chatham

AMY HNASKO (2018), Assistant Professor of Education  
B.S. Bloomsburg, M.A. LaSalle, Ed.D. Rutgers  
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

HARVEY JACOBS (1996), Associate Professor of Pharmaceutical Sciences  
B.A. Wilkes College, B.S., R.Ph., Ph.D. University of Utah

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  
B.S., M.S. Chamberlain

VICKI JONES (2018), Instructor/Program Coordinator  
B.S. East Stroudsburg, M.S. Old Dominion, M.S. Virginia Polytechnic, Ed.D. Wilkes (EBD)

LISA KADLEC (2005), Associate Professor of Biology  
B.A. Haverford, Ph.D. Duke

S. M. PERWEZ KALIM (1988), Professor of Mechanical Engineering  
B.S. Mamachi, M.S., Ph.D. Kansas

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 Environmental Engineering  
B.E. Osmania, M.S., Ph.D. Texas A & M

## University Personnel

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  
STEVEN KHELOUSSI (2016), Assistant Professor, Pharmacy Practice  
Pharm.D., Wilkes

NA YOON KIM (2019), Assistant Professor of Management  
B.A. Yonsei University; M.S. Yonsoe University; PhD Cornell University

KENNETH M. KLEMOV (1982), Professor of Biology and GeoEnvironmental Sciences and Engineering  
B.S. Miami, M.S., Ph.D. SUNY, Syracuse

JOHN A. KOCH (1976), Professor of Computer Science  
B.S. Bucknell, M.S., Ph.D. Illinois

FANHUI KONG (2005), Professor of Statistics  
B.S., M.A. Northeast Normal University, P.R. China, Ph.D. Binghamton University

KYLE L. KREIDER (2004), Professor of Political Science  
B.A., Millersville, M.A., Ph.D. Temple

JUDITH KRISTELLER (2002), Professor of Pharmacy Practice  
B.S., Pharm.D. Kentucky

LAWRENCE T. KUCHAR (1989), Professor of English  
B.A., M.A. Duquesne, Ph.D. Maryland

JONATHAN KUIKEN (2014), Assistant Professor of History  
B.A. Gordon College, M.A., Ph.D. Boston College

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 move!!!  
B.S., Pharm.D. Wilkes

JON P. LIEBETRAU (2014), Assistant Professor of Theater  
B.A. Gettysburg, B.F.A. Wayne State, M.F.A. Brandeis

EUGENE T. LUCAS (2013), Associate Professor of Nursing  
B.S. Wilkes, M.S. Misericordia, D.N.P. Wilkes

DEL LUCENT (2012), Assistant 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; A.B.D. The University of Texas at Arlington

BLAKE MACKESY (2014), Assistant Professor of Education  
B.A. Russell Sage College, M.A. Rollins College, Ed.D. Wilkes University

ANDREEA MAIEREAN (2013) Assistant Professor of Political Science  
B.A. National School of Political Studies and Public Administration (Bucharest),  
M.A. Central European, PhD. Boston

JAP-NANAK MAKKAR (2018), Assistant Professor of English  
B.A., M.A. University of Toronto, Ph.D. University of Virginia  
SUSAN SOWA MALKEMES (2003), Associate Professor of Nursing  
B.S. Misericordia, M.S. Wilkes, D.N.P. Case Western Reserve

JENNIFER MALINOWSKI (1998), Associate Professor of Pharmacy Practice  
B.S., R.Ph. Philadelphia College of Pharmacy and Science, Pharm.D. Temple

DANA MANNING (2008), Associate Professor of Pharmacy Practice  
B.S. Cornell, Pharm.D., Wilkes

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  
LIVIA MCCUTCHEON (2017), Assistant Professor, Pharmacy Practice  
PharmD, NovaSoutheastern U, MA, U of Maryland

MARY F. McMANUS (2000), Associate Professor of Pharmaceutical Sciences  
B.S., Ph.D. St. John's

KARIM MEDICO LETWINSKY (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), Associate Professor of Chemistry  
B.S. Frostburg State, Ph.D. Texas A&M

MARY ANN MERRIGAN (1987), Associate Professor of Nursing  
B.S. SUNY, Binghamton, M.S. Pennsylvania State University, Ph.D. Adelphi

ANDREW MILLER (2005), Associate Professor of Political Science  
B.A. Illinois College, M.A. Illinois State, Ph.D. Purdue

XIAOMING MU (2017), Assistant Professor of Mechanical Engineering  
BS Dalian University of Technology, MS, PhD Georgia Institute of Technology  
CHRISTINE MULLER (2018), Assistant Professor of History  
B.A. The New School, M.A. Villanova, Ph.D. University of Maryland  
MARY JANE MISKOVSKY (2011), Associate Professor of Nursing  
B.S. Misericordia, M.S. Syracuse, D.N.P. Carlow

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

SUZANNE MURRAY-GALELLA (2004), Associate Professor of Education  
B.A. Scranton, M.S. Marywood

PRAHLAD N. MURTHY (1993), Professor of Environmental Engineering and Interim Dean,  
College of Science and Engineering  
B.E. Bangalore University, India, M.E. Anna University, India, Ph.D. Texas A&M, P.E., QEP

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

## University Personnel

LINDA M. PAUL (1989), Associate Professor of Philosophy  
B.A. Guilford, Ph.D. Maryland, College Park

LORIANN PAJALICH (2012), Assistant Professor of Nursing  
B.S., M.S., D.N.P. Wilkes

NICOLE PEZZINO (2015), Assistant Professor of Pharmacy Practice  
Pharm.D., U of Pittsburgh

KENNETH A. PIDCOCK (1988), Professor of Biology  
B.S. Millersville, M.S., Ph.D. Lehigh  
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), Visiting Assistant Professor of 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 Materials Engineering  
B.S. Tehran, Iran, M.S. Manchester, England, Ph.D. Drexel

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  
RODNEY S. RIDLEY, Sr. (2009), Associate Professor of Engineering  
B.S. Lincoln, M.S., Ph.D. Pennsylvania State

MARIE ROKE-THOMAS (2003), Associate Professor of Pharmaceutical Sciences  
B.S. Wilkes, M.P.A. Seton Hall, Ph.D. Marywood

ERIC RUGGIERO (2010), Associate Professor of Integrative Media, Art and Design  
B.F.A. Syracuse, M.F.A. Savannah College of Art and Design

WANDA M. RUPPERT (2008), Faculty of Practice, Nursing  
B.S. Ohio State, M.S. Wilkes

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

SAM SCHMIDT (2018), Assistant Professor of Sports Management  
B.S. University of Wisconsin, M.S., Ph.D. University of Louisville  
ROBERT D. SEELEY (1989), Associate Professor of Economics  
B.A. Franklin and Marshall, Ph.D. Maryland

SHI SHA (2018), Assistant Professor of Electrical Engineering & Physics



B.S. Beihang, M.S.Murray State,Ph.D. Florida International  
 VICKY SHAH (2015), Assistant Professor, Pharmacy Practice  
 B.S. U of Illinois, Pharm.D. Howard University

AKIRA SHIMIZU (2015), Assistant Professor of History  
 B.A. Konan, M.A. Memphis, M.A., Ph.D. Illinois (Urbana-Champaign)

HEATHER SINCAVAGE (2016), Assistant 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  
 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

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  
 SCOTT STOLTE (2017), Professor of Pharmacy Practice  
 Pharm.D., Purdue

JEFFREY A. STRATFORD (2006), Associate 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

MARGARET SULLIVAN (2013), Assistant Professor of Mathematics and Computer Science  
 B.S., M.S., Ph.D. Louisiana State

GRACE SURDOVEL (2014), Faculty of Practice  
 B.F.A., M.S., Marywood University, Ed.D. Wilkes University

PATRICIA SWEENEY (2014), Assistant Professor of Nursing  
 B.S.N. Wilkes, M.S. State University of New York, Ph.D. Pennsylvania State University

ROBERT R. TAYLOR (2011), Faculty of Practice of Electrical Engineering and Physics  
 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

STEVEN L. THOMAS (1999), Professor of Music  
 B.A. Harvard, M.M., M.M.A., D.M.A. Yale School of Music

## University Personnel

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 Environmental Engineering

B.S., M.S., Drexel, M.S. Rhode Island, Ph.D. Drexel, P.E.

