



Wilkes University

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UNDERGRADUATE BULLETIN

BACCALAUREATE STUDIES

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STATEMENT OF DISCLAIMER

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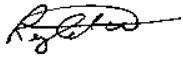
A Message from the Provost

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. All of us at the University are dedicated to the future success of our students. That dedication is reflected in the quality of mentorship, skillful advising, and excellent teaching of the University faculty and staff. It emerges in the challenging internships and undergraduate research experiences, exciting extracurricular activities, and interactive team projects that support the Wilkes curriculum. Mostly that dedication is reflected in the integrated learning journey that we have mapped for all students.

As an undergraduate at Wilkes University, you will develop your many gifts and refine them for a rich life engaged in profession, community, nation, and world. The Wilkes University undergraduate experience is a learning journey that integrates your intellectual, professional, cultural, social, and personal growth and infuses a commitment to and capacity for lifelong learning. The journey, which is grounded in high academic standards and guided by innovative teaching methodologies, links strong academic programs with abundant extracurricular activity and provides a variety of opportunities for experiential and collaborative learning. Community engagement, citizenship, ethics, leadership, and the development of effective communication skills are integral components of the Wilkes undergraduate experience. You will receive individualized advising and guidance that encourage you to both understand and broaden your individual learning styles. Your work ethic, passion for personal excellence, and a desire to contribute responsibly to society will lead you to success at Wilkes University and beyond.

The professional world you will enter after graduation is ever changing. Throughout your course of study at Wilkes, with the guidance of instructors and mentors in your major field, you will gain the depth of knowledge and skill to lead and excel in your chosen profession and to adapt to the changes in your professional world. Your general education in the liberal arts and sciences will afford you a great breadth of learning that will support the work in your chosen field of study and that you will find essential as you navigate and advance through your career. At graduation, you will have earned far more than a diploma. You will have acquired the capacity for self-knowledge and personal growth, an abiding understanding and respect for diverse perspectives, exceptional career preparation, and the passion to learn continually, well beyond your years with us.

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 us, work well, and make the most of your “Wilkes days.” You will find that they pass much too quickly, but that the friendships you forge here with faculty and classmates are friendships that will last a lifetime.



C. Reynold Verret, Ph.D.
Provost

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

To be a nationally recognized independent university where intense personal engagement in exceptional academic and professional programs cultivates a lifelong commitment to learning, ethics, civic responsibility, and openness to cultural diversity.

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; and
- *Community*: Appreciating and collaborating with mutual respect to foster a sense of belonging.

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.

Undergraduate Admissions

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 part-time must contact the Office of Admissions to obtain an Application for Admission. Information and instructions regarding secondary school transcripts and records, 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 programs have special application procedures.

- Separate application must be made for the Pharmacy Program. *Printed applications for the Pharmacy Program will be mailed to qualified applicants who are admitted to Wilkes University.* Pre-Pharmacy applicants must also submit three letters of recommendation and successfully complete an interview with the School of Pharmacy's Admissions Committee to gain early admission to this program.
- A successful interview is also required for admission to Wilkes Nursing program. Qualified nursing applicants will receive an acceptance letter asking them to schedule an interview with the Nursing Admissions Committee.
- Applicants for the Pre-Medical Scholars programs, as well as the Wilkes-Widener Ph.D. in Psychology and the Wilkes-Widener Doctor of Physical Therapy 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 and Theatre must successfully complete an audition for the program and must complete an interview with the departmental faculty to gain admission into these programs.

In all cases, invitations to interview or audition for these identified degree programs are extended by the academic departments at their discretion.

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;
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 Fees" 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 before the rendering of a final decision.

All applicants 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. 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. 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 <http://www.wilkes.edu/pages/124.asp>.

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). 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.

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 completed 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.

Enrollment in the life science majors (Biology, Chemistry, Biochemistry, Nursing, and Pharmacy) is limited, and admission to programs in these areas is competitive. A successful interview is required for admission to the Wilkes Nursing program. Qualified Nursing transfer applicants will receive an acceptance letter asking them to schedule an interview with the Nursing Admissions Committee.

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 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.

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 a baccalaureate 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 sequences 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.

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

- 1) a completed application;
- 2) official results of the Test of English as a Foreign Language (TOEFL), minimum 60; the IELTS, minimum 5.5; or STEP Eiken. or evidence of the successful completion of an accredited intensive English language program (Exception: not required if English was the language of instruction for the student);
- 3) evidence of financial support (bank statements, salary certificates, etc.);
- 4) a letter of financial support;
- 5) official transcripts of all secondary or post-secondary work completed to date accompanied by an official translation if the originals are not in English; post-secondary work studied outside of the U.S. must be submitted to WES (www.wes.org <<http://www.wes.org>>) and the evaluation should be sent directly to Wilkes University by WES;
- 6) a copy of the passport picture and name page; and
- 7) a copy of the secondary or post-secondary diploma or leaving certificate.

Students should complete their application file by June 15 for admission in the fall semester and by November 15 for admission in the spring semester. An I-20 form will only be issued after the application process is complete and the student has been admitted to the institution.

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 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 academic plans and 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.



Changing from Part-time to Full-time Status

Part-time students who wish to enroll as full-time students must consult with the Director of Part-time Programs as the first step in this process. Students who have completed 30 or more credits and 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.



Readmission to the University

Students who have been enrolled full-time at Wilkes University and have terminated their studies for one semester or more and who wish to return to the University as full-time students must contact the Office of Student Affairs and arrange an interview with one of the deans as the first step in the readmission process.



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 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 a general meeting with the admissions staff, panel discussions with current students and administrators, academic department meetings, campus tours, financial aid sessions, and a complimentary meal. Specific information about the agenda and dates for these days is available from the Office of Admissions and on the Wilkes University Web site: <http://www.wilkes.edu>.

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.



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, Career Services, Student Development, Health and Wellness Services, Campus Counseling, the Center for Global Education and Diversity, Cooperative Education, University College, Upward Bound, Act 101, Community Service, 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, and 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.

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 for ensuring that the University policies are upheld.

The Residence Life Program offers students a wide variety of residential options. Each residence hall has its own unique style, whether it is a traditional residence hall such as Evans, one of the older Victorian mansions such as Weiss, or an apartment-style residence hall like University Towers. Some residential spaces are reserved exclusively for students enrolled in the University First-Year Student Living-Learning Communities. Each residence hall has a full kitchen and laundry facilities. Single-sex or coed facilities are available. Rooms are equipped with cable television access, 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: <http://www.wilkesdining.com>.

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, Experiential Adventure Series, 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 Experiential Adventure Series provides an alternative learning experience designed to challenge students to engage in physically demanding activities such as hiking, rock climbing, and white water rafting, which emphasize wellness and provide practical leadership tools and lessons on teamwork. The Weekend Entertainment Series gives students a variety of low-cost entertainment options to choose from each weekend.

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 service are a 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 service. Community Service activities are coordinated by the Office of Community Service, which maintains a current list of community partners.

An Inter-Residence Hall Council, an Off-Campus Council, and a Commuter Council organize activities for undergraduate students, and the Student 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 *Ammicola*, 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.

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.

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, recitals, and dramatic and musical theatre productions in the Dorothy Dickson Darte Center for the Performing Arts.

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 Visitation Day, Homecoming, Winter Weekend, 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.

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.

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.

HEALTH AND WELLNESS SERVICES

The Office of University Health and Wellness Service 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 to community physicians and hospitals are made as necessary. The Office of University Health and Wellness Services does not provide clinic hours during the summer months.

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.

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. Testing services are also available to Wilkes students.

ADVISING SERVICES FOR SPECIAL ACADEMIC AND STUDENT DEVELOPMENT PROGRAMS

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

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. Services 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;
- Study Abroad experiences for students and faculty;
- support for faculty and students interested in the globalization of higher education;
- the Intensive English Program (IEP) for individuals wishing to improve their English language skills;
- multicultural programming; and
- booking of the Multicultural 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).

INTERNATIONAL STUDENT SERVICES

For international students, the Center 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 dealing 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.

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, 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 the bulletin apply to all students participating in the IEP at Wilkes University.

University College

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.

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 Conyngham Hall.

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.

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.

Financial Information

Student Expenses

The following chart summarizes student expenses for the 2012-13 academic year, which officially begins with the Summer Session, 2012. 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 Controller's Office.

STUDENT EXPENSES FOR 2012-13

Full-time Undergraduate Tuition & Fees	Assessment	Per Semester	Annual Total
Tuition (12 – 18 credits)	Per semester	\$13,954.00	\$27,908.00
General University Fee	Per semester	\$709.00	\$1,418.00
Total Full-time Undergraduate Tuition & Fees		\$14,663.00	\$29,326.00
School of Pharmacy First Professional Tuition & Fees	Assessment	Per Semester	Annual Total
Tuition (12 – 18 credits)*	Per semester	\$14,830.00	\$29,660.00
Pharmacy Clerkship Fee	Per semester	\$515.00	\$1,030.00
General University Fee	Per semester	\$709.00	\$1,418.00
Total School of Pharmacy First Professional Tuition & Fees		\$16,054.00	\$32,108.00
Part-time Undergraduate Tuition, Fees	Assessment	Rate	
Summer Study (all sessions)	Credit hour	\$495.00	
Fall & Spring Sessions (1 – 11 credit hours)	Credit hour	\$775.00	
Intercession	Credit hour	\$775.00	
Excess Credit Hours	Credit hour	\$775.00	
Accelerated BBA Degree	Credit hour	\$350.00	
General University Fee	Credit hour	\$64.00	
Audit Fees (Undergraduate Courses)	Assessment	Rate	
Full-time Undergraduate & Pharmacy Students	No charge	----	
Part-time Undergraduate Students	Credit hour	387.50	
Senior Citizens	Credit hour	20.00	
Other Mandatory Fees	Assessment	Rate	
Applied Music Fees @ \$360.00 per credit			
• 1 credit (14 30-minute private lessons)	Credit hour	\$360.00	
• 2 credits (14 60-minute private lessons)	Credit hour	\$720.00	
Graduation Fee	One time	\$165.00	
Graduation Fee (Late)		\$320.00	
Matriculation Fee	One time	\$135.00	
Undergraduate Application & Admission Fees			
• Undergraduate Application	One time	\$40.00	
• Online Application	One time	\$20.00	
• Online International	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	

STUDENT EXPENSES FOR 2012-13 (cont'd)

Miscellaneous University Fees	Assessment	Rate
Acceptance Tuition Deposit	One time	\$300.00
Assessment Fee (Professional Pharmacy Students)	Per semester	\$30.00
Assessment Fee (Nursing Majors – Traditional)	Per semester	\$225.00
Assessment Fee (Nursing Majors – Accelerated)	Per semester	\$320.00
Challenge Examinations	Credit hour	\$90.00
Disciplinary Fine	Each	\$200.00
Health Care Charge	Per semester	\$10.00
Insurance (Malpractice, Pharmacy)	Per semester	\$24.00
Insurance Late Fee	Per semester	\$24.00
Medical Technology	Per semester	\$1,360.00
Miller Analogies Testing Fee	Per semester	\$60.00
Parking Fees & Fines		
• 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
Room Reservation Deposit	Annual	\$100.00
Study Abroad	Per semester	\$75.00
Transcript/Verification (same day)	Each	\$20.00
Transcript Fee	Each	\$15.00
Transcript Surcharge (FAX)	Each	\$20.00
Johns Hopkins (No Lab or University Fees apply)	Credit hour	\$70.00
Young Scholars	Credit hour	\$70.00

Exceptions	Assessment	Rate
Senior Citizen Audit, no attached fees	Credit hour	\$20
Senior Citizens Discount (62 and older) all attached fees full price	Credit hour	\$387.50
Summer Co-op and Internship* all attached fees full price	Credit hour	\$387.50
Audit Courses	Credit hour	\$387.50

Residence Hall Rates	Assessment	Per Semester
Residence Hall – Dorm Style	Per semester	\$3,614.00
Residence Hall – Single Room	Per semester	\$3,798.00
Residence Hall – Apartment Style	Per semester	\$4,008.00
Summer Room Rent	Per week	\$211.00

Meal Plans	Assessment	Per Semester
Colonel Blue	Per semester	\$2,043.00
Colonel Blue Plus	Per semester	\$2,148.00
Colonel Gold	Per semester	\$2,353.00
Colonel Gold Plus	Per semester	\$2,403.00
Senior Plan	Per semester	\$1,040.00
25-Meal Plan	Per request	\$168.00
40-Meal Plan + \$100 Dining Dollars	Per request	\$367.00
50-Meal Plan	Per request	\$328.00
Summer Meal Plan		
• Creative Writing: 10-Meal Block & Residency Meals	Per week	\$150.00
• 10-Block Summer Meal Plan	Per request	\$66.00
• 25-Block Summer Meal Plan	Per request	\$159.00

Payment of Charges

PAYMENT DUE DATE: August 13, 2012

PAYMENT OPTIONS:

1. **Cash or check payment** – Payments may be made at the Student Service Center located in the UCoM building on the corner of South Main and West South Streets during regular business hours (Monday through Friday, 8:30 am – 4:30 pm) or payments may be mailed to

Wilkes University – Student
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 www.wilkes.edu; select “Current Students.” 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) 408-4357 or 1-800-WILKES-U ext. 4357. Wilkes University accepts credit or debit cards with MasterCard, Discover, American Express. A 2.75% 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, nor shall they participate in Commencement activities.

Fall and Spring Full-time Tuition

The unfunded cost of full-time tuition and fees will be paid or satisfactory arrangement made with the Office of the Controller 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

- a. enrollment in the Installment Payment Plan (call the Office of the Controller at (570) 408-4658 for more information);
- b. participation in the deferred employer Reimbursement plan; and
- c. enrollment in one of the third-party, sponsored tuition coverage plans (ROTC Scholarship, Bureau of Vocational Rehabilitation, Office of the Blind, etc.).

If the payment in full or satisfactory arrangements are not made 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. In order to be re-enrolled and re-registered, the student may be required to pay a late registration fee of \$50 in cash before registering.

Summer, Fall, and Spring Part-time Tuition

Charges for summer and part-time tuition and fees must be paid in full two weeks from the first day of classes unless covered by the Deferred Employer Reimbursement policy. See “Deferred Payment Policy (Employer Reimbursed) & Third Party Payment Policy” in this section of the bulletin.

Intersession Tuition

Tuition charges for intersession semesters must be paid in full two weeks before the first day of class. The deferred payment option *does not apply to intersession charges.*



Participation in the Installment Payment Plan

Enrollment in the Installment Payment Plan should be completed immediately upon receipt of the University invoice. The current outstanding balance will be divided into five equal installments, with the first payment due August 13, 2012. Access to the plan can be made via Wilkes’ secure Web site. Please see the enclosed document for enrollment instructions.

Private Educational Loans

If the student has applied for and has been approved for a private educational loan that is not listed on the invoice, subtract the approved amount (less applicable fees) from the calculated amount due before sending in your remittance. Please indicate the amount of the approved loan on a copy of the invoice when sending in the payment. If application for a loan has not yet been made or if approval for a requested loan has not yet been received, pay the “Calculated Total Due” by the due date. When Wilkes receives the loan funds from a private loan vendor, the amount will be applied to the student’s account. Any credit balance resulting from the receipt of the loan funds will be refunded to the student.

Participation in the Deferred Employer Reimbursement 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 Reimbursement are available at the Part-time Office, the Controller’s Office, and on the Wilkes Web site. *Graduating seniors are not eligible for the deferred payment option.*

Enrollment in a Third Party Sponsored Tuition Coverage Plan

If the student is expecting to receive financial support from ROTC, Veterans Rehabilitation, The Bureau of Vocational Rehabilitation, or other third party sponsored tuition plan, which is not already listed on the invoice, deduct the approved amount from the "Calculated Total Due." Please indicate the source and the anticipated amount of coverage on a copy of the invoice when remitting payment for the adjusted balance.