HERNANDO A. TRUJILLO (2004), Associate Professor of Chemistry

B.A., Middlebury, Ph.D. Dartmouth

FRANCES TURNER (2019), Assistant Professor of Marketing

B.A. Harvard University; M.B.A. University of Chicago; D.B.A. Grenoble Ecole de Management

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), Assistant Professor of Nursing

B.S.N, M.S.N., M.H.A., M.A. Wilkes, Ph.D. Duquesne

SHAOKANG (Ken) WANG (2014), Assistant 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 Environmental Engineering

B.S., M.S. Ph.D. Michigan Technological University

CRAIG WIERNIK (2014), Assistant Professor of Sociology

B.A. Southern Maine, M.A., Ph.D. Penn State

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

TYISHA WILLIAMS (2016), Assistant Professor of Biology

B.S. St. Augustine College, Ph.D. Harvard University

RICHARD WILLIAMS (2018), Faculty of Practice of Chemistry

B.S. Morehouse, Ph.D. Georgia State

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

ZBIGNIEW J. WITCZAK (2000), Professor of Pharmaceutical Sciences

M.S., Ph.D. Medical Academy, Lodz, Poland

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

BRENDA ZAGAR (2019), Assistant Professor Pharmacy Practice

PharmD, Wilkes

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

BRIDGETTE W. ZIELINSKI (1987), Associate Professor of Nursing  
B.S. Wilkes, M.S.N. SUNY, Binghamton, Ph.D. Adelphi

## Faculty Emeriti

JEFFREY R. ALVES (2018)

Allan P. Kirby, Jr., Distinguished Professor of Free Enterprise and Entrepreneurship and Dean, Emeritus, B.S. Air Force Academy, M.B.A. Southern Illinois  
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

LEONA CASTOR (2003)

Associate Professor of Nursing, Emerita, Ed.D. Penn State

HAROLD E. COX (2004)

Professor of History, Emeritus, Ph.D. Virginia

JANE M. ELMES-CRAHALL (2017)

Professor of Communication Studies, Emerita, Ph.D. Pittsburgh

LORNA C. DARTE (1997)

Associate Professor of Library Science, Emerita, M.S. Drexel Institute of Technology

SUZANNE M. DRUFFNER (1999)

Associate Professor of Nursing, Emerita, M.S. Pennsylvania

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

BERNARD W. GRAHAM (2018)

Professor of Pharmaceutical Sciences and Dean, Emeritus, B.S. Albany, M.S., Ph.D. Purdue

STANLEY S. GUTIN (1992)

Professor of English, Emeritus, Ph.D. Pennsylvania

WILBUR F. HAYES (2000)

Associate Professor of Biology, Emeritus, Ph.D. Lehigh

## University Personnel

ROBERT J. HEAMAN (2001)

Professor of English, Emeritus, Ph.D., Michigan

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

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

SAMUEL MERRILL, III (2004)

Professor of Mathematics, Emeritus, Ph.D. Yale

HILDA A. MARBAN (1986)

Professor of Foreign Languages, Emerita, Ph.D. Havana, Ph.D. Virginia

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

KRISTINA POWERS (2015)

Instructor of Pharmacy Practice, Emerita, Pharm.D., Wilkes

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, B.M. Boston University, M.Ed. Maryland, College Park, 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

WILLIAM R. STINE (2004)  
Professor of Chemistry, Emeritus, Ph.D. Syracuse

SHARON G. TELBAN (2010)  
Associate Professor of Nursing Emerita, D.Ed, Pennsylvania State

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, B.A. Lebanon Valley, M.A. Penn State, Ph.D. Delaware

BING K. WONG (2004)  
Professor of Mathematics, Emeritus, Ph.D. Illinois

## Office of the Provost

**TERESE M. WIGNOT (1989), Interim Senior Vice President and Provost**  
B.A., Ph.D. Lehigh

**ABEL ADEKOLA (2016), Dean, The Jay S. Sidhu School of Business and Leadership**  
B.B.A. Florida International, M.B.A. Barry University, Doctor of Business Administration, ova Southeastern

**JONATHAN FERENCE (2008), Associate Provost for Student Success, Assistant Professor of Pharmacy Practice**  
Pharm.D., Wilkes

**MICHELE D. GARRISON (2004), Project Manager/Director, Summer and Winter Sessions**  
A.A.S. Luzerne County Community College, B.A., MS.Ed. Wilkes

**SUSAN HRITZAK (1983), Registrar**  
B.S., M.B.A. Wilkes

**PRAHLAD MURTHY (1993), Interim Dean, College of Science and Engineering**  
B.E. Bangalore University, M.E. Anna University, Ph.D. Texas A & M University

**RHONDA M. RABBITT (2015), Dean, School of Education**  
B.S., B.A. Wisconsin-Eau Claire, M.E. Wisconsin-LaCrosse, Ed.D. Fielding Graduate

**PAUL T. RIGGS (2015), Dean, College of Arts, Humanities, and Social Sciences**  
B.A. Dickinson, M.A., Ph.D. University of Pittsburgh

**JOHN STACHACZ (2008), Dean, Library Services**  
B.A. New Mexico, M.A., M.S.L.S. Kentucky

**SCOTT K. STOLTE (2017), Dean, Nesbitt School of Pharmacy**  
Pharm.D., Purdue

**DEBORAH K. ZBEGNER (1994), Dean, School of Nursing**  
B.S.N. Allentown College, M.S.N. Pennsylvania, D.N. Sc. Widener

## Presidents Emeriti

*Date of award of emeritus status noted in parentheses.*

## University Personnel

**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

Three credits 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.

## Course Descriptions

### **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

### **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.

## Course Descriptions

### **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-362. ACCOUNTING INTERNSHIP**

**Credits:** three or six

#### **Pre-Requisites**

[[ACC-202]] with a minimum grade of 2.0

### **ACC-397. SEMINAR**

**Credits:** 1-3

One to three credits

## **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.

## 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-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.](#)

**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]]

## Course Descriptions

### **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]].

**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.



## Course Descriptions

### 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

[[EES-211]] or [[EE-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.

**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-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.

## Course Descriptions

### 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-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]].

### 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.

**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**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.

## Course Descriptions

### **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.

## **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]]

### **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-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]]

## Course Descriptions

### 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:** 3

**Terms Offered:** Summer

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]]

### 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

**Terms Offered:** Summer

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-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:** 3

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. 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]]

**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

**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-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.

## Course Descriptions

### 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.

## 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. The course is taught each semester.

### COM-102. PRINCIPLES OF COMMUNICATION

**Credits:** 3

A study of the theory and process of communication. Required of all department majors. Taught every spring semester.