Private Scholarships

If the student anticipates receipt of a private scholarship that is not already listed on the invoice, deduct the amount from the "Calculated Total Due" only if documentation of the scholarship award has been provided to the Controller's Office.

Tuition Exchange

Wilkes University is a member of The Tuition Exchange and the Council of Independent Colleges (CIC) tuition-exchange plans. These programs provide limited opportunities for children of employees of one member college or university to enjoy tuition remission benefits at another member institution. Students who are dependents of employees of other colleges should consult the Tuition Exchange Liaison Officer at their home institutions to determine eligibility for this program.



Financial aid shown on the invoice has been applied against the account balance. **Any outstanding documentation not received by October 31, 2012 will result in the cancellation of awarded financial aid and an adjustment to the account balance.**

Promissory Notes for Federal, Perkins, Nursing, Rullison Evans, and Gulf Oil Loans are signed electronically at www.signmyloan.com. You will be notified by mail when the Promissory Notes are available.



QUESTIONS? Call (570) 408-plus the extension number indicated *or* call 1-800-WILKES-U and ask for the extension number shown below:

Call extension 2000 for

- Questions about credit card payments
- Questions about tuition or fee charges
- Questions about payment options
- Questions about financial aid
- Questions about registration status
- Other miscellaneous questions about the invoice

For questions about

- room assignments, call extension 4350;
- meal plan options, call extension 6024; or
- signing documents for Nursing, Rullison Evans, or Gulf Oil Loans, call extension 4653.

Refunds

Withdrawal from Courses

Students who officially withdraw from courses may be eligible for a partial refund of tuition charges (see "Official Withdrawal" section in this bulletin). Resident students who withdraw from the University may also qualify for a prorated refund of room and board charges. Refunds are based on the official date of withdrawal as noted by Student Services and the Registrar.

Financial aid received by students who withdraw may also be adjusted. See the section on "Financial Aid" in this bulletin regarding adjustment to financial aid based on withdrawal.

Students who withdraw from the University or from specific classes during the semester will be entitled to an adjustment of tuition, fees, and room and board charges according to the accompanying refund schedule.

Students suspended from the University for disciplinary reasons will forfeit all 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.

REFUND SCHEDULE*

Circumstance	Time of Withdrawal	Refund
Tuition & Fees:		
Cancellation of Enrollment	On or before the first day of classes	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.
Total Withdrawal	Policy guidelines for refunds processed after the first day of classes are as follows. Beginning with the 2012-2013 academic year, students who withdraw from Wilkes University will be entitled to an adjustment of tuition, fee, and room and board charges according to the following schedule:	
	First week	100%
	Second week	75%
	Third week	50%
	Fourth week	25%
	After the Fifth week	No refund
Change from Full-time to Part-time Status & 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.
Summer Sessions	Sessions I & II: first week	50%
	Evening Session: first two weeks	50%
	After stated period, all sessions	no refund
Weekend College	Through the second week	50%
	After the second week	no refund
Room and Board:		
Room	The institution will refund housing rental charges, so long as written notification of cancellation is made to the Director, Residence Life Office, on or before the first day of classes each semester. After the first day of classes, charges will be adjusted in accordance with the schedule for "Total Withdrawal" (Tuition & Fees).	
Board	The institution will refund board charges in full, so long as written notification of cancellation is made to the Director, Residence Life Office, on or before the first day of classes each semester. After the first day of classes, charges will be adjusted in accordance with the schedule for "Total Withdrawal" (Tuition & Fees).	

**Deposits are non-refundable. Refunds for special sessions (i.e., sessions that do not correspond to the schedule outlined above) will be calculated by the Office of the Controller upon student request.*

Financial Aid

Wilkes University subscribes to the belief that the primary responsibility for financing the cost of higher education rests with the student and his or her family, and Wilkes is committed to providing resources to make that cost affordable. Toward that end, the University maintains an extensive program of need-based and merit-based financial assistance in the form of scholarships, grants, loans, and part-time employment opportunities to assist qualified students. This program is made possible by substantial annual gifts from generous friends and alumni of the University, which are combined with a variety of funding types provided by the federal and state governments.

Financial assistance for qualified students is awarded in the form of financial aid packages consisting of a combination of grants, scholarships, loans, and employment opportunities. All students are encouraged to apply for both need-based and merit-based financial assistance.

Students with questions about financial aid and students seeking applications for financial aid should contact the Student Services Center or the Office of Admissions. More detailed information regarding the financial aid programs and requirements is included in the *Consumer's Guide to Financial Aid* available on the Wilkes University Web site at

<http://www.wilkes.edu/pages/1743.asp>

Types of Financial Aid

Financial aid packages are developed for students on an individual basis and usually consist of one or more of the types of aid described below. The financial aid options described in this section are available to qualified full-time students who are identified as “making progress toward degree completion” (i.e., students who successfully complete a minimum of 24 credits within a calendar year and who are declared “in good standing” at the University). For information about financial aid for part-time students, see the section “Financial Aid for Part-time Students.”

Scholarships: Outright gift assistance that is not repayable by the recipient and is usually based on factors other than demonstrated financial need, although some scholarships are a combination of need and merit. Several academic areas at the University, including Biology, English, Music, Nursing, Sociology, and Theatre, have scholarships available for qualified students.

Grants: Outright gift assistance that is not repayable by the recipient and based on demonstrated financial need of the applicant and the family. Many states in addition to Pennsylvania provide financial assistance in the form of grants for residents of their states. Residents of states other than Pennsylvania should contact their high school guidance office for information pertaining to an individual state's aid program. These states include Connecticut, Delaware, Maryland, Massachusetts, Ohio, Rhode Island, Vermont, and West Virginia.

Loans: Financial assistance for which the recipient assumes the obligation to repay the amount of the funds received. Most education loans provide for payment of principal and interest to begin sometime after the student graduates or stops attending an approved institution on at least a half-time basis. Repayment of the Federal Direct PLUS Loan may be deferred or will begin within a short time after the funds are disbursed. Loan amounts vary and are determined according to *class standing*, which is defined by Wilkes University as follows:

Freshman – any student in good academic standing who has completed 0 – 29 credits;

Sophomore – any student in good academic standing who has completed 30 – 59 credits;

Junior – any student in good academic standing who has completed 60 – 89 credits;

Senior – any student in good academic standing who has completed 90 credits or more.

See “Academic Standing, Probation, and Ineligibility” in this bulletin for a definition of academic standing.

Employment: Financial assistance that a student may earn by working on campus in part-time or full-time positions and for which the student is paid in the form of a monthly check. On-campus jobs are listed on line at <http://www.wilkes.edu/pages/1672.asp>. Eligibility for participation in the Wilkes University work-study program is not a guarantee of employment. Employment and job placement will depend upon the type and number of jobs available.

The Office of Career Services also operates a Job Location Development (JLD) program to help students identify employment opportunities off-campus. Students participating in the JLD program are paid by the employer for whom they work.

Veterans' Assistance (VA) Programs

This special program provides a wide range of benefits to those who have served in the armed forces and, in some cases, to the dependent children of veterans. Interested persons should contact the Office of Admissions, the Student Services Center, and 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 www.wilkes.edu/pages/3284.asp

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 Services Center for more information.

Financial Aid for Students Seeking a Second Degree

Only the Federal Direct Stafford Loan is available to students seeking a second degree. The Free Application for Federal Student Aid (FAFSA) and the appropriate promissory notes must be completed to determine eligibility for these programs. In addition, there are various private educational loans available to students who are seeking a second degree. Information is available on the Wilkes University Web site.

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 that, for financial aid purposes, years five and six of the program are identified as “professional or graduate level.” Therefore, students enrolled at this level of study in the Pharmacy Program are considered “independent” for financial aid purposes and qualify only for financial aid available to graduate and professional students. This financial aid includes the unsubsidized Direct Stafford Loans (with an annual loan maximum of \$20,500), Graduate Direct PLUS Loans, and private loans only. Fifth- and sixth-year Pharmacy students do not qualify for any federal, state, or institutional grants or scholarships.

Financial Aid Application Procedures

NOTE: Students applying for financial aid must be currently re-enrolled or accepted for admission to Wilkes University before their application for financial aid will be considered.

All applicants for financial aid must

1. complete the Free Application for Federal Student Aid (FAFSA): <http://www.fafsa.ed.gov/index.htm>;
2. complete the appropriate state application for financial aid;
3. if applying for University administered aid, complete applications for the Federal Pell Grant and for a State Grant or Scholarship (if available); and
4. if applying for the Federal Direct Stafford Loan, or the Federal Direct PLUS Program, or both, complete the appropriate promissory note application.

Renewal of Financial Aid

Need-based financial aid is awarded on an annual basis. The renewal of need-based financial aid is not automatic, and failure to submit renewal applications may result in the loss of financial aid. Students must, therefore, reapply for financial assistance each year, and renewal of awards is based on the timely completion of all required documents and on the student’s continued eligibility for assistance.

The deadline for requests for renewal of financial aid is May 1. In addition to demonstrating continued financial need, students must also meet specific academic progress requirements to qualify for renewal. These requirements are explained in detail in the *Consumer’s Guide to Financial Aid* on the Wilkes University Web site.

Merit-based scholarships are renewable for four years, provided that all terms and conditions of the scholarship are met.

Withdrawal – Return of Financial Aid Funds

In accordance with federal regulations, students who receive federal financial aid and who withdraw from the University during the first 60% of a semester will have their federal financial aid (Pell Grants, Supplemental Educational Opportunity Grants, Nursing Loans, Stafford Loans, and PLUS Loans) adjusted based on the percentage of the semester completed prior to the withdrawal. That is, students will be entitled to retain the same percentage of the federal financial aid received as the percentage of the semester completed. This percentage is calculated by dividing the number of days in the semester (excluding breaks of five days or longer) into the number of days completed prior to the withdrawal (excluding breaks of five days or longer). The date of withdrawal will be the date the student begins the withdrawal process at the Registrar’s Office unless attendance in class is documented after that date; in that case, the last date of documented attendance will be the official date of withdrawal. (See section on Withdrawals in this bulletin.)

Students who do not follow the official withdrawal procedure but who stop attending classes for all of their courses will be considered to have withdrawn at the 50% point of the semester unless attendance is documented after that time. There will be no adjustment to federal financial aid after the completion of at least 60% of the semester.

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

- Unsubsidized Stafford Loans
- Subsidized Stafford Loans
- PLUS Loans
- Pell Grant
- Supplemental Educational Opportunity Grants (S.E.O.G.)
- Nursing Loans

Pennsylvania and other state grants will be adjusted in accordance with the agency’s stated guidelines. It is expected that PHEAA Grant funds will be reduced by the same percent reduction in tuition received by a student when withdrawing from a course or courses.

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 Student Services Center 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.

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## Financial Assistance Programs Summary

| SCHOLARSHIPS                                                                                                             |                                                                                                                                                                                                                                                                   |                                                                                                    |
|--------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| Scholarship                                                                                                              | Criteria, Qualifications, Requirements, Application(s), and Information                                                                                                                                                                                           | Filing Deadline                                                                                    |
| Wilkes University Scholarship<br>Wilkes Presidential Scholarship<br>Wilkes Deans' Scholarship<br>Wilkes Commitment Award | Admission to the University<br>SAT or ACT scores<br>Class rank for incoming freshmen<br>Continued eligibility for undergraduate upperclassmen<br>Questions? Contact the Wilkes Office of Admissions or Wilkes Student Services Center                             | Incoming student priority deadline – March 1                                                       |
| Wilkes University Transfer Student Scholarship                                                                           | Admission to the University<br>Transfer credit evaluation<br>Continued eligibility for undergraduate upperclassmen<br>Questions? Contact the Wilkes Office of Admissions or Wilkes Student Services Center.                                                       | Incoming student priority deadline – March 1                                                       |
| Wilkes University Leadership Scholarship                                                                                 | Based on appointment to or achievement of leadership roles in student organizations                                                                                                                                                                               | Upperclassmen priority deadline – May 1                                                            |
| Wilkes University Named Scholarships                                                                                     | Awarded by various academic and administrative departments based on criteria set by the scholarship donor<br>For a complete listing of Named Scholarships, contact the Development Office<br>Incoming students contact the Wilkes University Office of Admissions | Upperclassmen priority deadline – May 1<br>Incoming student priority deadline – March 1            |
| Performance Award                                                                                                        | Determination of merit eligibility and audition required<br>Limited to Theatre Arts or Musical Theatre majors and participants in music ensembles<br>Questions? Contact the Wilkes Office of Admissions.                                                          | Upperclassmen priority deadline – May 1<br>Incoming student priority deadline – March 1            |
| Room & Board Scholarship                                                                                                 | Awarded to Resident Assistants<br>For Resident Assistant Application, contact the Office of Residence Life.                                                                                                                                                       | Available to upperclassmen only<br><br>Application deadline – contact the Office of Residence Life |
| ROTC Scholarship                                                                                                         | Apply for scholarship through the Wilkes ROTC Office                                                                                                                                                                                                              | Upperclassmen priority deadline – May 1<br><br>Incoming student priority deadline – March 1        |

| GRANTS                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                      |                                                                                             |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| All students applying for Federal, State, and Wilkes grants <i>must first complete and file</i> the Free Application for Federal Student Aid (FAFSA).<br>The FAFSA must be filed <i>prior to</i> application for all grants.<br>For information and a copy of the application form, go to: <a href="http://www.fafsa.ed.gov/index.htm">http://www.fafsa.ed.gov/index.htm</a> |                                                                                                                                                                                                                                                      |                                                                                             |
| Grant                                                                                                                                                                                                                                                                                                                                                                        | Criteria, Qualifications, Requirements, Application(s), and Information                                                                                                                                                                              | Filing Deadline                                                                             |
| Federal Pell Grant                                                                                                                                                                                                                                                                                                                                                           | FAFSA <a href="http://www.fafsa.ed.gov/index.htm">http://www.fafsa.ed.gov/index.htm</a><br>Questions? Contact the Wilkes Student Services Center                                                                                                     | June 30                                                                                     |
| PHEAA Grant                                                                                                                                                                                                                                                                                                                                                                  | FAFSA <a href="http://www.fafsa.ed.gov/index.htm">http://www.fafsa.ed.gov/index.htm</a><br>Application and information available at <a href="http://www.pheaa.org">http://www.pheaa.org</a><br>Questions? Contact the Wilkes Student Services Center | May 1                                                                                       |
| Federal Supplemental Education Opportunity Grant (S.E.O.G.)                                                                                                                                                                                                                                                                                                                  | FAFSA <a href="http://www.fafsa.ed.gov/index.htm">http://www.fafsa.ed.gov/index.htm</a><br>Questions? Contact the Wilkes Student Services Center                                                                                                     | Upperclassmen priority deadline – May 1<br><br>Incoming student priority deadline – March 1 |
| Wilkes Need-Based Grant                                                                                                                                                                                                                                                                                                                                                      | FAFSA <a href="http://www.fafsa.ed.gov/index.htm">http://www.fafsa.ed.gov/index.htm</a><br>For information, contact the Wilkes Student Services Center                                                                                               | Upperclassmen priority deadline – May 1<br><br>Incoming student priority deadline – March 1 |
| Office of Vocational Rehabilitation Grant                                                                                                                                                                                                                                                                                                                                    | FAFSA <a href="http://www.fafsa.ed.gov/index.htm">http://www.fafsa.ed.gov/index.htm</a><br>Application required through the Office of Vocational Rehabilitation<br>Questions? Contact the Office of Vocational Rehabilitation                        | Prior to start of aid year                                                                  |