### 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. Taught every spring semester.

### 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.

### COM-201. ADVANCED PUBLIC SPEAKING

**Credits:** 3

Inquiry into the practice and principles of speech composition and presentation. Detailed analysis of the areas of invention, arrangement, style, and delivery, and an introduction to speech criticism.

#### Pre-Requisites

[[COM-101]] or consent of the instructor.



**COM-202. INTERPERSONAL COMMUNICATION**

**Credits:** 3

This course focuses on interpersonal communication theory and its application to improving the student's interpersonal skills in managing conflict, negotiating, interviewing, and in developing relationships. Taught fall semesters.

**Pre-Requisites**

[[COM-102]] or consent of the instructor.

**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

Training in the fundamentals of argumentation and debate, with practice in gathering and organizing evidence and support materials. Course taught every other fall semester.

**Pre-Requisites**

[[COM-101]] or consent of the instructor.

**COM-206. BUSINESS AND PROFESSIONAL COMMUNICATION**

**Credits:** 3

Course will concentrate on communication theory as applied to business and professional settings. Students will make several oral presentations and participate in interviewing and conferences. Course taught fall semester in alternate years.

**COM-220. INTRODUCTION TO ELECTRONIC MEDIA**

**Credits:** 3

An overview of the history, institutions, and message systems of the radio, television, cable, satellite, and internet industries.

**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.

[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. Screenings and writing intensified.

**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

Fundamentals of newsgathering, newswriting, and news judgment for all media; study of news sources; fieldwork, research, and interview techniques.

**Pre-Requisites**

[[ENG-101]].

**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.

**Pre-Requisites**

[[ENG-101]].

**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.

**Pre-Requisites**

[[COM-260]].

**COM-300. COMMUNICATION CRITICISM**

**Credits:** 3

Theories from classical to contemporary will be applied to the analysis of written, visual, and electronic messages. Emphasis on speech writing and criticism.

**Pre-Requisites**

[[COM-101]].

**COM-301. PERSUASION**

**Credits:** 3

Study and practice of persuasive speaking. General theories of persuasion, the role of persuasion in a democratic society, and an introduction to modern experimental research in the field.

**Pre-Requisites**

[[COM-101]].

## Course Descriptions

### COM-302. FUNDAMENTALS OF PUBLIC RELATIONS

**Credits:** 3

An introduction to the fundamentals of public relations practice, including program planning and evaluation, working with the media, writing for PR, and coordinating special events and functions. Taught every fall semester.

#### 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-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.

### 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

A study of the principles and techniques of video production. Scripting, producing, and editing videography are subjects covered extensively by this course. Each student will produce several video productions. Taught every spring semester.

[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. Course 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. Course taught every spring semester.

**Pre-Requisites**

[[COM-324]]

**COM-352. ADVANCED PUBLIC RELATIONS CAMPAIGNS****Credits:** 3

[[COM-352]] is 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 newswriting, interviewing, and fundamentals of public relations. Course taught in alternative spring semesters.

**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.

**COM-360. ADVANCED NEWSWRITING****Credits:** 3

A study of specialized reporting and an introduction to news editing.  
[Click here for course fee.](#)

**Pre-Requisites**

[[COM-260]].

**COM-361. FEATURE WRITING****Credits:** 3

A study of feature articles for newspapers, syndicates, magazines, and specialized publications. Practice in research, interviewing, and writing.

**Pre-Requisites**

[[COM-260]].

**COM-362. MASS COMMUNICATION LAW****Credits:** 3

Current legal problems, theory of controls in journalism, television, and radio; libel, copyright, privacy law, and other legal issues affecting the mass media. A case study approach will be used.

**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

An in-depth investigation of current research and ethical issues in communication. A research paper and senior project required. Required of all majors. Course taught every spring semester.

**Pre-Requisites**

[[COM-324]] and junior or senior standing.

**COM-398. TOPICS****Credits:** 1-3

A study of topics of special interest not extensively treated in regularly offered courses.

**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.)

**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.

## Course Descriptions

### 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.](#)

#### Pre-Requisites

Secondary mathematics, including geometry and algebra II.

### 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.

### 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. ADVANCED DATABASE CONCEPTS****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]].



## Course Descriptions

### 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]].

### 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.

**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.

## Course Descriptions

### 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-395/396. 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-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]] or permission of the instructor.

**EES-202. BIOGEOCHEMISTRY****Credits:** 3

Fundamentals of the circulation of materials through the earth's air, soils, waters, and living organisms are examined from the perspective of introductory chemical principles. Global cycles of water, carbon, nitrogen, phosphorus, and sulfur are investigated in detail with emphasis on the roles of microorganisms, chemical equilibrium, and oxidation-reduction processes in biogeochemical cycling. Laboratory focuses on 1) student designed projects to gather data that illustrate key concepts in chemical weathering processes in aqueous solutions, oxidation-reduction reactions, and microbial mediation of elemental cycling and 2) building problem solving skills. Two hours of lecture and three hours of lab per week.

[Click here for course fees.](#)

**Pre-Requisites**

[[CHM-115]].

**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.

**EES-211. PHYSICAL GEOLOGY****Credits:** 4

Description, analysis, and laboratory studies of earth materials, structure, and processes, including earth's surface, interior, age, and origin. Three hours of lecture and three hours of lab per week. Requirements: For CS, Engineering, Math, and Science majors only. Cross listed with [[GEO-211]]. [Click here for course fees.](#)

**EES-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. Cross listed with [[GEO-212]].

[Click here for course fees.](#)

**Pre-Requisites**

[[EES-211]] or permission of the instructor.

**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]] 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.](#)

## Course Descriptions

### **EES-240. PRINCIPLES OF ENVIRONMENTAL ENGINEERING & SCIENCE**

**Credits:** 4

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 and three hours of lab per week.

[Click here for course fees.](#)

#### **Pre-Requisites**

[[MTH-111]] or higher. Requirements For CS, Engineering, Math, and Science majors only.

### **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-271. ENVIRONMENTAL MAPPING I: INTRODUCTION TO GPS AND GIS**

**Credits:** 3

Information Systems (GIS), and environmental 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. Two hours of lecture and two hours of lab per week.

[Click here for course fees.](#)

### **EES-272. ENVIRONMENTAL MAPPING II: ADVANCED GIS AND REMOTES SENSING**

**Credits:** 3

**Terms Offered:** Spring

An advanced course on Geographic Information Systems (GIS) and Remote Sensing. GIS topics build upon introductory-level coursework in EES 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 environmental data, open source alternatives to ArcGIS, and web map development and 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 environmental 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. Two hours of lecture and three hours of lab per week

[Click here for course fees.](#)

### **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 will cover 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. Cross-listed with [[BIO-340]].

**Pre-Requisites**

BIO 121-122, BIO 225-226 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**

[[EES-211]] or 240 or [[BIO-121]]-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]]-122 or permission of the instructor.

**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]]-122, 223-224, 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]]-122, 223-224, or permission of the instructor.

**EES-370. GEOMORPHOLOGY****Credits:** 3

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. Cross listed with [[GEO-370]].

[Click here for course fees.](#)

**Pre-Requisites**

[[EES-211]].