| <b>LOANS</b>                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|
| All students applying for Federal, State, and Wilkes loans <i>must first complete and file</i> the Free Application for Federal Student Aid (FAFSA).<br>The FAFSA must be filed <i>prior</i> to application for all loans.<br>For information and a copy of the application form, go to: <a href="http://www.fafsa.ed.gov/index.htm">http://www.fafsa.ed.gov/index.htm</a> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                  |
| <b>Loan</b>                                                                                                                                                                                                                                                                                                                                                                | <b>Criteria, Qualifications, Requirements, Application(s), and Information</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <b>Filing Deadline</b>                                                                                           |
| Federal Nursing Student Loan                                                                                                                                                                                                                                                                                                                                               | FAFSA <a href="http://www.fafsa.ed.gov/index.htm">http://www.fafsa.ed.gov/index.htm</a><br>No additional application required.<br>Based on major and extreme financial need.<br>Limited funds available.<br>Questions? Contact the Wilkes Student Services Center                                                                                                                                                                                                                                                                                                                                                                                                                                               | Upperclassmen priority deadline – May 1<br><br>Incoming student priority deadline – March 1                      |
| Gulf Oil Loan                                                                                                                                                                                                                                                                                                                                                              | FAFSA <a href="http://www.fafsa.ed.gov/index.htm">http://www.fafsa.ed.gov/index.htm</a><br>No additional application required.<br>Based on extreme financial need.<br>Limited funds available.<br><b>The Gulf Oil Loan is offered at the discretion of the Financial Aid Director.</b><br>Contact the Wilkes Student Services Center                                                                                                                                                                                                                                                                                                                                                                            | Upperclassmen priority deadline – May 1<br><br>Incoming student priority deadline – March 1                      |
| Rullison Evans Loan                                                                                                                                                                                                                                                                                                                                                        | FAFSA <a href="http://www.fafsa.ed.gov/index.htm">http://www.fafsa.ed.gov/index.htm</a><br>No additional application required.<br>Based on extreme financial need.<br>Limited funds available.<br><b>The Rullison Evans Loan is offered at the discretion of the Financial Aid Director.</b><br>Contact the Wilkes Student Services Center                                                                                                                                                                                                                                                                                                                                                                      | Upperclassmen priority deadline – May 1<br><br>Incoming student priority deadline – March 1                      |
| Federal Direct Stafford Loan                                                                                                                                                                                                                                                                                                                                               | FAFSA <a href="http://www.fafsa.ed.gov/index.htm">http://www.fafsa.ed.gov/index.htm</a><br>Online Student Loan Entrance Counseling: First-time borrowers must complete Federal Student Loan Entrance Counseling at <a href="https://studentloans.gov/myDirectLoan/index.action">https://studentloans.gov/myDirectLoan/index.action</a><br>First-time borrowers must complete the loan application process and Master Promissory Note (MPN) through the Federal Direct Loan Program. The MPN is good for ten years as long as lender participates in the program and student remains enrolled.<br>Contact the Wilkes Student Services Center                                                                     | Six to eight weeks prior to need for loan proceeds                                                               |
| Federal Direct Unsubsidized Stafford Loan                                                                                                                                                                                                                                                                                                                                  | FAFSA <a href="http://www.fafsa.ed.gov/index.htm">http://www.fafsa.ed.gov/index.htm</a><br>Online Student Loan Entrance Counseling: First-time borrowers must complete Federal Student Loan Entrance Counseling at <a href="https://studentloans.gov/myDirectLoan/index.action">https://studentloans.gov/myDirectLoan/index.action</a><br>First-time borrowers must complete the loan application process and Master Promissory Note (MPN) through the Federal Direct Loan Program. The MPN is good for ten years as long as lender participates in the program and student remains enrolled.<br>Contact the Wilkes Student Services Center                                                                     | Six to eight weeks prior to need for loan funds                                                                  |
| Federal Direct Parent Loan for Undergraduate Students (PLUS)                                                                                                                                                                                                                                                                                                               | FAFSA <a href="http://www.fafsa.ed.gov/index.htm">http://www.fafsa.ed.gov/index.htm</a><br>Federal Direct PLUS Loan Application to be completed annually<br>Online Student Loan Entrance Counseling – First-time borrowers must complete Federal Direct Student Loan Entrance Counseling at <a href="https://studentloans.gov/myDirectLoan/index.action">https://studentloans.gov/myDirectLoan/index.action</a><br>First-time borrowers must complete the loan application process and Master Promissory Note (MPN) through the Federal Direct Loan Program. The MPN is good for ten years as long as lender participates in the program and student remains enrolled.<br>Contact Wilkes Student Service Center | Apply on or after July 1 for the aid year<br><br>OR<br><br>Apply six to eight weeks prior to need for loan funds |
| Federal Direct Graduate PLUS Loan (Graduate level loan for independent students)                                                                                                                                                                                                                                                                                           | FAFSA <a href="http://www.fafsa.ed.gov/index.htm">http://www.fafsa.ed.gov/index.htm</a><br>Online Student Loan Entrance Counseling – First-time borrowers must complete Federal Direct Student Loan Entrance Counseling at <a href="https://studentloans.gov/myDirectLoan/index.action">https://studentloans.gov/myDirectLoan/index.action</a><br>Federal Direct Graduate PLUS Loan application must be completed annually. First-time borrowers must complete a Master Promissory Note (MPN) through the Federal Direct Loan Program.<br>Contact the Wilkes Student Services Center                                                                                                                            | Apply on or after July 1 for the aid year<br><br>OR<br><br>Apply six to eight weeks prior to need for loan funds |

| <b>STUDENT EMPLOYMENT</b>                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                    |                                   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|
| <p>All students applying for Federal, State, and Wilkes work-study programs <i>must first complete and file</i> the Free Application for Federal Student Aid (FAFSA). The FAFSA must be filed <i>prior to</i> application for all work-study programs.<br/>           For information and a copy of the application form, go to: <a href="http://www.fafsa.ed.gov/index.htm">http://www.fafsa.ed.gov/index.htm</a></p> |                                                                                                                                                                                                                                                                                                    |                                   |
| <b>Program</b>                                                                                                                                                                                                                                                                                                                                                                                                         | <b>Criteria, Qualifications, Requirements, Application(s), and Information</b>                                                                                                                                                                                                                     | <b>Filing Deadline</b>            |
| Federal College Work-Study Program                                                                                                                                                                                                                                                                                                                                                                                     | FAFSA <a href="http://www.fafsa.ed.gov/index.htm">http://www.fafsa.ed.gov/index.htm</a><br>Wilkes Position Hiring Form to be completed during the hiring process<br>Verified Employment documents: I-9; W4 forms<br>Questions? Contact the Wilkes Student Services Center                          | Prior to beginning work on campus |
| State College Work-Study Program                                                                                                                                                                                                                                                                                                                                                                                       | FAFSA <a href="http://www.fafsa.ed.gov/index.htm">http://www.fafsa.ed.gov/index.htm</a><br>State Work-Study Program Application<br>Verified Employment documents: I-9; W4 forms<br>Questions? Contact the Wilkes Student Services Center                                                           | Prior to beginning work campus    |
| Institutional Employment Program                                                                                                                                                                                                                                                                                                                                                                                       | Limited positions available based on funding for those students who do not qualify for Federal Work-Study funds<br>Wilkes Position Hiring Form to be completed during the hiring process<br>Verified Employment documents: I-9; W-4 forms<br>Questions? Contact the Wilkes Student Services Center | Prior to beginning work on campus |

## ACADEMIC MATTERS

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General Information

Academic Policies and Procedures

Academic Requirements and Regulations

Academic Resources and Support Services

Degree Programs and Curricula

## Academics

### General Information for Students

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 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.

### 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 program in Nursing is approved by the Pennsylvania State Board of Nurse Examiners and is accredited by the Commission on Collegiate Nursing Education (One Dupont Circle, N.W., Suite 530/Washington, DC 20036-1120). 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.

### 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 Intersession is offered in 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 College of Graduate and Professional Studies for specific course and scheduling information. Please request special summer discount information through the College of Graduate and Professional Studies at (570) 408-4235.

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

For a copy of the 2011-12 Approved Academic Calendar, go to the end of this bulletin or click [Calendar](#).

### 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. Evening course work is available in Accounting, Art, Business Administration, Communication Studies, Computer Science, Economics, Education, Electrical Engineering, Environmental Engineering, History, Mathematics, Nursing, Political Science, Psychology, and Sociology.

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 College of Graduate and Professional Studies at (570) 408-4235.

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 College of Graduate and Professional Studies at (570) 408-4235. Complete information about graduate, professional, post-baccalaureate, and continued learning opportunities is available on the Wilkes University Web site at <http://www.wilkes.edu/graduatestudies>.



## **Academic Policies and Procedures**

### **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; a late registration fee may be assessed for failure to register during the official registration period (see "Student Expenses" in the Financial Matters section of this bulletin). 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 Student Services Center.

### **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*.

### **Student Course Load**

Full-time students may register for 12-18 credits in a single semester. No student shall be allowed to carry more than 18 credits without the written approval of his or her advisor and the Dean of Students. Students who register for, attempt, or complete fewer than 12 credits in any one semester shall be considered "part-time" students. Students should be aware that student load status (full- or part-time) affects eligibility for financial aid.

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

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

### **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 of major. Change-of-major forms are available in the Student Services Center.

### **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 Student Services Center.

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.**

## 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 Student Services Center. 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 10<sup>th</sup> 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 Student Services Center, 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 10 <sup>th</sup> week of semester (66% of course completed) | After 10 <sup>th</sup> week (greater than 66% of course completed)          |
| First and Second Summer session (20 class-day duration) | End of second day of class               | End of 14 <sup>th</sup> day of class                               | After 14 <sup>th</sup> day of class                                         |
| 9-week evening Summer session (18 class-day duration)   | End of the second day of class           | End of the 12 <sup>th</sup> day of class                           | After the 12 <sup>th</sup> day of class                                     |
| Pre-session (15 class-day duration)                     | End of the first day of class            | End of the 10 <sup>th</sup> day of class                           | After the 10 <sup>th</sup> 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 Student Services Center, 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*).

### **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*.

# Academic Requirements and Regulations

## 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.

1. 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.

2. Collusion: improper collaboration with another in preparing assignments, computer programs, or in the completion of quizzes, tests, and examinations.
3. Cheating: giving improper or unauthorized aid to another in the completion of academic tasks or receiving such aid from another person or other source.

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.

## 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 circumstances beyond their control, have been unable to satisfy all course requirements, including the final examination, by the end of the term. When a grade of “X” (Incomplete) 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.

## 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

- 15 hours of classroom contact, plus appropriate outside preparation; 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.

### GRADE POINT AVERAGES

The grade point average (GPA) is calculated according to a formula by which the total number of quality points (qp) 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:

| Course                       | Credit Hours<br>Attempted |   | Grade<br>Earned | Quality Points | Credit Hours<br>Passed |
|------------------------------|---------------------------|---|-----------------|----------------|------------------------|
| COM 101                      | 3.0                       | x | 4.00            | = 12.0         | 3.0                    |
| FR 101                       | 3.0                       | x | 3.00            | = 9.0          | 3.0                    |
| HST 101                      | 3.0                       | x | 1.50            | = 4.5          | 3.0                    |
| MUS 101                      | 3.0                       | x | 2.50            | = 7.5          | 3.0                    |
| PSY 101                      | 3.0                       | x | 0.00            | = 0.0          | 0.0                    |
|                              | 15.0                      |   |                 | 33.0           | 12.0                   |
| Total credit hours attempted |                           | = | 15.0            |                |                        |
| Total credit hours passed    |                           | = | 12.0            |                |                        |
| Total quality points earned  |                           | = | 33.0            |                |                        |
| GPA (33qp/15 hrs. attempted) |                           | = | 2.2             |                |                        |

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 a course in which a grade of 1.5 or lower is earned; if the course is completed a second time with a higher grade, the higher grade, if earned at Wilkes, will be “included”; that is, the higher grade will be used to calculate the 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 “0.00” 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 Student Services Center.

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.

**IMPORTANT:** 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.

## Academic Honors and Awards

### THE DEAN'S LIST

The faculty of Wilkes University grants recognition for work of the highest quality. Students who earn a semester GPA of 3.40 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 the following:

|                                          |                                    |
|------------------------------------------|------------------------------------|
| 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.

### Academic Credit for Demonstrated Competency

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

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

### ADVANCED PLACEMENT PROGRAM

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

## **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.

## **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.

## **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.

## **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

1. The student must be admitted to Wilkes University and enrolled in a degree program of the University.
2. 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
  - a. departmental challenge exams;
  - b. CLEP subject area (not general) exams;
  - c. Credit for military experience;
  - d. RN validation of prior learning; and
  - e. Advanced Placement (AP) exams.
3. Experiential learning credit will not be awarded for
  - a. courses taken or credit awarded at another institution and accepted for transfer to Wilkes;
  - b. courses taken at another institution but not accepted for transfer to Wilkes; and
  - c. credit for life experience awarded by another college or university.
4. 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
  - a. complete 60 credits at a baccalaureate degree-granting institution (including experiential learning credits awarded by Wilkes);
  - b. complete a minimum of 30 credits at Wilkes;
  - c. complete at least one-half of the major field credits at Wilkes; and
  - d. meet all graduation requirements approved by the Faculty of the University.
5. Credits awarded for experiential learning may not exceed 12 credit hours.
6. 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

1. 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;
2. complete the “Experiential Learning Intent to Petition” form and submit one copy to each of the following:
  - a. the Prior Learning Assessment Coordinator;
  - b. the academic advisor;
  - c. the dean of the college in which the course is delivered for which credit is requested; and
  - d. the chair of the department or division in which the course is delivered for which credit is requested
3. 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.

4. prepare, in consultation with the academic advisor, the “Petition,” which includes the following:
  - a. 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)
  - b. Evaluation and Signature Page
  - c. Specific Requests and Justification (Narrative)
    - A coherent and comprehensive narrative *of not more than five typewritten pages* forms the basis for the request and must include a detailed and substantive discussion of the experiences to be considered and the specific learning acquired and developed by means of these experiences. The student must demonstrate that the knowledge, skills, and values acquired experientially addresses the student learning outcomes of the course for which credit is sought;
    - documentation of learning acquired and developed experientially must accompany the narrative (examples may include letters or performance reports from supervisors, copies of papers written, reviews of scholarly work, performances, or artistic exhibitions, programs, samples of work, and the like);

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

5. register the “Petition” with the Office of Prior Learning Assessment not later than the first week of the fall or spring semester.

The Office of Prior Learning Assessment 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.

## **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.

No student shall be graduated 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*.

**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

|                                              |       |
|----------------------------------------------|-------|
| <i>Summa cum laude</i> (with highest honors) | 3.800 |
| <i>Magna cum laude</i> (with high honors)    | 3.600 |
| <i>Cum laude</i> (with honors)               | 3.400 |

Grade point averages are not rounded for Degree Honors.

# Academic Resources and Support Services

## 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 200,000 volumes of books and bound journals, 7000 electronic books, over 430 journals and newspaper subscriptions, 45,000 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 68 desktop computers, fourteen wireless laptops, and four iPads that can be used anywhere within the library's wireless environment. Farley Library is home to the newly constructed 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, the University Teaching Commons, and the Information Technology Computer Clinic and Help Desk. The library also offers limited private office study space for graduate students.

Library hours during the academic year are from 8:00 am to 12:00 midnight, Sunday through Thursday, 8:00 am – 5:00 pm on Friday, and 11:00 am to 6:00 pm on Saturday. 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 Keystone College, King's College, Luzerne County Community College, Marywood University, Misericordia 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—ENCORE. 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 audio-visual 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 anticipated 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 interpretative documents are available at the Circulation Desk.
8. Online searching of auxiliary databases to support faculty research is available by appointment through the Reference Department.