**EES-381. MINERALOGY****Credits:** 4**Terms Offered:** Not Currently Offered

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. Cross listed with [[GEO-281]].

[Click here for course fees.](#)

**Pre-Requisites**

[[EES-211]] and [[CHM-115]].

**EES-382. 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. Cross listed with [[GEO-282]].

[Click here for course fees.](#)

**Pre-Requisites**

[[EES-381]]

**EES-390. SENIOR PROJECTS I****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. Requirements: Senior standing in Earth and Environmental Sciences and department permission. (See the department for more details about the department permission.)

[Click here for course fees.](#)

**Pre-Requisites**

Department permission

## Course Descriptions

### 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-211]] and [[EES-240]].

### 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

Three creditsA 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.

### 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-263. CHILD DEVELOPMENT AND COGNITION

**Credits:** 3

This course is designed for students to understand developmental patterns of change and physical cognitive, and psychosocial areas for each stage of development (birth to age 5). Multiple influences on the development and learning will be studied including biological, psychological and sociological, cultural, familial, environmental, gender, family and community, language differences, brain development, and health, nutrition, and safety. Students will observe and record children's behavior in their 15-hour field experience. Departmental permission is required.

#### Pre-Requisites

[[ED-190]]. Offered fall 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-310. HEALTH, PHYSICAL EDUCATION AND SAFETY

**Credits:** 3

This course is a study of the methods and materials appropriate for teaching health, physical education, and safety. Emphasis is on understanding the developmental levels, needs, and interests of children in these areas from infancy to early adolescence.

#### 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.

## Course Descriptions

### 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-326. ADOLESCENT LITERATURE

**Credits:** 3

This course will involve students in actively reading a wide range of 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 spring 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-338. TEACHING ESL: MATERIALS AND METHODOLOGY

**Credits:** 3

This course will address the methodology and materials needed for professional educators who wish to teach English as a Second Language to non-native speakers, grades K-12. Students will explore the mechanics involved in second language acquisition and will apply that knowledge in developing instructional strategies appropriate for the ESL Classroom. Students will examine cross-cultural information in order to develop an understanding of the richly diverse members of the ESL classroom, with the goal of creating a supportive and safe classroom environment, free from cultural and political bias, in which English usage is developed and acculturation is supported. Students will review current ESL instructional materials and software. All classroom activities are designed to develop the students' knowledge of and respect for diversity while enhancing their instructional skills. A 15-hour field experience in ESL is incorporated into this course.

#### 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 of 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 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-363. FAMILY, SCHOOL, AND 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.

**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.

**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.

## Course Descriptions

### 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. Researcher 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. SPECIAL EDUCATION METHODOLOGY I WITH FIELD EXPERIENCE (OPO COURSE)

**Credits:** 3

**Terms Offered:** Fall, Spring

This 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. Pedagogical recommendations and research-based effective teaching practices are reiterated from prerequisite courses. Emphasis is placed on a needs based model incorporating the cognitive, language, attentional, affective, physical, and sensory needs of higher incident populations (learning disabilities, mild mental retardation, speech disorders, and behavioral challenges) within included settings, resource room, segregated, and learning support environments. A field experience component facilitates direct interaction with special needs learners, supplemented by cooperative discussions of experiential applications to course content. All education students will take this class. Departmental permission is required.

#### Pre-Requisites

[[ED-190]], [[EDSP-210]].

### EDSP-226. SPECIAL EDUCATION METHODOLOGY II WITH FIELD EXPERIENCE

**Credits:** 3

**Terms Offered:** Fall, Summer

This three-credit course is designed to address the development, implementation, and monitoring of individualized management, instructional, curricular, and environmental strategies, and adaptations for students with special needs. Pedagogical recommendations and research based effective teaching practices are reiterated from prerequisite courses. Emphasis is placed on a needs based model incorporating the cognitive, language, attentional, affective, physical, and sensory needs of lower incident populations (multiple disabilities, autism, hearing and vision impairments, orthopedic and health conditions) within included settings, resource room, learning support, and segregated environments. A field experience component facilitates direct interaction with special needs learners, supplemented by cooperative discussions of experiential applications to course content. Departmental permission is required.

#### Pre-Requisites

[[ED-190]] and [[EDSP-210]].

### EDSP-227. BEHAVIORAL MANAGEMENT IN SPECIAL EDUCATION WITH FIELD EXPERIENCE

**Credits:** 3

**Terms Offered:** Spring

This three-credit course will assist pre-service teachers in developing a working framework of social, behavioral, environmental, individualized, and collective management techniques. Techniques practiced in the course will focus on approaches for classroom organization, constructive discipline, and proactive responses to intervention, including applied behavior analysis and functional behavioral assessment. A field experience component facilitates direct interaction with learners with special needs, supplemented by cooperative discussions of experiential applications to course content. Departmental permission is required.

#### Pre-Requisites

[[ED-190]], [[EDSP-210]].



**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. SPECIAL EDUCATION METHODS****Credits:** 3**Terms Offered:** Fall

This three-credit course is designed for pre-service special education teachers to learn and apply knowledge of language arts, math, science, and social studies content as well as differentiation, accommodations, and adaptations for students with disabilities in self-contained and inclusive academic settings. Emphasis will be placed on literacy development for students with various exceptionalities. Departmental permission is required.

**Pre-Requisites**

Admission to the Teacher Education Program.

**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.

**Pre-Requisites****Or Concurrent** [[MTH-100]] or [[MTH111]]**EE-211. ELECTRICAL CIRCUITS AND DEVICES****Credits:** 3

Various techniques for circuit analysis of resistive networks. Inductance and capacitance. Sinusoidal steady-state analysis and power calculations. Introductory principles of three-phase circuits, electronic circuits, operational amplifiers, filters, digital logic circuits, transient circuits, and energy conversion schemes.

**Co-Requisites**

[[MTH-112]]

[[EE-283]] **Or Concurrent****EE-241. DIGITAL DESIGN****Credits:** 3

The electronics of digital devices, including Bipolar TTL and CMOS, digital logic functions (e.g., AND, OR, INVERT), Boolean algebra, combinational logic, minimization techniques, digital storage devices, synchronous sequential design, state machines, programmable logic. Three one-hour lectures and one two-hour lab per week.

[Click here for course fees.](#)**Pre-Requisites**

[[EE-283]]

**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]].

**EE-252. ELECTRONICS II****Credits:** 4

Multi-transistor amplifiers, operational amplifiers. Frequency response and the design of filters and amplifiers to meet frequency specifications. Feedback in amplifier design and oscillators. Three one-hour lectures and one three-hour lab per week.

[Click here for course fees.](#)**Pre-Requisites**

[[EE-251]], [[EE-283]], [[MTH-112]], and [[PHY-202]].

## Course Descriptions

### EE-271. SEMICONDUCTOR DEVICES

**Credits:** 3

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.

**Pre-Requisites**

[[CHM-117]], [[CHM-118]], [[PHY-202]].

### EE-283. ELECTRICAL MEASUREMENTS LAB

**Credits:** 1

A laboratory for the development of measurement techniques and use of electrical instruments for the measurement of various electrical quantities. One two-hour lab per week.

[Click here for course fee.](#)

**Co-Requisites**

**Or Concurrent** [[EE-211]]

### 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**

[[EE-211]] and [[EGR-214]] (or [[PHY-214]])

### 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. Direct energy conversion schemes. Lecture and lab.

**Pre-Requisites**

[[EE-251]].