### 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, Monday through Friday, 8:30 am – 4:30 pm.

### 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. Many additional books that support the pharmacy curriculum, however, are housed in the Farley Library and non-reference titles may be borrowed from the Library. 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 through Thursday from 8:00 am to 5:30 pm and Friday from 8:00 am to 4:00 pm. The PIC follows the University holiday schedule. The library is available only until 4:00 pm.

Telephone: (570) 408-4286.

#### *PIC Regulations*

1. Books, periodicals, and reserve materials may not be taken from the center.
2. Smoking, 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 the center.

*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.

## Degree Programs and Curricula

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

### INSTITUTIONAL STUDENT LEARNING OUTCOMES

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

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

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

### 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.

### 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 five identified Skill Areas—Written Communication; Oral Communication; Quantitative Reasoning; Critical Thinking; and Computer Literacy.

### THE WILKES UNIVERSITY GENERAL EDUCATION CURRICULUM STUDENT LEARNING OUTCOMES FOR THE SKILLS AREAS

**WRITTEN COMMUNICATION:** Students will use written communication to

- create both simple and complex verbal constructs in written formats and multiple genres that conform to the grammatical and syntactical rules and principles of standard American English;
- synthesize and evaluate learned and acquired information and give proper attribution for sources; [and]
- communicate thoughts, ideas, and acquired information clearly, effectively, and purposefully, with diverse audiences.

**ORAL COMMUNICATION:** Students will use oral communication skills to

- conform to the grammatical and syntactical rules of standard American English;
- convey information, thoughts, and ideas clearly, effectively, and purposefully, with diverse audiences; [and]
- argue a point persuasively.

**QUANTITATIVE REASONING:** Students will use quantitative reasoning to

- create, construct, and present data graphically (simply stated, to make a graph);
- solve problems using algebraic methods;
- summarize and evaluate data using simple statistics; [and]
- analyze non-numerical problems to develop numerical solutions.

**CRITICAL THINKING:** Students will use critical thinking to

- recall relevant information accurately;
- paraphrase relevant information to explain concepts;
- apply information to new contexts;
- analyze information;
- synthesize new information from multiple sources; [and]
- evaluate information to formulate and support a position.

**COMPUTER LITERACY:** Students will use computer technology in a responsible manner to

- create a document;
- solve a numerical problem;
- query information;
- present information; [and]
- communicate effectively.

Four of these Skills 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.

*All students will be tested in Skills Areas and placed at the appropriate proficiency level. Students may opt or test out of each skill requirement by demonstrating competency through means designated by the department responsible for each Skill Area. Departments also will offer diagnostic test(s) for each Skill Area as well as offer guidelines for practice courses in 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 may 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 student’s program of study.

IV. Quantitative Reasoning

Completion of MTH 101 (Solving Problems Using Mathematics) or higher

minimum 3 credit hours

**FIRST-YEAR FOUNDATIONS**

**0/3 CREDITS HOURS**

Completion of a First-Year Foundations (FYF) course

3 credit hours

Students who have completed 23 or fewer credit hours earned in a college classroom when they matriculate at the University are required to complete a 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 a FYF course. A student may earn academic credit toward graduation for only one FYF course.

**DISTRIBUTION AREAS****24 CREDIT HOURS****Area I: The Humanities****minimum 9 credit hours**

## Student Learning Outcomes in the Humanities

Students will

- apply practical and critical reasoning skills when solving problems by identifying key issues and demonstrating consideration of and sensitivity to diverse perspectives before rendering a decision (critical judgment);
- analyze problems by considering diverse and varying forms of evidence and multiple perspectives within historical and sociological contexts (historical perspective);
- identify their own ethical codes and those of others with differing perspectives (ethical awareness);
- demonstrate the ability to frame analyses with sound ethical reasoning and defend their position using persuasive argument (ethical awareness);
- exhibit an awareness of the diversity and complexity of human cultural expression (aesthetic expression);
- demonstrate the ability to speak and write effectively in languages, including, but not restricted to, standard American English (linguistic awareness); and
- exhibit critical and analytical thinking in their writing (skills).

Student 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

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

- identify and describe how science affects current issues and the environment;
- locate and evaluate scientific literature;
- apply scientific facts in an ethical manner;
- present scientific concepts effectively;
- use data analysis to evaluate physical and natural systems; and
- distinguish between data and speculation and explain how scientific ideas evolve as new data accumulates.

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 or CHM 115 (plus CHM 113)                       |
| 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 may 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

- explain the relative merits of differing social science theories;
- compare and contrast methods of the social sciences with those of other fields, focusing on how quantitative and qualitative analyses inform these fields;
- identify factors that shape human behavior, how society influences the individual, and how the individual influences society; and
- explain the relationship of economic and political institutions in shaping individuals and society.

Student 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 may 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 achieve at least two of the three identified outcomes. Students will

- create, recreate, or critique works of art;
- analyze, critique, and evaluate archetypal works of art from a sampling of representative world cultures in written and oral formats, using methodologies and vocabularies appropriate to the specific artistic discipline studied; and
- explain in written and oral formats the rich and diverse legacy of human thought and creativity in the arts and articulate the role and value of the arts in society and in one's own life.

Students must complete one (1) of the four (4) courses listed below in order to satisfy the requirements for Distribution Area IV: The Visual and Performing Arts.

ART 101 – Experiencing Art  
DAN 100 – Dance Appreciation: Comprehensive Dance Forms  
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 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 requirement will not add credit hours to most students' programs of study.

**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                | Political Science |
| Chemistry                                | Individualized Studies | Psychology        |
| Communication Studies                    | Integrative Media      | Sociology         |
| Computer Science                         | International Studies  | Spanish           |
| Criminology                              | Mathematics            | Theatre Arts      |
| Earth and Environmental Sciences         | Middle Level Education |                   |
| Elementary and Early Childhood Education | Musical Theatre        |                   |

**BACHELOR OF BUSINESS ADMINISTRATION DEGREE**

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

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

## **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.

## **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 admissions to graduate or professional schools; or to enhance, refine, and further develop specific skills.

## **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 Student Services Center.

## **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 Student Services Center. It is the student's responsibility to secure the approval of the chairpersons of both departments and to ensure that all requirements of the two majors are fulfilled.

## **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.

## **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 <http://www.wilkes.edu/graduatestudies>.

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

## **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 College of Graduate and Professional Studies.

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 College of Graduate and Professional Studies.

## **EVENING OPPORTUNITIES**

The Evening program is designed to meet the needs of students who cannot attend daytime classes but who wish to pursue or complete a degree. Evening courses generally meet one or two nights per week during the academic year and two nights per week during the nine-week Evening Summer Session. Course work is available in Accounting, Art, Business Administration, Communication Studies, Computer Science, Economics, Education, Electrical Engineering, Environmental Engineering, History, Mathematics, Nursing, Political Science, Psychology, and Sociology.



These flexible classroom offerings provide upper-division courses on campus and enable graduates of accredited two-year institutions to complete bachelor's degrees in certain majors by taking courses beyond the traditional daytime hours. Many of the above-listed subjects lead to degree completion. Inquiries about these programs should be directed to the College of Graduate and Professional Studies.

### **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 College of Graduate and Professional Studies for specific course and scheduling information. Please request special summer discount information through the College of Graduate and Professional Studies at (570) 408-4235.

### **GRADUATE, POST-BACCALAUREATE, AND CERTIFICATE PROGRAMS**

Wilkes University continues to expand its role in post-baccalaureate offerings. Please call the College of Graduate and Professional Studies 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 College of Graduate and Professional Studies.

### **ADVANCED PLACEMENT SUMMER INSTITUTE**

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

### **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 College of Graduate and Professional Studies.

# COLLEGE OF ARTS, HUMANITIES, AND SOCIAL SCIENCES

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Division of Behavioral and Social Sciences

Department of Communication Studies

Division of Humanities

Department of Integrative Media and Art

Division of Performing Arts

# College of Arts, Humanities, and Social Sciences

Dean: Dr. Linda A. Winkler

## 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 Dart 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  
Humanities  
Integrative Media and Art  
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)             |
| Economics (minor only) | Political Science                       |
| Economics              | Psychology                              |
| English                | Sociology                               |
| History                | Spanish                                 |
| Integrative Media      | Theatre Arts                            |
| International Studies  | Women's and Gender Studies (minor only) |
| Music (minor only)     |                                         |

## Division of Behavioral and Social Sciences

Chairperson: Dr. Kyle Kreider

### Faculty

Professors: Baldino, Bohlander, Charnetski, Garr, Merryman  
Associate Professors: Kreider, Schicatano, Seeley, Thomas, Tindell, Tuttle  
Assistant Professors: Miller, Selden, Wilczak  
Faculty Emeriti: DeYoung, Farrar, Natzke, Stetten, Tuhy

### CRIMINOLOGY

Coordinator: Dr. Robert C. Tuttle

**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, Psychopathology, 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 45 hours, including introductory courses (12 hours), criminology core courses (21 hours), major electives (9 hours), and a capstone course (3 hours).

| <b>Introductory Courses (12 hours)</b>                                   | <b>Credits</b> |
|--------------------------------------------------------------------------|----------------|
| PS 233 – Law and Society                                                 | 3              |
| EC 102 – Microeconomics                                                  | 3              |
| PSY 101 – General Psychology                                             | 3              |
| SOC 101 – Introduction to Sociology                                      | 3              |
| <b>Criminology Core Courses (21 hours)</b>                               | <b>Credits</b> |
| EC 320 – Economics of Crime                                              | 3              |
| PS 232 – Criminal Law                                                    | 3              |
| PSY 242 – Personality                                                    | 3              |
| PSY 352 – Psychopathology                                                | 3              |
| <i>or</i>                                                                | 3              |
| PSY 355 – Forensic Psychology                                            | 3              |
| SOC 222 – Criminology                                                    | 3              |
| PS 261 – Concepts and Methods in Political Science                       | 3              |
| <i>or</i>                                                                | 3              |
| SOC 371 – Methods of Social Research                                     | 3              |
| PS 265 <i>or</i> SOC 373 – Quantitative Reasoning in the Social Sciences | 3              |
| <b>Major Electives (9 hours)</b>                                         | <b>Credits</b> |
| PS 332 – Civil Rights and Liberties                                      | 3              |
| PSY 352 – Psychopathology                                                | 3              |
| <i>or</i>                                                                | 3              |
| PSY 355 – Forensic Psychology                                            | 3              |
| SOC 215 – Family Violence                                                | 3              |
| SOC 223 – Drugs and Alcohol in American Society                          | 3              |
| SOC 225 – Juvenile Delinquency                                           | 3              |
| SOC 226 – Corrections, Probation, and Parole                             | 3              |
| SOC 228 – Deviance and Social Control                                    | 3              |
| SOC 235 – Corrections Counseling                                         | 3              |
| <b>Senior Capstone (3 hours)</b>                                         | <b>Credits</b> |
| SOC 390 – Senior Capstone in Sociology                                   | 3              |

**CRIMINOLOGY MAJOR  
REQUIRED COURSES AND RECOMMENDED COURSE SEQUENCE**

| <b>First Semester</b>               | <b>Credits</b> | <b>Fifth Semester</b>                              | <b>Credits</b> |
|-------------------------------------|----------------|----------------------------------------------------|----------------|
| Distribution Requirement*           | 3              | Distribution Requirements                          | 6              |
| ENG 101 – Composition <i>or</i>     | 4              | EC 320 – Economics of Crime                        | 3              |
| Distribution Requirement            | 3              | PS 232 Criminal Law                                | 3              |
| FYF 101 – First-Year Foundations    | 3              | Free Elective                                      | 3              |
| SOC 101 – Introduction to Sociology | 3              | <b>Total Credits</b>                               | <b>15</b>      |
| PSY 101 – General Psychology        | 3              |                                                    |                |
| <b>Total Credits</b>                | <b>15 - 16</b> | <b>Sixth Semester</b>                              |                |
|                                     |                | Distribution Requirement                           | 3              |
| <b>Second Semester</b>              |                | Major Elective                                     | 3              |
| Distribution Requirements           | 6              | Free Elective                                      | 3              |
| ENG 101 – Composition <i>or</i>     | 4              | PSY 352 – Psychopathology <i>or</i>                |                |
| Distribution Requirement            | 3              | PSY 355 – Forensic Psychology                      | 3              |
| Major Elective                      | 3              | SOC 371 – Methods of Social Research <i>or</i>     |                |
| Free Elective                       | 3              | PS 261 – Concepts and Methods in Political Science | 3              |
| <b>Total Credits</b>                | <b>15 - 16</b> | <b>Total Credits</b>                               | <b>15</b>      |
|                                     |                |                                                    |                |
| <b>Third Semester</b>               |                | <b>Seventh Semester</b>                            |                |
| Distribution Requirement            | 3              | Free Electives                                     | 12             |
| Free Electives                      | 6              | SOC 373 <i>or</i> PS 265 – Quantitative            |                |
| SOC 222 – Criminology               | 3              | Reasoning in the Social Sciences                   | 3              |
| PSY 242 – Personality               | 3              | <b>Total Credits</b>                               | <b>15</b>      |
| <b>Total Credits</b>                | <b>15</b>      |                                                    |                |
|                                     |                | <b>Eighth Semester</b>                             |                |
| <b>Fourth Semester</b>              |                | Free Electives                                     | 11             |
| Distribution Requirement            | 3              | SOC 390 <i>or</i> PS 390 Senior Capstone           | 3              |
| EC 102 – Microeconomics             | 3              | <b>Total Credits</b>                               | <b>14</b>      |
| Free Elective                       | 3              |                                                    |                |
| Major Elective                      | 3              |                                                    |                |
| PS 233 – Law and Society            | 3              |                                                    |                |
| <b>Total Credits</b>                | <b>15</b>      |                                                    |                |

\*See the General Education Curriculum for a list of courses that satisfy the Distribution Requirements

**FIVE-YEAR CRIMINOLOGY/M.B.A. PROGRAM**

The Criminology/M.B.A. Program at Wilkes University offers students a unique opportunity to combine training in both criminology and business. It allows individuals to not only explore the causes and consequences of crime but also develop skills in leadership, management, and entrepreneurship that will enable them to have a distinctive edge in the job market.

Students completing the Criminology/M.B.A. program would be qualified for a number of careers including administration of justice, corrections (probation, parole, corrections counseling, etc.), and law enforcement (FBI, DEA, ICE, ATF, and state and local police agencies, etc.). Graduates will be in a position to have administrative or managerial roles in many of these areas. The program also enhances advanced study opportunities for students interested in law school or graduate school.

The program requires the standard 120 credits for completion of the Bachelor of Arts (B.A.) degree in Criminology and 48 credits for the Master of Business Administration (M.B.A.) degree. However, students may utilize elective credits within the Criminology curriculum to take courses that will fulfill several credits required for the M.B.A. Upon completion of the B.A. in Criminology, student may participate in three 12-credit trimesters in the summer, fall, and spring to complete the M.B.A. degree.

**CRIMINOLOGY MAJOR**  
**REQUIRED COURSES AND RECOMMENDED COURSE SEQUENCE FOR STUDENTS WHO WISH TO PURSUE THE**  
**MASTER OF BUSINESS ADMINISTRATION DEGREE**

| <b>First Semester</b>                               | <b>Credits</b> | <b>Fifth Semester</b>                           | <b>Credits</b> |
|-----------------------------------------------------|----------------|-------------------------------------------------|----------------|
| Distribution Requirement*                           | 3              | BA 321 – Marketing**                            | 3              |
| ENG 101 – Composition <i>or</i>                     | 4              | Distribution Requirements                       | 6              |
| Distribution Requirement                            | 3              | EC 320 – Economics of Crime                     | 3              |
| FYF 101 – First-Year Foundations                    | 3              | PS 232 Criminal Law**                           | 3              |
| SOC 101 – Introduction to Sociology                 | 3              | <b>Total Credits</b>                            | <b>15</b>      |
| PSY 101 – General Psychology                        | 3              |                                                 |                |
| <b>Total Credits</b>                                | <b>15 - 16</b> | <b>Sixth Semester</b>                           |                |
|                                                     |                | Distribution Requirement                        | 3              |
| <b>Second Semester</b>                              |                | Free Elective                                   | 3              |
| Distribution Requirements                           | 6              | Major Elective                                  | 3              |
| ENG 101 – Composition <i>or</i>                     | 4              | PSY 352 – Psychopathology <i>or</i>             |                |
| Distribution Requirement                            | 3              | PSY 355 – Forensic Psychology                   | 3              |
| Major Elective                                      | 3              | SOC 371 – Methods of Social Research <i>or</i>  |                |
| Free Elective                                       | 3              | PS 261 – Concepts and Methods in Political**    | 3              |
|                                                     |                | Science                                         |                |
| <b>Total Credits</b>                                | <b>15 - 16</b> | <b>Total Credits</b>                            | <b>15</b>      |
|                                                     |                |                                                 |                |
| <b>Third Semester</b>                               |                | <b>Seventh Semester</b>                         |                |
| ACC 161 – Financial Acct. & Decision-Making**       | 3              | BA 257 – Management Information Systems**       | 3              |
| Distribution Requirement                            | 3              | BA 341 – Managerial Finance**                   | 3              |
| EC 101 – Principles of Economics                    | 3              | BA 351 – Management of Organizations & People** | 3              |
|                                                     |                | BA 358 – International Business**               | 3              |
| SOC 222 – Criminology                               | 3              | SOC 373 <i>or</i> PS 265 – Quantitative         |                |
| PSY 242 – Personality                               | 3              | Reasoning for the Social Sciences**             | 3              |
| <b>Total Credits</b>                                | <b>15</b>      | <b>Total Credits</b>                            | <b>15</b>      |
|                                                     |                |                                                 |                |
| <b>Fourth Semester</b>                              |                | <b>Eighth Semester</b>                          |                |
| ACC 162 – Managerial Accounting & Decision-Making** | 3              | BA 352 – Prod. & Operations Management**        | 3              |
| Distribution Requirement                            | 3              | Free Electives                                  | 8              |
| EC 102 – Microeconomics**                           | 3              | SOC 390 <i>or</i> PS 390 Senior Capstone        | 3              |
| Major Elective                                      | 3              | <b>Total Credits</b>                            | <b>14</b>      |
| PS 233 – Law and Society                            | 3              |                                                 |                |
| <b>Total Credits</b>                                | <b>15</b>      |                                                 |                |

\*See General Education Curriculum for a list of courses that satisfy the Distribution Requirements

\*\*If the student earns a grade of at least a 3.0, this course fulfills the requirements of a foundation course for the Wilkes M.B.A. program.

**CRIMINOLOGY MINOR**

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>          | <b>Credits</b> |
|-----------------------------------------------------|----------------|
| EC 320 – Economics of Crime*                        | 3              |
| <b>Content Area II: Political Science (3 hours)</b> | <b>Credits</b> |
| PS 232 – Criminal Law                               | 3              |
| PS 233 – Law and Society                            | 3              |
| PS 332 – Civil Rights and Liberties*                | 3              |
| <b>Content Area III: Psychology (3 hours)</b>       | <b>Credits</b> |
| PSY 352 – Psychopathology*                          | 3              |
| PSY 355 – Forensic Psychology*                      | 3              |
| <b>Content Area IV: Sociology (3 hours)</b>         | <b>Credits</b> |
| SOC 215 – Family Violence*                          | 3              |
| SOC 223 – Drugs and Alcohol in American Society*    | 3              |
| SOC 224 – Corrections, Probation, and Parole        | 3              |
| SOC 225 – Juvenile Delinquency                      | 3              |
| SOC 228 – Deviance and Social Control               | 3              |
| SOC 235 – Corrections Counseling                    | 3              |

\*Students must complete all course prerequisites.

**ECONOMICS**  
**(MINOR ONLY)**

**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.

## INTERNATIONAL STUDIES

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

**Total minimum number of credits required for a minor in International Studies – 18**

The interdisciplinary major in International Studies (I.S.) 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.

The total number of hours required for graduation with an International Studies major is 120, of which 45 are within the major. For the International Studies major, the following courses at the introductory level are required: History (HST) 101; Economics (EC) 101-102; Political Science (PS) 141, 151, 261; Anthropology (ANT) 102; Earth and Environmental Sciences (EES) 105\*; International Studies (IS) 380; and Foreign Language (FL) at the 203-204 level of competency or equivalent.

Students are also required to take 15 content hours. Students will select three content areas and take a minimum of 6 hours within any two content areas. Nine (9) credits from the content areas must be at the 300-level or above. Specific courses contributing to one of these concentrations and the I.S. requirements will be worked out with the I.S. coordinator and may include courses taken while studying abroad at another institution.

\*Only EES 105, “The Global Environment,” will count towards the I.S. major.

### INTERNATIONAL STUDIES MAJOR: CONTENT AREAS AND MAJOR ELECTIVES

| <b>Content Area I: Political Science</b>                       | <b>Credits</b> |
|----------------------------------------------------------------|----------------|
| PS 242 – International Law and Organizations                   | 3              |
| PS 251 – European Politics                                     | 3              |
| PS 350 – Comparative Politics                                  | 3              |
| <b>Content Area II: History</b>                                | <b>Credits</b> |
| HST 328 – History of the Foreign Policy of the United States   | 3              |
| HST 341-342 – 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: International Business and Economics</b>  | <b>Credits</b> |
| BA 358 – International Business                                | 3              |
| <b>Content Area IV: Anthropology</b>                           | <b>Credits</b> |
| ANT 101 – Introduction to Anthropology                         | 3              |
| ANT 211 – Anthropology through Film                            | 3              |
| ANT 212 – Peoples and Cultures of the World                    | 3              |
| <b>Content Area V: Languages</b>                               | <b>Credits</b> |
| ENG 233 – Survey of British Literature I                       | 3              |
| ENG 234 Survey of British Literature II                        | 3              |
| ENG 350 – Studies in the English Novel                         | 3              |
| ENG 353 – Studies in Postcolonial Literature                   | 3              |
| ENG 370 – Modern British Poetry                                | 3              |
| SP 205 – Conversation                                          | 3              |
| SP 206 – Advanced Grammar, Stylistics, and Composition         | 3              |
| SP 208 – Culture and Civilization                              | 3              |
| SP 209 – Latin American Culture and Civilization               | 3              |
| SP 210 – Spanish for Business                                  | 3              |
| SP 211 – Conversational Spanish for Health and Social Services | 3              |
| SP 212 – Non-Literary Translation                              | 3              |
| SP 220 – Spanish Listening and 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              |
| <b>Content Area VI: Global Environmental Policy</b>            | <b>Credits</b> |
| EES 210 – Global Climatic Change                               | 3              |
| EES 218 – Environmental Ethics                                 | 3              |
| EES 261 – Regional Geography                                   | 3              |
| <b>Content Area VII: Intercultural Communication</b>           | <b>Credits</b> |
| COM 304 – Intercultural Communication                          | 3              |

**INTERNATIONAL STUDIES MAJOR**  
**REQUIRED COURSES AND RECOMMENDED COURSE SEQUENCE**

| <b>First Semester</b>                              | <b>Credits</b> | <b>Fourth Semester</b>                             | <b>Credits</b> |
|----------------------------------------------------|----------------|----------------------------------------------------|----------------|
| Distribution Requirement*                          | 3              | Distribution Requirements                          | 6              |
| ENG 101 – Composition <i>or</i>                    | 4              | ENG 120 – Introduction to Literature and Culture   | 3              |
| Distribution Requirement                           | 3              | Foreign Language                                   | 3              |
| EC 101 – Principles of Economics I                 | 3              | Content Hours                                      | 3              |
| FYF 101 – First-Year Foundations                   | 3              | <b>Total Credits</b>                               | <b>15</b>      |
| PS 151 – Governments of the World                  | 3              |                                                    |                |
| <b>Total Credits</b>                               | <b>15 - 16</b> | <b>Fifth Semester</b>                              |                |
|                                                    |                | Study Abroad or Free Electives**                   | 15             |
| <b>Second Semester</b>                             |                | <b>Total Credits</b>                               | <b>15</b>      |
| COM 101 – Fundamentals of Public Speaking          | 3              |                                                    |                |
| ENG 101 – Composition <i>or</i>                    | 4              | <b>Sixth Semester</b>                              |                |
| Distribution Requirement                           | 3              | Study Abroad or Free Electives**                   | 15             |
| EC 102 – Principles of Economics II                | 3              | <b>Total Credits</b>                               | <b>15</b>      |
| HST 101 – Historical Foundations of the Mod. World | 3              |                                                    |                |
| PS 141 – Introduction to International Politics    | 3              | <b>Seventh Semester</b>                            |                |
| <b>Total Credits</b>                               | <b>15 - 16</b> | Content Hours                                      | 9              |
|                                                    |                | MTH 101 – Solving Problems using Mathematics       | 3              |
| <b>Third Semester</b>                              |                | PS 261 – Concepts and Methods in Political Science | 3              |
| ANT 102 – Cultural Anthropology                    | 3              | <b>Total Credits</b>                               | <b>15</b>      |
| Distribution Requirement                           | 3              |                                                    |                |
| EES 105 – Planet Earth                             | 3              | <b>Eighth Semester</b>                             |                |
| CS 115 – Computers and Applications                | 3              | Content Hours                                      | 3              |
| Foreign Language*                                  | 3              | Free Electives                                     | 8              |
| <b>Total Credits</b>                               | <b>15</b>      | IS 380 – Senior Capstone                           | 3              |
|                                                    |                | <b>Total Credits</b>                               | <b>14</b>      |

\*These courses are required for all International Studies majors.

\*\*Students may elect to spend their junior year on campus. Courses will be selected in consultation with the International Studies Advisor.

**INTERNATIONAL STUDIES MINOR**

A minor in International Studies consists of 18 hours, including ANT 102, HST 101, and PS 151, which all students must complete. In addition, the International Studies minor must complete 9 hours from the courses listed below from at least two different Content Areas.

| <b>Content Area I: Political Science</b>                      | <b>Credits</b> | <b>Content Area V: Languages</b>                               | <b>Credits</b> |
|---------------------------------------------------------------|----------------|----------------------------------------------------------------|----------------|
| PS 141 – Introduction to International Politics               | 3              | ENG 233 – Survey of British Literature I                       | 3              |
| PS 242 – International Law and Organizations                  | 3              | ENG 234 Survey of British Literature II                        | 3              |
| PS 251 – European Politics                                    | 3              | ENG 350 – Studies in the English Novel                         | 3              |
| PS 350 – Comparative Politics                                 | 3              | ENG 353 – Studies in Postcolonial Literature                   | 3              |
| <b>Content Area II: History</b>                               | <b>Credits</b> | ENG 370 – Modern British Poetry                                | 3              |
| HST 328 – History of the Foreign Policy of the United States  | 3              | SP 101 – Elementary Spanish                                    | 3              |
| HST 341 – History of Great Britain                            | 3              | SP 102 – Elementary Spanish                                    | 3              |
| HST 342 – The British Empire and Commonwealth                 | 3              | SP 203 – Intermediate Spanish                                  | 3              |
| HST 345 – History of Northeastern Europe                      | 3              | SP 204 – Intermediate Spanish                                  | 3              |
| HST 346 – History of the Balkans                              | 3              | SP 205 – Conversation                                          | 3              |
| HST 348 – History of Russia                                   | 3              | SP 206 – Advanced Grammar, Stylistics, and Composition         | 3              |
| HST 356 – Europe, 1900-1960                                   | 3              | SP 208 – Culture and Civilization                              | 3              |
| HST 357 – The World Since 1945                                | 3              | SP 209 – Latin American Culture and Civilization               | 3              |
| HST 376 – World War II                                        | 3              | SP 210 – Spanish for Business                                  | 3              |
| <b>Content Area III: International Business and Economics</b> | <b>Credits</b> | SP 211 – Conversational Spanish for Health and Social Services | 3              |
| BA 358 – International Business                               | 3              | SP 212 – Non-Literary Translation                              | 3              |
| EC 102 – Principles of Economics II                           | 3              | SP 220 – Spanish Listening and Comprehension                   | 3              |
| EC 340 – International Trade and Finance                      | 3              | SP 301 – Introduction to Latin American Culture                | 3              |
| <b>Content Area IV: Anthropology</b>                          | <b>Credits</b> | SP 307 – Survey of Spanish Literature I                        | 3              |
| ANT 101 – Introduction to Anthropology                        | 3              | SP 308 – Survey of Spanish Literature II                       | 3              |
| ANT 211 – Anthropology through Film                           | 3              | <b>Content Area VI: Global Environmental Policy</b>            | <b>Credits</b> |
| ANT 212 – Peoples and Cultures of the World                   | 3              | EES 210 – Global Climatic Change                               | 3              |
|                                                               |                | EES 218 – Environmental Ethics                                 | 3              |
|                                                               |                | EES 261 – Regional Geography                                   | 3              |
|                                                               |                | <b>Content Area VII: Intercultural Communication</b>           | <b>Credits</b> |
|                                                               |                | COM 304 – Intercultural Communication                          | 3              |



## POLITICAL SCIENCE

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

**Total minimum number of credits required for a minor in Political Science – 18**

**Total minimum number of credits required for minor in Policy Studies – 18**

### POLITICAL SCIENCE MAJOR

A major in Political Science requires 120 hours. These include 43 hours in the University's General Education Requirements and 42 hours in Political Science. All majors must take the following courses that comprise the Core in Political Science: PS 111, 141, 151, 260, 261, 265, 380, a total of 21 credit hours. Students must then choose an additional 21 credits in Political Science of which at least 3 courses (9 credits) at the 300-level or higher.

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.

Students majoring in Political Science may receive a Pennsylvania Teaching Certificate for teaching Social Studies in grades 7 – 12. Students interested in Secondary Education should make an appointment with the chairperson of the Department of Education as early as possible in their program of study to plan their professional studies. These students will declare a minor in Secondary Education. The minor consists of the following courses: ED 180, ED 190, ED 191, ED 220, ED 380, ED 381, ED 390, EDSP 210, EDSP 225, and EDSP 388. 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 to remain in the Teacher Education Program, and pass the appropriate PRAXIS tests in order to be certified.