### 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

**Terms Offered:** Spring

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 electrostatics, 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]].

### EE-342. MICROCONTROLLER BASED SYSTEM DESIGN

**Credits:** 3

Microprocessor architecture, the microcontroller based system design context, and peripheral interfacing. C and machine language programming and debugging, and embedded applications. Associated laboratory exercises include topics such as stand-alone system programming, interfacing to peripherals, interrupts, timers, analog data acquisition, and intercomputer communications. Two hours of lecture and one two-hour lab per week.

[Click here for course fee.](#)

**Pre-Requisites**

**Or Concurrent**

[[EE-241]], and either [[EE-247]] or [[CS-126]]

### EE-345. COMPUTER ORGANIZATION

**Credits:** 3

Number representation, digital storage devices, and computational units, bus structures; execution sequences and assembly language concepts; control units with horizontal and vertical microcoding; addressing principles and sequencing; microprocessors; basic input and output devices; interrupts; survey of RISC principles including pipelined execution. Lecture and lab.

[Click here for course fees.](#)

**Pre-Requisites**

[[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. Requirement: Junior engineering standing (All Freshman and Sophomore EE courses and ENG 101 completed)

[Click here for course fee.](#)

**Pre-Requisites**

**Or Concurrent** [[EE-271]]

**EE-382. MODERN COMMUNICATION SYSTEMS****Credits:** 4**Terms Offered:** Spring

The modern communication system course is indented to provide an introduction to communication systems from a signal processing point of view. The main topics covered include the fundamentals of analog and digital modulation, modeling random signals and noise in communication systems, and elements of digital receivers. Laboratories provide hands-on experience with circuits and measurement instruments as well as an introduction to communication system simulation using Matlab/Simulink.

[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.](#)

**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.

**EGR. ENGINEERING****EGR-200. INTRODUCTION TO 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-214. MODELING OF PHYSICAL SYSTEMS****Credits:** 3

Modeling of physical systems. Engineering applications of Laplace transforms, Fourier series, matrices, statistics and probability, and related topics to solve problems in electromagnetics, heat and mass transfer, control systems, fluid mechanics, robotics, engineering management, and communication systems. Emphasis on the use of simulation packages.

[Click here for course fee.](#)

**Pre-Requisites**

[[EE-211]], [[MTH-112]].

**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-327. THIN FILM PROCESSING****Credits:** 3

Nucleation and growth theory; crystalline, amorphous, epitaxial growth morphology. Deposition techniques like DC, RF, magnetron sputtering, ion beam sputtering, evaporation, chemical vapor deposition, physical vapor deposition. Structure, properties, and applications for specific thin film processing techniques.

[Click here for course fees.](#)

**Pre-Requisites**

[[EGR-200]], [[PHY-203]].

**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

## Course Descriptions

### **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:** 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:** Junior standing; minimum 2.0 cumulative GPA; consent of the academic advisor; and approval of placement by the department chairperson.

### **EGR-498. LABORATORY TOPICS**

**Credits:** Varies with topic

A study of topics of special interest not extensively treated in regularly offered laboratory courses.

[Click here for course fee.](#)

#### **Pre-Requisites**

Will vary according to the specific topics course.

## **EGM. ENGINEERING MANAGEMENT**

### **EGM-310. FUNDAMENTALS OF ENGINEERING DECISION PROCESS**

**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]]

### **EGM-315. QUALITY PRACTICES FOR DESIGN & OPERATIONS**

**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]]

### **EGM-320. ENGINEERING PROJECT MANAGEMENT AND ANALYSIS**

**Credits:** 3

Economic analysis of evaluation cash flows over time. Depreciations: techniques and strategies. Replacement analysis, break even analysis, benefit-to-cost ration evaluation. Evaluating a single project: deterministic criteria and techniques. Multiple projects and constraints. Risk analysis and uncertainty. Models of project selection. Project selection using capital asset pricing theory.

#### **Pre-Requisites**

[[MTH-111]]

### **EGM-321. QUANTITATIVE ANALYSIS AND PROGRAMMING METHODS**

**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**

Junior standing in engineering or consent of the instructor.

### **EGM-322. OPERATIONS ANALYSIS & RESOURCE ALLOCATION**

**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]]

**EGM-325. PROJECT ANALYSIS & RESOURCE ALLOCATION****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]]

**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**

Junior standing in engineering or consent of the instructor.

**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, [[EGM-320]]

**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]]

**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 computer 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, and peer consulting connected to the English program newsletter (ENG 190 A – Inkwell Quarterly), the student literary magazine (ENG 190 B – Manuscript), and the University Writing Center (ENG 190 C – Writing Methods).

**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]].

## Course Descriptions

### **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]].

### **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-355. 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-356. 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]].



## Course Descriptions

### **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-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 on 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-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.

## **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-395/396. INDEPENDENT RESEARCH****Credits:** Varies with topic 1-3 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-201. ENVIRONMENTAL ENGINEERING SYSTEMS I: CHEMICAL KINETICS AND STATISTICAL METHODS****Credits:** 1

This course focuses on understanding the factors that control species behavior in environmental systems and provides the foundation for estimating pollutant concentrations and their fate in the environment. This course also provides an introduction of central ideas of probability and statistics and their application in the analysis of environmental data and information. One hour of lecture and one hour of discussion per week.

**Pre-Requisites**

[[CHM-113]], [[CHM-115]] or instructor's permission.

**ENV-202. ENVIRONMENTAL ENGINEERING SYSTEMS II: ANALYTICAL AND COMPUTATIONAL ANALYSIS****Credits:** 2

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:** 1

The foundational 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, and 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.

## Course Descriptions

### ENV-298. TOPICS

**Credits:** Varies with topic

Selected topics in the field of engineering and related areas. They 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-301. ENVIRONMENTAL ENGINEERING SYSTEMS III: ADVANCED UNIT OPERATIONS AND PROCESSES

**Credits:** 1

Examination of unit operations and processes encountered in the environmental engineering field that will assist in the design and operation of advanced water, wastewater, and waste management treatment systems. One hour of lecture and one hour discussion per week.

#### Pre-Requisites

[[ENV-240]]

#### Co-Requisites

[[ENV-305]], [[ENV-351]] or instructor's permission.

### 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 [[EES-202]], or permission of the instructor.

### 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

[[EES-211]], [[CHM-116]] or [[EES-202]].

### ENV-321. HYDROLOGY

**Credits:** 4

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 and three hours of lab per week.

[Click here for course fees.](#)

#### Pre-Requisites

[[EES-211]] and [[MTH-111]]

### 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-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

[[CHM-116]] or [[EES-202]], [[EES-240]].

### 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

[[CHM-116]] or [[EES-202]], [[EES-240]].

### ENV-351. WATER AND WASTEWATER TREATMENT

**Credits:** 4

Design of water and wastewater treatment systems. Estimation of demands. Physical, chemical, biological, and land-based treatment processes. Sludge handling and disposal. Three hours of lecture and three hours of lab per week.

[Click here for course fees.](#)

#### Pre-Requisites

[[ENV-330]].

### 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]].

**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-351]] or permission of the instructor.

**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-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. Requirement: Senior standing and department permission. (See the department for more details about the department permission.)

[Click here for course fees.](#)**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-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]]

## Course Descriptions

### **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

### **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

## **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.

**GEO. GEOLOGY****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. Requirements: open to majors and non-majors. [[GEO-206]] qualifies for the Energy Minor and is cross-listed with [[EGY-206]].

**GEO-211. PHYSICAL GEOLOGY****Credits:** 4

Description, analysis, and laboratory studies of earth materials, structure, and processes, including earth's surface, interior, age, and origin. Three hours of lecture and three hours of lab per week. Requirements: For CS, Engineering, Math, and Science majors only. Cross listed with [[EES-211]]. [Click here for course fee.](#)

**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. Cross listed with [[EES-212]]. [Click here for course fee.](#)

**Pre-Requisites**

[[GEO-211]] or [[EES-211]] 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. Cross listed with [[EES-381]]. [Click here for course fee.](#)

**Pre-Requisites**

[[GEO-211]] or [[EES-211]] 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. Cross listed with [[EES-382]].

[Click here for course fee.](#)

**Pre-Requisites**

[[EES-381]], [[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-211]] or [[EES-211]] 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**

[[EES-211]] or [[GEO-211]]

## Course Descriptions

### **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-211]] or [[EES-211]]

### **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. Cross listed with [[EES-370]].

[Click here for course fee.](#)

#### **Pre-Requisites**

[[GEO-211]] or [[EES-211]].

### **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-211]] or [[EES-211]], [[GEO-212]] or [[EES-212]]

### **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-211]], or [[EES-211]], [[GEO-281]], [[GEO-282]]

### **GEO-388. REGIONAL STUDIES**

**Credits:** 2

**Fees:**

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**

[[MTH-112]], [[PHY-174]], [[GEO-211]] or [[EES-211]] 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. Requirements: Senior standing in Geology and department permission. (See the department for more details about the department permission.)

[Click here for course fee.](#)



**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. Requirements: Senior standing in Geology and department permission. (See the department for more details about the department permission.) [Click here for course fee.](#)

**Pre-Requisites**

[[GEO-391]]

**GEO-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.

**GC. GLOBAL CULTURES****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-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.

**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.

## Course Descriptions

### **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-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.

**FYF-101H. FIRST YEAR FOUNDATIONS (FYF) REQUIREMENT**

**Credits:** 3

This course serves as a platform for Honors students to discover the dynamic aspects of leadership, begin reflecting on individual leadership characteristics and develop a plan for self-discovery that culminates in connecting the student as a leader in the context of his/her primary academic interests. Therefore, upon completion of the course, students will be able to:

- understand several leadership theories and apply them to a variety of contexts
- demonstrate an understanding of self in relation to past and future leadership opportunities
- understand the breadth and scope of leadership and apply it in an interdisciplinary context
- understand self-reflection as a tool for learning
- discuss opportunities to serve as change agents relative to careers and community
- understand basic research skills
- developed oral proficiencies as both a presenter and facilitator
- developed skills necessary for effective group collaboration
- developed deeper multicultural understanding

**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

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.

## Course Descriptions

### 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]], [[HL-356]]

### 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]], [[HL-356]], [[FIN-240]]

### HL-353. HUMAN RESOURCE MANAGEMENT IN THE SERVICE INDUSTRY

**Credits:** 3

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]], [[HL-356]]

### 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.

### 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]], [[BA-335]]

### 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]]

### 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]]

### 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:** On Demand

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]], [[HL-325]]

**HL-462. HOSPITALITY INTERNSHIP****Credits:** 3**Terms Offered:** On Demand

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.

Cross listed with [[BA-462]].

**Pre-Requisites**

[[HL-201]]

**HL-466. ADVANCED HOSPITALITY INTERNSHIP****Credits:** 3**Terms Offered:** On Demand

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]])

**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 and multiple media survey of artists, styles, and techniques influential in the development of contemporary media. Through this exposure and readings, a creative process will be developed and absorption will stimulate, motivate, and inspire a personal aesthetic vision. In addition, 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-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]].

**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-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]].

## Course Descriptions

### **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-350]].)

[Click here for course fees.](#)

#### **Pre-Requisites**

IM students—IM 301; CS students—CS 125.

### **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. 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 [[CS-368]].

[Click here for course fees.](#)

#### **Pre-Requisites**

[[IM-350]] (CS 366) or [[CS-367]].

### **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]].

### **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

One to three credits

## MKT. MARKETING

### MKT-221. MARKETING

**Credits:** 3

**Terms Offered:** Fall, Spring

An introduction to the planning and activities of marketing. Emphasis on budgeting, product conception and development, pricing, distribution channels, and promotion.

### MKT-322. ADVERTISING

**Credits:** 3

A managerial analysis of the decisions involved in advertising. Topics include research, ethics, campaign design, copy, art, media, budgeting, and effectiveness. Course is offered in spring or fall term.

#### Pre-Requisites

[[MKT-221]]

### MKT-324. RETAILING

**Credits:** 3

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. Course is offered in spring or fall term.

#### Pre-Requisites

[[MKT-221]].

### MKT-326. THE SELLING PROCESS

**Credits:** 3

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. Course is offered in spring or fall term.

#### Pre-Requisites

[[MKT-221]].

### MKT-327. MARKETING SEMINAR

**Credits:** 3

In-depth examination of selected issues and problems in marketing. Specific topics alternate depending on student and faculty interests in areas such as marketing strategy formulation, social media marketing, marketing research, new product development, international marketing, and sports marketing.

#### Pre-Requisites

[[MKT-221]]

### MKT-328. CONSUMER BEHAVIOR

**Credits:** 3

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. Course is offered in spring or fall term.

#### Pre-Requisites

[[MKT-221]]

## 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 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 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 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

**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. Offered every spring.

[Click here for course fee.](#)

**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.



## Course Descriptions

### **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]].

**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. INTRODUCTION TO MANUFACTURING & 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. INTRODUCTION TO 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. Kinematics of particles, including displacement, velocity, and acceleration.

### 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-298. TOPICS IN MECHANICAL ENGINEERING

**Credits:** 1-3

Selected topics in the field of mechanical engineering.

### Pre-Requisites

Sophomore standing and permission of the instructor.

## 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

Junior standing in mechanical engineering.

**ME-314. INVERSE PROBLEMS IN MECHANICS****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.

**Pre-Requisites**

[[ME-333]]

**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]]

**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

**ME-322. ENGINEERING 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]].

**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]]

**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. VIBRATION OF DYNAMIC SYSTEMS****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]]

## Course Descriptions

### ME-333. MACHINE DESIGN I

**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. ENGINEERING MODELING AND ANALYSIS

**Credits:** 3

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-337. MICRO-ELECTRO-MECHANICAL SYSTEMS ENGINEERING

**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**

Junior standing in engineering

### ME-338. MACHINE DESIGN II

**Credits:** 3

An advanced course in machine design topics that expands upon the concepts of Machine Design I. 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]]

### ME-340. HEATING, VENTILATION AND AIR CONDITIONING

**Credits:** 3

Introduction of fundamentals of HVAC design and construction. Study of the psychrometric 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]]

### 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), and sheet metal.

**Pre-Requisites**

[[ME-180]], [[ME-335]]

### 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]]

### 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, [[EGM-320]]

### 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-395. INDEPENDENT RESEARCH

**Credits:** 1 - 3

Independent study and research for advanced students in the field of mechanical engineering under the direction of a staff member. A research paper at a level significantly beyond a term paper is required.