#### POLITICAL SCIENCE MAJOR REQUIRED COURSES AND RECOMMENDED COURSE SEQUENCE

| First Semester                                              | Credits        | Fifth Semester                                     | Credits   |
|-------------------------------------------------------------|----------------|----------------------------------------------------|-----------|
| Distribution Requirements                                   | 6              | Free Electives                                     | 6         |
| ENG 101 – Composition <i>or</i><br>Distribution Requirement | 4              | PS 261 – Concepts and Methods in Political Science | 3         |
| FYF 101 – First-Year Foundations                            | 3              | PS 200- or 300-level Elective                      | 3         |
| PS 111 – Introduction to American Politics                  | 3              | PS 300-level Elective                              | 3         |
| <b>Total Credits</b>                                        | <b>15 - 16</b> | <b>Total Credits</b>                               | <b>15</b> |
| <b>Second Semester</b>                                      |                | <b>Sixth Semester</b>                              |           |
| Distribution Requirements                                   | 9              | Free Electives                                     | 6         |
| ENG 101 – Composition <i>or</i><br>Distribution Requirement | 4              | PS 200-level Elective                              | 3         |
| PS 141 – Introduction to International Politics             | 3              | PS 200- or 300-level Elective                      | 3         |
| <b>Total Credits</b>                                        | <b>15 - 16</b> | PS 300-level Elective                              | 3         |
| <b>Third Semester</b>                                       |                | <b>Total Credits</b>                               | <b>15</b> |
| Distribution Requirements                                   | 9              | <b>Seventh Semester</b>                            |           |
| PS 151 – Governments of the World                           | 3              | Free Electives                                     | 12 or 15  |
| PS 200-level Elective                                       | 3              | PS 380 – Senior Research/Capstone*                 | 3         |
| <b>Total Credits</b>                                        | <b>15</b>      | <b>Total Credits</b>                               | <b>15</b> |
| <b>Fourth Semester</b>                                      |                | <b>Eighth Semester</b>                             |           |
| Distribution Requirements                                   | 3              | Free Electives                                     | 11 or 14  |
| Free Elective                                               | 3              | PS 380 – Senior Research/Capstone*                 | 3         |
| PS 260 – Introduction to Political Thinking                 | 3              | <b>Total Credits</b>                               | <b>14</b> |
| PS 265 – Quantitative Reasoning for Political Science       | 3              |                                                    |           |
| PS 200-level Elective                                       | 3              |                                                    |           |
| <b>Total Credits</b>                                        | <b>15</b>      |                                                    |           |

*\*Seniors must complete only one PS 380 course*

### 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.

#### ELECTIVES IN POLITICAL SCIENCE:

PS 212 – Urban Government and Politics  
PS 242 – International Law and Organization

#### ELECTIVES IN ENVIRONMENTAL ENGINEERING AND EARTH SCIENCES:

EES 105 – The Global Environment  
EES 261 – Regional Geography

### 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

|                                                  | <b>Credits</b> |
|--------------------------------------------------|----------------|
| PS 111 – Introduction to American Politics       | 3              |
| PS 141 – Introduction to International Politics  | 3              |
| PS 221 – Introduction to Public Administration   | 3              |
| PS 224 – Public Policy Analysis                  | 3              |
| PS 298/398 – Special Topics (in any policy area) | 6              |

## POLITICAL SCIENCE MINOR

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

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

**Total minimum number of credits required for a minor in Psychology – 18**

**Total minimum number of credits required for minor in Neuroscience – 28**

## PSYCHOLOGY MAJOR

**Coordinator: Dr. Deborah Tindell**

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.

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 39 credits in psychology. All students must take PSY 101 (General Psychology), PSY 200 (Research Design & Statistics I), PSY 300 (Research Design & Statistics II), and PSY 400 (Senior Capstone). PSY 101 is a prerequisite to all other psychology courses. PSY 200 should be completed prior to the junior year, PSY 300 prior to the senior year, and PSY 400 during the senior year. Students in PSY 400 will run projects proposed in PSY 300. Students will not be allowed to take PSY 400 until they have successfully completed PSY 300 and have proposed an acceptable capstone project. The student majoring in Psychology must take at least one course each from Content Areas I, II, III, and IV and at least two courses from Content Area V. The Psychology major must take either BIO 105 (Human Biology) or another biology course approved by the department. It is strongly recommended that the student take a foreign language. Students are also strongly urged to take CAR 198 during their junior year. Taking this course will waive a career component of the capstone course.

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.

The Tracking Program within the major assists students in focusing on more specific career and graduate school goals. Tracks exist in Liberal Arts, Professional, Education Psychology, and Neuroscience/Behavioral Medicine. Students will select a track, in consultation with the advisor, and complete the course requirements of that track, in addition to the general requirements of the Psychology major. Majors are also encouraged to consider the many credit-bearing cooperative education (internship) and independent study opportunities that are available. These experiences enhance the student's employment potential and graduate school opportunities.

All students majoring in Psychology must complete a common set of courses in the major:

|                                             | <b>Credits</b> |
|---------------------------------------------|----------------|
| PSY 101 – General Psychology                | 3              |
| PSY 200 – Research Design and Statistics I  | 4              |
| PSY 300 – Research Design and Statistics II | 4              |
| PSY 400 – Senior Capstone                   | 3              |

The Content Areas with their corresponding courses are as follows:

|                                                                      |                |
|----------------------------------------------------------------------|----------------|
| <b>Content Area I: Biological Foundations (minimum 4 cr.)</b>        | <b>Credits</b> |
| PSY 311 – Behavioral Neuroscience                                    | 4              |
| PSY 312 – Sensory and Perceptual Processes                           | 4              |
| <b>Content Area II: Human Development (minimum 3 cr.)</b>            | <b>Credits</b> |
| PSY 221 – Developmental Psychology                                   | 3              |
| PSY 222 – Adolescent Psychology                                      | 3              |
| <b>Content Area III: Cognition/Critical Thinking (minimum 3 cr.)</b> | <b>Credits</b> |
| PSY 331 – Cognition                                                  | 3              |
| PSY 333 – Critical Thinking in Psychological Science                 | 3              |
| <b>Content Area IV: Social/Personality (minimum 3 cr.)</b>           | <b>Credits</b> |
| PSY 242 – Personality                                                | 3              |
| PSY 341 – Social Psychology                                          | 3              |

| <b>Content Area V: Applied (minimum 6 cr.)</b> | <b>Credits</b> |
|------------------------------------------------|----------------|
| PSY 351 – Behavioral Medicine                  | 3              |
| PSY 352 – Psychopathology                      | 3              |
| PSY 353 – Clinical Methods in Psychology       | 3              |
| PSY 354 – The Exceptional Individual           | 3              |
| PSY 355 – Forensic Psychology                  | 3              |
| PSY 356 – Industrial/Organizational Psychology | 3              |
| PSY 357 – Neuropsychology                      | 3              |
| PSY 358 – Psychological Tests and Measurements | 3              |
| PSY 359 – Psychopharmacology                   | 3              |

Students majoring in Psychology must also select and complete a Track, a specific area of concentration, within the major. The four Tracks, and the course requirements within each Track, are as follows:

**I. LIBERAL ARTS TRACK**

At least one course from each of the following Content Areas: I, II, III, IV,  
 At least two courses from Content Area V, and  
 Any two Psychology elective courses

**II. PROFESSIONAL TRACK**

At least one course from each of the following Content Areas: I, II, III, IV,  
 At least two courses from Area V, and  
 PSY 396-396 (Independent Research, 3 cr.)  
 PSY 399 (Cooperative Education, 3 cr.)

**III. EDUCATIONAL PSYCHOLOGY TRACK**

| <b>Course No.</b> | <b>Course Title</b>                  | <b>Credit</b> | <b>Content Area</b> |
|-------------------|--------------------------------------|---------------|---------------------|
| PSY 312           | Sensory & Perceptual Processes       | 4             | I                   |
| PSY 221           | Developmental Psychology             | 3             | II                  |
| PSY 222           | Adolescent Psychology                | 3             | II                  |
| PSY 242           | Personality                          | 3             | IV                  |
| PSY 331           | Cognition                            | 3             | III                 |
| PSY 352           | Psychopathology                      | 3             | V                   |
| PSY 354           | The Exceptional Individual           | 3             | V                   |
| PSY 358           | Psychological Tests and Measurements | 3             | V                   |
| PSY 399           | Cooperative Education*               | 3             |                     |

\*Waived through student teaching

**IV. NEUROSCIENCE/BEHAVIORAL MEDICINE TRACK**

| <b>Course No.</b> | <b>Course Title</b>            | <b>Credit</b> | <b>Content Area</b> |
|-------------------|--------------------------------|---------------|---------------------|
| PSY 311           | Behavioral Neuroscience        | 4             | I                   |
| PSY 312           | Sensory & Perceptual Processes | 4             | I                   |
| PSY 221           | Developmental Psychology       | 3             | II                  |
| PSY 242           | Personality                    | 3             | IV                  |
| PSY 331           | Cognition                      | 3             | III                 |
| PSY 351           | Behavioral Medicine            | 3             | V                   |
| PSY 352           | Psychopathology                | 3             | V                   |
| PSY 353           | Clinical Methods in Psychology | 3             | V                   |
| PSY 354           | The Exceptional Individual     | 3             | V                   |
| PSY 357           | Neuropsychology                | 3             | V                   |
| PSY 359           | Psychopharmacology             | 3             | V                   |
| PSY 395-396       | Independent Research           | 3             |                     |
| or                |                                |               |                     |
| PSY 399           | Cooperative Education*         | 3             |                     |

**PSYCHOLOGY MAJOR**  
**REQUIRED COURSES AND RECOMMENDED COURSE SEQUENCE**

|                                          |                |                                              |           |
|------------------------------------------|----------------|----------------------------------------------|-----------|
| <b>First Semester</b>                    | <b>Credits</b> | <b>Fifth Semester</b>                        |           |
| BIO 105 – Human Biology                  | 3              | CAR 198 – Careers (Strongly recommended)     | 1         |
| Distribution Requirement                 | 3              | Free Elective                                | 3         |
| ENG 101 – Composition <i>or</i>          | 4              | Major Electives                              | 6         |
| Distribution Requirement                 | 3              | PSY 300 – Experimental Psychology <i>or</i>  |           |
| FYF 101 – First-Year Foundations         | 3              | Area I Major Requirement                     | 4         |
| PSY 101 – General Psychology             | 3              | <b>Total Credits</b>                         | <b>14</b> |
| <b>Total Credits</b>                     | <b>15 - 16</b> |                                              |           |
| <b>Second Semester</b>                   |                | <b>Sixth Semester</b>                        |           |
| Distribution Requirements                | 9              | Free Electives                               | 9         |
| ENG 101 – Composition <i>or</i>          | 4              | Major Elective                               | 3         |
| Distribution Requirement                 | 3              | PSY 300 – Experimental Psychology <i>or</i>  |           |
| Major Elective                           | 3              | Area I Major Requirement                     | 4         |
| <b>Total Credits</b>                     | <b>15 - 16</b> | <b>Total Credits</b>                         | <b>16</b> |
| <b>Third Semester</b>                    |                | <b>Seventh Semester</b>                      |           |
| Distribution Requirements                | 6              | Free Electives                               | 12        |
| Free Elective                            | 3              | PSY 400 – Senior Research/Capstone <i>or</i> |           |
| Major Elective                           | 3              | Free Elective                                | 3         |
| Major Elective <i>or</i>                 |                | <b>Total Credits</b>                         | <b>15</b> |
| PSY 200 – Research Design & Statistics I | 3 - 4          |                                              |           |
| <b>Total Credits</b>                     | <b>15 - 16</b> | <b>Eighth Semester</b>                       |           |
| <b>Fourth Semester</b>                   | <b>Credits</b> | Free Electives                               | 10        |
| Distribution Requirements                | 6              | PSY 400 – Senior Research/Capstone <i>or</i> |           |
| Free Elective                            | 3              | Free Elective                                | 3         |
| Major Elective                           | 3              | <b>Total Credits</b>                         | <b>13</b> |
| Major Elective <i>or</i>                 |                |                                              |           |
| PSY 200 – Research Design & Statistics I | 3 - 4          |                                              |           |
| <b>Total Credits</b>                     | <b>15 - 16</b> |                                              |           |

**FIVE-YEAR BA/M.B.A. INDUSTRIAL/ORGANIZATIONAL PSYCHOLOGY MAJOR**

The five-year Psychology/M.B.A. program is designed to expand opportunities for individuals to pursue further education and careers in the integrated areas of Business and Psychology. This would involve the individual who is primarily interested in Psychology but has aspirations to engage principles of human behavior in business and industry. It would also involve individuals who wish to work within an inpatient, outpatient, partial hospitalization, or community setting that offers psychosocial services, but who need an understanding of finance and management.

This program by way of integrating behavioral and business principles would also provide the basis for expanded career opportunities within, for example, the management areas of personnel assessment, selection and training, ergonomics, human factors engineering and employee counseling programs with some further education or on site training. These are areas of Industrial/Organizational Psychology in which various business and industrial organizations currently express need for qualified personnel.

The program requires the standard 120 credits for completion of the Bachelor of Arts (BA) degree in Psychology and 48 credits for the Master of Business Administration (M.B.A.) degree. However, this unique programmatic formulation provides for the use of elective credits within the Psychology curriculum to be systematically utilized within the undergraduate matriculation to engage in course work in the Department of Business Administration that will satisfy several of the credits required in the M.B.A. Thus by participating in three 12-credit trimesters in the summer, fall and spring immediately succeeding the BA degree, the student would be further granted the M.B.A. degree.

Standard Admission criteria for entrance to the Wilkes University undergraduate program in Psychology will be utilized. Admission to the M.B.A. component will then be guaranteed based on the minimum requirements for this program.

**PSYCHOLOGY BA/M.B.A. MAJOR**  
**REQUIRED COURSES AND RECOMMENDED COURSE SEQUENCE**

|                                                                       |                |                                                                         |           |
|-----------------------------------------------------------------------|----------------|-------------------------------------------------------------------------|-----------|
| <b>First Semester</b>                                                 | <b>Credits</b> | <b>Fifth Semester</b>                                                   |           |
| BIO 105 – Human Biology                                               | 3              | CAR 198 – Careers (Strongly recommended)                                | 1         |
| Distribution Requirement                                              | 3              | EC 101 – Principles of Economics*                                       | 3         |
| ENG 101 – Composition or<br>Distribution Requirement                  | 4              | Major Electives                                                         | 6         |
| FYF 101 – First-Year Foundations                                      | 3              | PSY 300 – Experimental Psychology <i>or</i><br>Area I Major Requirement | 4         |
| PSY 101 – General Psychology                                          | 3              | <b>Total Credits</b>                                                    | <b>14</b> |
| <b>Total Credits</b>                                                  | <b>15 - 16</b> |                                                                         |           |
| <b>Second Semester</b>                                                |                | <b>Sixth Semester</b>                                                   |           |
| Distribution Requirements                                             | 9              | BA 341 – Managerial Finance*                                            | 3         |
| ENG 101 – Composition or<br>Distribution Requirement                  | 4              | BA 351 – Management of Organizations & People*                          | 3         |
| Major Elective                                                        | 3              | EC 102 – Principles of Economics II*                                    | 3         |
| Major Elective                                                        | 3              | Major Elective                                                          | 3         |
| <b>Total Credits</b>                                                  | <b>15 - 16</b> | PSY 300 – Experimental Psychology <i>or</i><br>Area I Major Requirement | 4         |
|                                                                       |                | <b>Total Credits</b>                                                    | <b>16</b> |
| <b>Third Semester</b>                                                 |                |                                                                         |           |
| ACC 161 – Financial Acct. & Decision -Making*                         | 3              | <b>Seventh Semester</b>                                                 |           |
| Distribution Requirements                                             | 6              | Free Electives                                                          | 12        |
| Major Elective                                                        | 3              | PSY 400 – Senior Research/Capstone <i>or</i><br>Free Elective           | 3         |
| Major Elective <i>or</i><br>PSY 200 – Research Design & Statistics I* | 3 - 4          | <b>Total Credits</b>                                                    | <b>15</b> |
| <b>Total Credits</b>                                                  | <b>15 - 16</b> |                                                                         |           |
| <b>Fourth Semester</b>                                                | <b>Credits</b> | <b>Eighth Semester</b>                                                  |           |
| Distribution Requirements                                             | 6              | BA 257 – Management Information Systems*                                | 3         |
| ACC 162 – Managerial Accounting & Decision-Making*                    | 3              | BA 352 – Prod. & Operations Management*                                 | 3         |
| Major Elective                                                        | 3              | Free Electives <i>or</i><br>PSY 400 – Senior Research/Capstone          | 6         |
| Major Elective <i>or</i><br>PSY 200 – Research Design & Statistics I  | 3 - 4          | <b>Total Credits</b>                                                    | <b>15</b> |
| <b>Total Credits</b>                                                  | <b>15 - 16</b> |                                                                         |           |

\*If the student earns a grade of at least a 3.0 this course fulfills the requirements of a foundation course for the Wilkes M.B.A. program.

**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 28 credits in the courses listed below.

REQUIRED COURSES FOR THE MINOR IN NEUROSCIENCE

| Course No.     | Course Title                           | Credit |
|----------------|----------------------------------------|--------|
| PSY 101        | General Psychology                     | 3      |
| PSY 200        | Psychology Statistics <i>or</i>        | 3      |
| MTH 150        | Elementary Statistics                  | 3      |
| PSY 311        | Behavioral Neuroscience                | 4      |
| PSY 357        | Neuropsychology                        | 3      |
| PSY 359        | Psychopharmacology <i>or</i>           | 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 116        | Human Anatomy and Physiology <i>or</i> | 4      |
| BIO 321        | Mammalian Physiology <i>or</i>         | 4      |
| PHA 331        | Medical Anatomy <i>and</i>             | 4      |
| <i>and</i> 332 | Physiology I & II                      | 4      |

**PSYCHOLOGY MINOR**

Students who elect to minor in Psychology must complete 18 credits. This includes PSY 101 and PSY 200 and at least 12 additional credits in psychology.

## 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**

### 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 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.

A major in Sociology consists of 36 hours, including SOC 101, either ANT 101 or ANT 102, SOC 371, SOC 373, SOC 381, and SOC 390. 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 in courses 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 36 hours of course work required for the major.

### SOCIAL WORK AND HUMAN SERVICES

Students interested in careers in drug and alcohol counseling, agency counseling, social work, or other human services occupations are urged to take at least three courses in social work, two courses in psychology, and to complete 120 hours of supervised practical field experience in a professional setting (SOC 399). The latter requirement may be completed under the auspices of the Cooperative Education Program.

### ANTHROPOLOGY

Students majoring in Sociology may elect to pursue a concentration in Anthropology. The concentration consists of 12 hours, including ANT 101, ANT 102, and two upper-level courses in Anthropology.

### SOCIOLOGY MAJOR REQUIRED COURSES AND RECOMMENDED COURSE SEQUENCE

| First Semester                         | Credits        | Fifth Semester                                          | Credits   |
|----------------------------------------|----------------|---------------------------------------------------------|-----------|
| Distribution Requirements              | 6              | Free Electives                                          | 9         |
| FYF 101 – First-Year Foundations       | 3              | Major Elective                                          | 3         |
| ENG 101 – Composition <i>or</i>        | 4              | SOC 381 – Social Theory                                 | 3         |
| Distribution Requirement               | 3              | <b>Total Credits</b>                                    | <b>15</b> |
| SOC 101 – Introduction to Sociology    | 3              |                                                         |           |
| <b>Total Credits</b>                   | <b>15 – 16</b> | <b>Sixth Semester</b>                                   |           |
|                                        |                | Free Electives                                          | 6         |
| <b>Second Semester</b>                 |                | Major Electives                                         | 6         |
| ANT 101 – Introduction to Anthropology | 3              | SOC 371 – Methods of Research                           | 3         |
| Distribution Requirements              | 9              | <b>Total Credits</b>                                    | <b>15</b> |
| ENG 101 – Composition <i>or</i>        | 4              |                                                         |           |
| Distribution Requirement               | 3              | <b>Seventh Semester</b>                                 |           |
| <b>Total Credits</b>                   | <b>15 – 16</b> | Free Electives                                          | 9         |
|                                        |                | Major Elective                                          | 3         |
| <b>Third Semester</b>                  |                | SOC 373 – Quantitative Reasoning in the Social Sciences | 3         |
| Free Electives                         | 12             | <b>Total Credits</b>                                    | <b>15</b> |
| Major Elective                         | 3              |                                                         |           |
| <b>Total Credits</b>                   | <b>15</b>      | <b>Eighth Semester</b>                                  |           |
|                                        |                | Free Electives                                          | 11        |
| <b>Fourth Semester</b>                 | <b>Credits</b> | SOC 390 – Senior Capstone                               | 3         |
| Free Electives                         | 12             | <b>Total Credits</b>                                    | <b>14</b> |
| Major Elective                         | 3              |                                                         |           |
| <b>Total Credits</b>                   | <b>15</b>      |                                                         |           |

### SOCIOLOGY MINOR

A minor in Sociology consists of 18 hours, including SOC 101. At least one of the following courses is required: Social Psychology (SOC 341); Sociological Methods (SOC 371); Quantitative Reasoning in the Social Sciences (SOC 373); and 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.

# Department of Communication Studies

Chairperson: Dr. Mark D. Stine

## Faculty

Professors: Elmes-Crahall, Kinney  
Associate Professors: Estwick, Stine  
Assistant Professors: Lewis  
Visiting Instructors: Mellon  
Director of the Shelburne Center: Brigido  
Radio Station Manager: Loftus

**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**

## COMMUNICATION STUDIES MAJOR

The major in Communication Studies has concentrations in Rhetoric and Public Communication, Organizational Communication (Public Relations), Broadcast Media (Radio and Television), and Journalism. Each concentration offers a wide choice of career options as well as graduate school preparation. While each concentration has its own unique curricular aspects, the goals are the same—a graduate who is able to write, speak, and think both analytically and creatively. Each concentration offers skills and performance courses and co-curricular activities that can be applied to everyday situations. In addition, the theory, writing, and analysis courses enable students to advance beyond the entry level in their chosen fields or even to change fields entirely. We believe the curriculum also affords ample opportunity for the student to explore other disciplines. It is recommended that students who major in Communication Studies take a foreign language.

## DEPARTMENTAL REQUIREMENTS

All students choosing to major in Communication Studies must fulfill specific department requirements. These courses contain skills, theory, analysis, performance, writing, and research. They are as follows:

|                                           |       |
|-------------------------------------------|-------|
| COM 101 – Fundamentals of Public Speaking | 3 cr. |
| COM 102 – Principles of Communication     | 3 cr. |
| COM 124 – Mass Media Literacy             | 3 cr. |
| COM 202 – Interpersonal Communication     | 3 cr. |
| COM 324 – Communication Research Methods  | 3 cr. |
| COM 397 – Senior Seminar                  | 3 cr. |

The Department also has a six-hour writing requirement for all Communication Studies majors

## CONCENTRATION REQUIREMENTS

Each concentration is described and outlined on the following pages

### ORGANIZATIONAL COMMUNICATION

This concentration introduces students to the theory, skills, and application of face-to-face communication in interpersonal, small group, organizational, and public settings. Its theoretical foundation is primarily in the behavioral sciences. Communication is viewed as an ongoing process, knowledge of which permits the student to apply his or her skills to a variety of contexts.

All students pursuing a concentration in Organizational Communication will take the following three courses (9 credits):

|                                              |       |
|----------------------------------------------|-------|
| COM 206 – Business and Professional Speaking | 3 cr. |
| COM 302 – Fundamentals of Public Relations   | 3 cr. |
| COM 303 – Organizational Communication       | 3 cr. |

In addition, students pursuing a concentration in Organizational Communication will complete 9 credits selected from the following courses:

|                                                                                                               |       |
|---------------------------------------------------------------------------------------------------------------|-------|
| COM 203 – Small Group Communication                                                                           | 3 cr. |
| COM 301 – Persuasion                                                                                          | 3 cr. |
| COM 304 – Intercultural Communication                                                                         | 3 cr. |
| COM 352 – Advanced Public Relations Campaigns                                                                 | 3 cr. |
| COM 399 <i>or</i> CPE 399 – Internship (only three credits of internship may be applied in the concentration) | 3 cr. |
| BA 322 – Advertising (all prerequisites must be met for BA 322)                                               | 3 cr. |

*Writing Requirement (6 credits):*

|                                                                                                                 |       |
|-----------------------------------------------------------------------------------------------------------------|-------|
| COM 260 – Basic Newswriting<br>and either<br>COM 262 – Visual Rhetoric <i>or</i><br>ENG 202 – Technical Writing | 3 cr. |
|-----------------------------------------------------------------------------------------------------------------|-------|

### *Public Relations Track*

The Public Relations Society of America has developed guidelines for undergraduates wishing to enter the field of public relations. Students should consult an advisor within the department to determine what additional courses will be necessary to meet these guidelines.

## RHETORIC AND PUBLIC COMMUNICATION

This concentration introduces students to the history, principles, and practices of traditional rhetoric. The concentration derives its theoretical foundation from the works of classical rhetoric. It is a performance-centered concentration in which students research, write, deliver, and analyze public discourse. Each course emphasizes adaptation of messages to diverse audiences, usually found in formal, deliberative settings.

All students pursuing a concentration in Rhetoric and Public Communication are required to take the following three courses (9 credits):

|                                    |       |
|------------------------------------|-------|
| COM 204 – Argumentation and Debate | 3 cr. |
| COM 300 – Communication Criticism  | 3 cr. |
| COM 301 – Persuasion               | 3 cr. |

In addition, students pursuing a concentration in Rhetoric and Public Communication will take 9 credits selected from the following courses:

|                                                                                                               |       |
|---------------------------------------------------------------------------------------------------------------|-------|
| COM 210 – Advanced Public Speaking                                                                            | 3 cr. |
| COM 203 – Small Group Communication                                                                           | 3 cr. |
| COM 206 – Business and Professional Communication                                                             | 3 cr. |
| COM 302 – Fundamentals of Public Relations                                                                    | 3 cr. |
| COM 398 – Topics in Presidential Campaign Rhetoric <i>or</i>                                                  |       |
| COM 399 <i>or</i> CPE 399 – Internship (only three credits of internship may be applied in the concentration) | 3 cr. |

*Writing Requirement (6 credits):*

|                             |       |
|-----------------------------|-------|
| COM 260 – Basic Newswriting | 3 cr. |
| ENG 202 – Technical Writing | 3 cr. |

*Political Communication Track:*

Students who are interested in careers in political communication must satisfy the Rhetoric and Public Communication concentration requirements and take three political science courses at the 200-level or above. These courses should be chosen in consultation with an advisor.

## COMMUNICATION STUDIES MAJOR ORGANIZATIONAL COMMUNICATION CONCENTRATION AND RHETORIC AND PUBLIC COMMUNICATION CONCENTRATION REQUIRED COURSES AND RECOMMENDED COURSE SEQUENCE

| First Semester                            | Credits        | Fifth Semester                              | Credits   |
|-------------------------------------------|----------------|---------------------------------------------|-----------|
| COM 101 – Fundamentals of Public Speaking | 3              | COM 302 – Public Relations                  | 3         |
| Distribution Requirements                 | 6              | Concentration Selections                    | 6         |
| ENG 101 – Composition <i>or</i>           | 4              | Free Electives                              | 6         |
| Distribution Requirement                  | 3              | <b>Total Credits</b>                        | <b>15</b> |
| FYF 101 – First-Year Foundations          | 3              |                                             |           |
| <b>Total Credits</b>                      | <b>15 - 16</b> | <b>Sixth Semester</b>                       |           |
|                                           |                | COM 300 – Communication Criticism <i>or</i> |           |
| <b>Second Semester</b>                    |                | COM 303 – Organizational Communication      | 3         |
| COM 102 – Principles of Communication     | 3              | Concentration Selection                     | 3         |
| COM 124 – Mass Media Literacy             | 3              | Distribution Requirements                   | 6         |
| Distribution Requirements                 | 6              | Free Elective                               | 3         |
| ENG 101 – Composition <i>or</i>           | 4              | <b>Total Credits</b>                        | <b>15</b> |
| Distribution Requirement                  | 3              |                                             |           |
| <b>Total Credits</b>                      | <b>15 - 16</b> | <b>Seventh Semester</b>                     |           |
|                                           |                | COM 324 – Research Methods                  | 3         |
| <b>Third Semester</b>                     |                | Concentration Selection                     | 3         |
| COM 202 – Interpersonal Communication     | 3              | Free Electives                              | 9         |
| COM 260 – Basic Newswriting               | 3              | <b>Total Credits</b>                        | <b>15</b> |
| Free Electives                            | 6              |                                             |           |
| Writing Requirement                       | 3              | <b>Eighth Semester</b>                      |           |
| <b>Total Credits</b>                      | <b>15</b>      | COM 397 – Senior Seminar                    | 3         |
|                                           |                | Free Electives                              | 12        |
| <b>Fourth Semester</b>                    |                | <b>Total Credits</b>                        | <b>15</b> |
| Concentration Selection                   | 3              |                                             |           |
| Distribution Requirements                 | 9              |                                             |           |
| Writing Requirement                       | 3              |                                             |           |
| <b>Total Credits</b>                      | <b>15</b>      |                                             |           |



## BROADCAST MEDIA

This concentration introduces students to the history, economics, regulations, and functions of the radio, television, and cable industries. It provides students with a combination of skills, performance, and theory that will enable graduates to seek employment in those industries. In addition, students should be competitive in advertising, marketing, and research firms as well as audio and video media.

All students pursuing a concentration in Broadcast Media must take the following three courses (9 credits):

|                                              |       |
|----------------------------------------------|-------|
| COM 220 – Introduction to Telecommunications | 3 cr. |
| COM 221 – Digital Audio Production           | 3 cr. |
| COM 222 – Basic Video Production             | 3 cr. |

In addition, students pursuing a concentration in Broadcast Media will complete 9 credits selected from the following courses:

|                                                                                                        |       |
|--------------------------------------------------------------------------------------------------------|-------|
| COM 223 – The Art of Film                                                                              | 3 cr. |
| COM 300 – Communication Criticism                                                                      | 3 cr. |
| COM 320 – Media Management                                                                             | 3 cr. |
| COM 321 – Broadcast Journalism                                                                         | 3 cr. |
| COM 322 – Advanced Video Production                                                                    | 3 cr. |
| COM 362 – Mass Communication Law                                                                       | 3 cr. |
| COM 399 or CPE 399 – Internship (only three credits of internship may be applied in the concentration) | 3 cr. |

*Writing Requirement (6 credits):*

|                             |       |
|-----------------------------|-------|
| COM 260 – Basic Newswriting | 3 cr. |
| ENG 202 – Technical Writing | 3 cr. |

### COMMUNICATION STUDIES MAJOR BROADCAST MEDIA CONCENTRATION REQUIRED COURSES AND RECOMMENDED COURSE SEQUENCE

| First Semester                               | Credits        | Fifth Semester             | Credits   |
|----------------------------------------------|----------------|----------------------------|-----------|
| COM 101 – Fundamentals of Public Speaking    | 3              | Concentration Selection    | 3         |
| Distribution Requirements                    | 6              | Free Electives             | 12        |
| ENG 101 – Composition <i>or</i>              | 4              | <b>Total Credits</b>       | <b>15</b> |
| Distribution Requirement                     | 3              |                            |           |
| FYF 101 – First-Year Foundations             | 3              | <b>Sixth Semester</b>      |           |
| <b>Total Credits</b>                         | <b>15 - 16</b> | Concentration Selection    | 3         |
|                                              |                | Free Electives             | 12        |
| <b>Second Semester</b>                       |                | <b>Total Credits</b>       | <b>15</b> |
| COM 102 – Principles of Communication        | 3              |                            |           |
| COM 124 – Mass Media Literacy                | 3              | <b>Seventh Semester</b>    |           |
| Distribution Requirements                    | 6              | COM 324 – Research Methods | 3         |
| ENG 101 – Composition <i>or</i>              | 4              | Concentration Selection    | 3         |
| Distribution Requirement                     | 3              | Free Electives             | 9         |
| <b>Total Credits</b>                         | <b>15 - 16</b> | <b>Total Credits</b>       | <b>15</b> |
|                                              |                |                            |           |
| <b>Third Semester</b>                        |                | <b>Eighth Semester</b>     |           |
| COM 202 – Interpersonal Communication        | 3              | COM 397 – Senior Seminar   | 3         |
| COM 220 – Introduction to Telecommunications | 3              | Free Electives             | 12        |
| COM 221 – Digital Audio Production <i>or</i> |                | <b>Total Credits</b>       | <b>15</b> |
| COM 222 – Basic Video Production             | 3              |                            |           |
| COM 260 – Basic Newswriting                  | 3              |                            |           |
| Free Elective                                | 3              |                            |           |
| <b>Total Credits</b>                         | <b>15</b>      |                            |           |
|                                              |                |                            |           |
| <b>Fourth Semester</b>                       |                |                            |           |
| Concentration Selection                      | 3              |                            |           |
| Distribution Requirements                    | 9              |                            |           |
| ENG 202 – Technical & Professional Writing   | 3              |                            |           |
| <b>Total Credits</b>                         | <b>15</b>      |                            |           |

## JOURNALISM

This concentration is designed to prepare students to write crisp, concise, lively prose for mass audiences, to utilize, interpret, and analyze primary sources, and to offer thought-provoking commentary on contemporary issues and current events. Students are strongly advised to pursue a minor in English, Political Science, History, or other area, with departmental approval.