**Pre-Requisites**

Senior standing in mechanical engineering and approval of the department chairperson is required.

### 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 staff member. A research paper at a level significantly beyond a term paper is required.

**Pre-Requisites**

Senior standing in mechanical engineering and approval of the department chairperson is required.

**ME-397. SEMINAR****Credits:** 1-3

Presentations and discussions of selected topics.

**Pre-Requisites**

Junior or Senior standing in mechanical engineering or special departmental permission.

**ME-398. TOPICS IN MECHANICAL ENGINEERING****Credits:** 1-3[Click here for course fees.](#)**Pre-Requisites**

Junior or senior standing in mechanical engineering.

**ME-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: minimum junior standing in Engineering; 2.0 cumulative GPA; consent of the academic advisor; and approval of placement by the department chairperson. The co-op option for credit can only be taken one time for either 3 or 6 credits.

**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 Scadlon 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

## Course Descriptions

### **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.

### **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 for renewal. Students who successfully complete this course will receive 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.](#)

**NSG-200. PRINCIPLES OF NORMAL NUTRITION**

**Credits:** 3

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]], [[SOC-101]] or [[ANT-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 Accelerated Baccalaureate Program for Second Degree Students.

**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]], [[SOC-101]] or [[ANT-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]]

## Course Descriptions

### **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 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.](#)

### **NSG-224. PHARMACOTHERAPEUTICS AND CLINICAL DECISION-MAKING IN NURSING**

**Credits:** 3

For Accelerated Bachelors Program 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

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.

#### **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

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.

#### **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]]

### **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-270. RECENT TRENDS IN CLINICAL NUTRITION****Credits:** 3

This elective course is an introduction to diet therapy, with a discussion of the contemporary issues in clinical nutrition. The course deals with popular myths about nutrition and health and substantiates or refutes these claims with research evidence.

**Pre-Requisites**

[[NSG-200]] or RN status.

**NSG-274. DIMENSIONS IN HEALTH AND WELLNESS****Credits:** 3

This elective course provides a framework for the exploration of the concepts of holistic health, wellness, and alternative health care modalities through experiential exercises, reading, journaling, and lectures. During the course, the student will assess his or her personal health and wellness status, develop a plan to modify a specified health behavior, implement the plan using a variety of holistic modalities, and evaluate the outcome of the plan. This is a wellness elective appropriate for any student at any level. Lecture, discussion, class participation. No prerequisites. No co-requisites. No fees.

**NSG-290. TRANSITION TO BACCALAUREATE NURSING****Credits:** 7

This course is designed to facilitate the transition of RN students from other educational routes to baccalaureate education and professional nursing practice. The course focuses on the integration of knowledge, skills, and attitudes in the development of the professional role to enhance quality outcomes for individuals, families, and populations across all healthcare settings and in complex healthcare environments.

**NSG-299. NURSING FORUM****Credits:** 7**Pre-Requisites**

RN status or NCLEX eligibility, [[ENG-101]]. Co-requisite [[NSG-200]] or fulfillment of course requirements by means of a challenge exam.

**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 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 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) 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 clinical skills will be learned in the Clinical Nursing Simulation Center (CNSC) and 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]]

## Course Descriptions

### **NSG-332. NURSING PRACTICE III**

**Credits:** 12

(Accelerated Baccalaureate Program for Second Degree Students) 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: 2 hours of class, 12 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]]

#### **Co-Requisites**

[[NSG-239]], [[NSG-325]], [[NSG-345]]

### **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). Offered in the fall semester only.

#### **Pre-Requisites**

[[NSG-210]], [[NSG-211]], [[NSG-215]], [[MTH-150]]

#### **Co-Requisites**

[[NSG-213]], [[NSG-235]], [[NSG-236]]

### **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, 19 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]]

### **NSG-346. CONTEMPORARY ISSUES AND TRENDS IN NURSING**

**Credits:** 3

This seminar course explores current issues and trends in nursing and health care in the RN/BSN curriculum. Designated oral presentation option (OPO).

### **NSG-347. LEADERSHIP AND MANAGEMENT PRACTICUM**

**Credits:** 3

This course prepares the RN to BSN or RN to MSN student for professional role development in emerging health care delivery systems. The student synthesizes knowledge from previous nursing and supportive courses to manage care in an area of clinical practice consistent with career goals.

### **NSG-348. BACCALAUREATE CAPSTONE**

**Credits:** 3

This course is intended to integrate learning in the RN to BSN curriculum through the identification of a clinical problem and the review of evidence-based solutions.

### **NSG-394. NURSING ELECTIVE OR CORE REQUIREMENT**

**Credits:** 3

This elective course focuses on the implementation of the nursing process in the care of vulnerable populations within the community setting through a service learning approach.

### **NSG-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 School dean.

## PHA. PHA

### PHA-301. & PHA 304 FOUNDATIONS OF PHARMACY PRACTICE

**Credits:** 2

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.

### 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.

### 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.

### 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-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.

### PHA-331. & PHA 332 MEDICAL ANATOMY AND PHYSIOLOGY I & II

**Credits:** 4

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-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.

## Course Descriptions

### **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

The fundamentals of biopharmaceutics and pharmacokinetics are presented. The physical and chemical properties of the drug, dosage form, route of administration, patient characteristics, and disease state will be related to the absorption, distribution, metabolism, and elimination in the body. Students will become familiar with calculations for individual drugs to determine regimens that optimize the safety and effectiveness of medications for individual patients. Lecture: three hours per week.

#### **Pre-Requisites**

[[PHA-311]], [[PHA-312]], 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.

### **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]]

### **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-421]].

### **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.

### **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.

### **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.

### **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-423]] is prerequisite to [[PHA-425]] - [[PHA-430]]

### **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

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

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

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-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-503. AND PHA 504 LONGITUDINAL CARE LAB I & II****Credits:** 1

Students will follow a patient or patients over an extended period of time in a medical or home setting. Pharmaceutical knowledge and skills will be applied in communications, health assessment, monitoring or pharmacotherapy, evaluation of both humanistic and clinical outcomes. Issues of health care, cost access, and quality as revealed through each patient's interaction with health and pharmaceutical care systems will be addressed. Three hours per week. Students are responsible for transportation to and from all off-campus experiential sites.

**Pre-Requisites**

[[PHA-503]] is the prerequisite for [[PHA-504]].

**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

## Course Descriptions

### **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-423]] is prerequisite to [[PHA-425]] - [[PHA-530]].

### **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-423]] is prerequisite to [[PHA-425]] - [[PHA-530]].

### **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-423]] is prerequisite to [[PHA-425]] - [[PHA-530]].

### **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-423]] is prerequisite to [[PHA-425]] - [[PHA-530]].

**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-423]] is prerequisite to [[PHA-425]] - [[PHA-530]].

**PHA-530. PHARMACOTHERAPEUTICS XII: CENTRAL NERVOUS SYSTEM DISORDERS\*****Credits:** 4

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-423]] is prerequisite to [[PHA-425]] - [[PHA-530]].

**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

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.

**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]]-232, [[PHA-327]], 365.

**PHA-555. INTRODUCTORY PHARMACY PRACTICE EXPERIENCE IV****Credits:** 0.5**Terms Offered:** Fall

This course will provide introductory practice experience to students in the clinical telepharmacy setting. Students will gain a broader understanding of this setting and the role that pharmacists may play. Requirement: successful completion of all required courses in the P2 year, or permission of instructor.

**Pre-Requisites**

Completion of all required courses in P2 year.

## Course Descriptions

### **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. INTRODUCTORY PHARMACY PRACTICE EXPERIENCE V**

**Credits:** 0.5

The Self-Directed Introductory Pharmacy Practice Experience (SD-IPPE) course is designed to expose students to various service-learning opportunities throughout their P1 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.

### **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-122. 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-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

[[PHL-101]], [[PHL-110]] or permission of the instructor.

### PHL-214. MEDICAL ETHICS

**Credits:** 3

A selection of important issues facing health care providers, patients, and society in general are examined. Topics include euthanasia, abortion, doctor-patient relationships, the use and misuse of information, research on human and non-human animals, informed consent, patients' rights, truthfulness and the right to know, conflicts of obligations, the right to health care, the allocation of resources, mandatory testing for AIDS, and the use of genetic and reproductive technologies.

#### Pre-Requisites

[[PHL-101]], [[PHL-110]] or permission of instructor.

### 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

[[PHL-101]], [[PHL-110]] or permission of 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

[[PHL-101]], [[PHL-110]], 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

[[PHL-101]], [[PHL-110]] or [[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]].

### 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

[[PHL-101]], [[PHL-110]], 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

[[PHL-101]], [[PHL-110]] 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

[[PHL-101]], [[PHL-110]] or permission of the instructor.

## Course Descriptions

### 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

[[PHL-101]], [[PHL-110]] 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

[[PHL-101]], [[PHL-110]] or permission of 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

[[PHL-101]], [[PHL-110]] or permission of 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

[[PHL-310]] or permission of instructor.

### PHL-332. SOCIAL AND POLITICAL PHILOSOPHY

**Credits:** 3

Social and political institutions as seen by such classic critics as Plato, Aristotle, Hobbes, Locke, Hume, Rousseau, Bentham, and others. More recent views such as those of Marx, Rawls, and Nozick will also be covered. Special attention is paid to the related questions of the role of the state and the relationship between the individual and the state.

#### Pre-Requisites

[[PHL-101]], [[PHL-110]] or permission of 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

[[PHL-101]], [[PHL-110]] or permission of 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

[[PHL-101]], [[PHL-110]] or permission of 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**

[[PHL-101]] or permission of 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.

**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-170. CONCEPTS IN PHYSICS AND CHEMISTRY****Credits:** 4

An overview of Classical Mechanics, Thermodynamics, and the elementary principles of modern physics, including selected topics in basic chemistry and applications to human health. Emphasis is placed on basic physical and chemical principles and on algebraic calculations, scaling, units conversions, Cartesian graphing, acid and base reactions, and numerical problem solving. Three hours of demonstration and lecture, one hour of recitation, and two hours of lab per week.

[Click here for course fees.](#)

**Pre-Requisites**

Previous courses in chemistry, algebra, and geometry.

**PHY-171. PRINCIPLES OF CLASSICAL AND MODERN PHYSICS****Credits:** 4

An introductory course designed to promote an 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]]

## Course Descriptions

### 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.

#### 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.

#### Co-Requisites

[[PHY-202]]

### PHY-206. MODERN PHYSICS LAB

**Credits:** 1

Experiments leading to the development of relativity and quantum theory to reinforce and expand upon the learning of fundamental concepts in EM theory, relativity, statistical mechanics, quantum mechanics, solid state physics, and nuclear physics.

[Click here for course fee.](#)

#### Pre-Requisites

[[PHY-202]], [[PHY-204]], [[PHY-205]]

#### 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]], [[EE-140]] or [[CS-125]]

### 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]] & [[PHY-202]] or [[PHY-171]] & [[PHY-174]], [[MTH-112]].

**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.

## Course Descriptions

### **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 deadlocks 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.

### **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-373]].

#### **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.

**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.

### Pre-Requisites

[[PSY-101]] and Math competency (MTH 101 or higher).

## PSY-201. APPLIED STATISTICS AND RESEARCH

**Credits:** 4

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 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-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]]. 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]]. 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]].

## Course Descriptions

### **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-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

This Sport and Recreation Management course provides an overview of the sport and recreation industry. The course examines the principles of entertainment management in high school, professional, collegiate, and Olympic sport. A primary focus of the course will be on the business of collegiate and professional sport. The course will also focus on the application of business topics discussed in class and business content from assigned readings, along with perspectives from sport and entertainment business professionals.

#### **Pre-Requisites**

[[BA-152]] or [[BA-153]].

### **SM-325. SPECIAL EVENTS MARKETING**

**Credits:** 3

Marketing is an introduction to the principles and practices of the marketing profession. You will study the dynamic role marketing plays in our global and national economies. You have the opportunity to build a knowledge base about the following areas: strategic marketing, research, consumer behavior, segmentation and targeting, marketing mix planning, implementation, and evaluation. We will identify marketing challenges, ethical thinking and action, and global dimensions within the profession and practice of marketing.

#### **Pre-Requisites**

[[MGT-251]].

### **SM-355. SPORTS FACILITY & EVENT MANAGEMENT**

**Credits:** 3

**Terms Offered:** Fall

This course provides students with an understanding of the complexity involved in sport facility and event management. Sport facility management includes a variety of activities such as planning and designing a sports facility, staff management, facility marketing, developing revenue streams, and facility scheduling and operating. Sport event management consists of identifying goals of the event and coordinating people in the organizations involved to achieve those goals with the resources available.

#### **Pre-Requisites**

[[MKT-221]]

### **SM-465. WILKES' SPORTS MANAGEMENT EXPERIENCE**

**Credits:** 3

This is a Wilkes business experience course where students apply their accumulated knowledge, skills, and abilities to a Wilkes University Sports or Event related department. The course will include cooperative education (see the Cooperative Education section of this bulletin for placement procedures), independent study, and an experiential component. Credits in excess of 3 may be applied toward the degree's Free Elective requirement.

#### **Pre-Requisites**

[[SM-201]], [[SM-355]].

**SM-466. PROFESSIONAL SPORTS MANAGEMENT EXPERIENCE****Credits:** 3

This course is part of a two-semester professional business experience in which students apply their accumulated knowledge, skills, and abilities in a private or public organization related to sport or event management. The course will include cooperative education (see the Cooperative Education section of this bulletin for placement procedures), independent study, and an experiential component. Credits in excess of 3 may be applied toward the degree's Free Elective requirement.

**Pre-Requisites**

[[BA-461]].

**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.

**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.

## Course Descriptions

### **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.

### **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-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 exam.

**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.

**Pre-Requisites**

SP 102 or permission of the instructor.

**SP-205. CONVERSATION****Credits:** 3

Practice in spoken Spanish, including discussions, oral presentation, and role-playing. Includes written exercises.

**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.

## Course Descriptions

### **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.

### **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. NON-LITERARY TRANSLATION**

**Credits:** 3

In 'Non-literary Translation,' students will learn some translation strategies by practicing with actual data taken from documents in a variety of professional fields including medical, commercial, and legal. Students will learn how to solve problems in technical translations: terminology, idiomatic expressions, verb usage, and false cognates. The course will use a workshop approach and focus on practical issues in various professional fields. Includes a community service component.

#### **Pre-Requisites**

[[SP-203]]-204 or equivalent.

### **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 only)

#### **Pre-Requisites**

[[SP-205]], 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-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.

### 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.

## Course Descriptions

### **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.

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