All students pursuing a concentration in Journalism must take the following three courses (9 credits):

|                                  |       |
|----------------------------------|-------|
| COM 262 – Visual Rhetoric        | 3 cr. |
| COM 360 – Advanced Newswriting   | 3 cr. |
| COM 362 – Mass Communication Law | 3 cr. |

In addition, students pursuing a concentration in Journalism will complete 9 credits selected from the following courses:

|                                                                                                               |       |
|---------------------------------------------------------------------------------------------------------------|-------|
| COM 300 – Communication Criticism                                                                             | 3 cr. |
| COM 302 – Fundamentals of Public Relations                                                                    |       |
| COM 321 – Broadcast Journalism                                                                                | 3 cr. |
| COM 361 – Feature Writing                                                                                     | 3 cr. |
| COM 399 <i>or</i> CPE 399 – Internship (only three credits of internship may be applied in the concentration) | 3 cr. |

*Writing Requirement (6 credits):*

|                             |       |
|-----------------------------|-------|
| COM 260 – Basic Newswriting | 3 cr. |
| ENG 202 – Technical Writing | 3 cr. |

**COMMUNICATION STUDIES  
JOURNALISM CONCENTRATION  
REQUIRED COURSES AND RECOMMENDED COURSE SEQUENCE**

| <b>First Semester</b>                      | <b>Credits</b> | <b>Fifth Semester</b>            | <b>Credits</b> |
|--------------------------------------------|----------------|----------------------------------|----------------|
| COM 101 – Fundamentals of Public Speaking  | 3              | COM 362 – Mass Communication Law | 3              |
| Distribution Requirements                  | 6              | Concentration Selections         | 6              |
| ENG 101 – Composition <i>or</i>            | 4              | Distribution Requirement         | 3              |
| Distribution Requirement                   | 3              | Free Electives                   | 3              |
| FYF 101 – First-Year Foundations           | 3              | <b>Total Credits</b>             | <b>15</b>      |
| <b>Total Credits</b>                       | <b>15 - 16</b> |                                  |                |
|                                            |                | <b>Sixth Semester</b>            |                |
| <b>Second Semester</b>                     |                | COM 360 – Advanced Newswriting   | 3              |
| COM 102 – Principles of Communication      | 3              | Free Electives                   | 12             |
| COM 124 – Mass Media Literacy              | 3              | <b>Total Credits</b>             | <b>15</b>      |
| Distribution Requirements                  | 6              |                                  |                |
| ENG 101 – Composition <i>or</i>            | 4              | <b>Seventh Semester</b>          |                |
| Distribution Requirement                   | 3              | COM 324 – Research Methods       | 3              |
| <b>Total Credits</b>                       | <b>15 - 16</b> | Concentration Selection          | 3              |
|                                            |                | Free Electives                   | 9              |
| <b>Third Semester</b>                      |                | <b>Total Credits</b>             | <b>15</b>      |
| COM 202 – Interpersonal Communication      | 3              |                                  |                |
| COM 260 – Basic Newswriting                | 3              | <b>Eighth Semester</b>           |                |
| Concentration Selection                    | 3              | COM 397 – Senior Seminar         | 3              |
| Free Electives                             | 6              | Free Electives                   | 12             |
| <b>Total Credits</b>                       | <b>15</b>      | <b>Total Credits</b>             | <b>15</b>      |
|                                            |                |                                  |                |
| <b>Fourth Semester</b>                     |                |                                  |                |
| COM 262 – Visual Rhetoric                  | 3              |                                  |                |
| Concentration Selection                    | 3              |                                  |                |
| Distribution Requirements                  | 6              |                                  |                |
| ENG 202 – Technical & Professional Writing | 3              |                                  |                |
| <b>Total Credits</b>                       | <b>15</b>      |                                  |                |

**COMMUNICATION STUDIES MINOR**

Minors are offered in each of the areas of concentration provided by the Department. Minor requirements are as follows:

**ORGANIZATIONAL COMMUNICATION MINOR**

Required: COM 101 (Fundamentals of Public Speaking) *or* COM 102 (Principles of Communication)

Electives: Five of the following:

|                                                   |       |
|---------------------------------------------------|-------|
| COM 202 – Interpersonal Communication             | 3 cr. |
| COM 203 – Small Group Communication               | 3 cr. |
| COM 206 – Business and Professional Communication | 3 cr. |
| COM 301 – Persuasion                              | 3 cr. |
| COM 302 – Fundamentals of Public Relations        | 3 cr. |
| COM 303 – Organizational Communication            | 3 cr. |
| COM 304 – Intercultural Communication             | 3 cr. |

**RHETORIC AND PUBLIC COMMUNICATION MINOR**

Required: COM 101 (Fundamentals of Public Speaking) *or* COM 102 (Principles of Communication)

Electives: Five of the following:

|                                                   |       |
|---------------------------------------------------|-------|
| COM 201 – Advanced Public Speaking                | 3 cr. |
| COM 203 – Small Group Communication               | 3 cr. |
| COM 204 – Argumentation and Debate                | 3 cr. |
| COM 206 – Business and Professional Communication | 3 cr. |
| COM 300 – Communication Criticism                 | 3 cr. |
| COM 301 – Persuasion                              | 3 cr. |
| COM 302 – Fundamentals of Public Relations        | 3 cr. |

**BROADCAST MEDIA MINOR**

Required: COM 220 (Introduction to Telecommunications)

Electives: Five of the following:

|                                     |       |
|-------------------------------------|-------|
| COM 124 – Mass Media Literacy       | 3 cr. |
| COM 221 – Digital Audio Production  | 3 cr. |
| COM 222 – Basic Video Production    | 3 cr. |
| COM 223 – The Art of Film           | 3 cr. |
| COM 321 – Broadcast Journalism      | 3 cr. |
| COM 322 – Advanced Video Production | 3 cr. |
| COM 362 – Mass Communication Law    | 3 cr. |

**JOURNALISM MINOR**

Required: COM 260 (Basic Newswriting)

Electives: Five of the following:

|                                            |       |
|--------------------------------------------|-------|
| COM 124 – Mass Media Literacy              | 3 cr. |
| COM 302 – Fundamentals of Public Relations | 3 cr. |
| COM 360 – Advanced Newswriting             | 3 cr. |
| COM 361 – Feature Writing                  | 3 cr. |
| COM 362 – Mass Communication Law           | 3 cr. |

## **Division of Humanities**

**Chairperson: Dr. Lawrence T. Kuhar**

The Division of Humanities comprises the programs in English, History, Philosophy, and Spanish.

### **English Faculty**

Associate Professors: Anthony, Farrell, Hamill, Kuhar, Stanley, Starner  
Assistant Professors: Davis, Kelly  
Instructor: Grier  
Adjunct Faculty: Herman Reibe, Kemmerer, Lampman, Wills  
Faculty Emeriti: Fiester, P. Heaman, R. Heaman, Karpinich

### **History Faculty**

Professor: Hupchick  
Associate Professors: Hepp, Wenger  
Assistant Professor: Davidson  
Adjunct Faculty: Borkowski-Gunn, Petrasko  
Faculty Emeriti: Berlatsky, Cox, Meyers, Rodechko

### **Philosophy Faculty**

Associate Professors: Paul  
Adjunct Faculty: Hopper  
Faculty Emeritus: Kay

### **Spanish Faculty**

Associate Professor: Bianco  
Assistant Professor: Garcia  
Adjunct Faculty: Lepore (French), Poggi (Spanish), Thackara (Spanish)

## **ENGLISH**

**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)**

## **ENGLISH MAJOR**

Wilkes University requires 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, 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, diversity of human experience, and critical thinking are valued.

Students who major in English may concentrate in literature or writing, 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 AND WRITING CONCENTRATIONS IN ENGLISH**

Students who concentrate their studies in literature are required to take ENG 120 (Introduction to Literature and Culture), 201 (Writing About Literature and Culture) and three of four survey courses: ENG 233 (Survey of English Literature I), 234 (Survey of English Literature II), 281 (Survey of American Literature I), and 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.

Students who pursue a concentration in writing are required to take ENG 201 (Writing About Literature and Culture) and an additional nine credit hours in other writing courses numbered above 200. Students must take ENG 120 (Introduction to Literature and Culture) and three of four survey courses: ENG 233 (Survey of English Literature I), 234 (Survey of English Literature II), 281 (Survey of American Literature I), and 282 (Survey of American Literature II). 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.

## **CERTIFICATIONS IN SECONDARY EDUCATION, MIDDLE LEVEL EDUCATION, AND ELEMENTARY EDUCATION**

Students interested in Secondary Education, Middle Level Education, or Elementary 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, middle level, or elementary 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 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 Secondary Schools), and three of four survey courses: ENG 233 (Survey of English Literature I), 234 (Survey of English Literature II), 281 (Survey of American Literature I), and 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 and 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 as early as possible with the chairperson of the Education Department 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 Wilkes *Undergraduate Bulletin*. 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 and pass the appropriate 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 should also consult carefully with their education program and English program advisors in planning their program.

Students seeking certification as Elementary Level public school teachers should consult carefully with their advisors and the Education Department in planning their program of study.

### ENGLISH MAJOR REQUIRED COURSES AND RECOMMENDED COURSE SEQUENCE

| First Semester                                   | Credits   | Fifth Semester                                        | Credits   |
|--------------------------------------------------|-----------|-------------------------------------------------------|-----------|
| Distribution Requirements                        | 9         | Free Electives                                        | 9         |
| ENG 101 – Composition                            | 4         | Major Electives*                                      | 6         |
| FYF 101 – First-Year Foundations                 | 3         | <b>Total Credits</b>                                  | <b>15</b> |
| <b>Total Credits</b>                             | <b>16</b> |                                                       |           |
|                                                  |           | <b>Sixth Semester</b>                                 |           |
| <b>Second Semester</b>                           |           | Free Electives                                        | 6         |
| Distribution Requirements                        | 9         | Major Electives*                                      | 9         |
| ENG 120 – Introduction to Literature and Culture | 3         | <b>Total Credits</b>                                  | <b>15</b> |
| Free Elective                                    | 3         |                                                       |           |
| <b>Total Credits</b>                             | <b>15</b> | <b>Seventh Semester</b>                               |           |
|                                                  |           | ENG 397 – Seminar                                     | 3         |
| <b>Third Semester</b>                            |           | Free Electives                                        | 12        |
| ENG 201 - Writing About Literature and Culture   | 4         | <b>Total Credits</b>                                  | <b>15</b> |
| English Survey Elective (ENG 233, 282)           | 3         |                                                       |           |
| Free Electives                                   | 9         | <b>Eighth Semester</b>                                |           |
| <b>Total Credits</b>                             | <b>16</b> | Free Electives                                        | 12        |
|                                                  |           | Major Capstone                                        | 1         |
| <b>Fourth Semester</b>                           |           | <b>Total Credits</b>                                  | <b>13</b> |
| English Survey Electives (ENG 234, 281)          | 6         |                                                       |           |
| Free Electives                                   | 9         | *Students select major electives to meet requirements |           |
| <b>Total Credits</b>                             | <b>15</b> | in their area of concentration.                       |           |

### 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

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, 234, 281, 282), 300-level literature courses (maximum 6 credits), ENG 395/396, ENG 399. The department strongly recommends that students who minor in Creative Writing take advantage of the opportunity to write creatively for the college literary magazine, *Manuscript*, published by the Manuscript Society.

#### 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 218, ENG 225, ENG 228, ENG 308, ENG 395/396, 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, *Inkwell Quarterly*, published by the English Department.

## HONORS IN ENGLISH

Qualified students may participate in an honors program, which may lead to graduation with distinction in English. Honors students in English will be recognized upon completion of the following requirements:

1. achievement of a graduating GPA of 3.25 or higher;
2. achievement of an average of 3.5 in English courses;
3. completion of a program of independent study resulting in a thesis or writing project recognized as distinguished by a committee of department faculty; and
4. achievement in English studies indicated by performance on assessment examinations.

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

## HISTORY

**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 requires 120 credit hours for the B.A. degree in History. These include 43 credit hours in distribution courses (including the Capstone experience) and 33 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.

### CERTIFICATIONS IN SECONDARY EDUCATION AND MIDDLE LEVEL EDUCATION

Students interested in Secondary Education or Middle Level Education (with a specialization in Social Studies) certification should make appointments with their advisor and the chairperson of the Education Department as early as possible 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 pursuing a History major and seeking secondary certification in Social Studies must take the following courses in the discipline: HST 101 (Historical Foundations of the Modern World); HST 102 (Europe Before 1600); HST 125 (American History I); HST 126 (American History II); HST 297 (Historical Research and Methods Seminar); HST 397 (Seminar); and 15 credits of History electives (two American/United States and two non-American/world topics). The following courses are also required 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 (Introduction to International Politics); PSY 101 (General Psychology); PSY 221 (Developmental Psychology) *or* PSY 222 (Adolescent Psychology); SOC 101 (Introduction to Sociology); and 6 credits in Mathematics (MTH 150: Elementary Statistics is highly recommended). 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 380 (Content Area Literacy), ED 381 (Teaching Methods in Social Studies), 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; taken concurrently with ED 390, Student Teaching with Seminar).

Students seeking secondary certification in Social Studies will declare a major in History and a minor in Secondary Education. The requirements for the minor in Secondary Education and certification are contained in the Education section of the Wilkes University *Undergraduate Bulletin*. 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 course, a 3.0 overall GPA, and pass the appropriate PRAXIS tests in order to be certified.

Students seeking certification as middle level public school teachers (fourth through eighth grade certification) with a specialization in Social Studies will major in Middle Level Education and take a prescribed course of study that incorporates History and the Social Sciences. Refer to the Education department section of this bulletin for details of the curriculum and other degree requirements. Students should also consult carefully with their education program and History program advisors in planning their program.

**HISTORY MAJOR**  
**REQUIRED COURSES AND RECOMMENDED COURSE SEQUENCE**

| <b>First Semester</b>                                | <b>Credits</b> | <b>Fifth Semester</b>   | <b>Credits</b> |
|------------------------------------------------------|----------------|-------------------------|----------------|
| Distribution Requirements                            | 6              | Free Electives*         | 9              |
| ENG 101 – Composition <i>or</i>                      | 4              | Major Electives         | 6              |
| Distribution Requirement                             | 3              | <b>Total Credits</b>    | <b>15</b>      |
| FYF 101 – First-Year Foundations                     | 3              |                         |                |
| HST 101 – Historical Foundations of the Modern World | 3              | <b>Sixth Semester</b>   |                |
| <b>Total Credits</b>                                 | <b>15-16</b>   | Free Electives*         | 12             |
|                                                      |                | Major Elective          | 3              |
|                                                      |                | <b>Total Credits</b>    | <b>15</b>      |
| <b>Second Semester</b>                               |                |                         |                |
| Distribution Requirements                            | 9              |                         |                |
| ENG 101 – Composition <i>or</i>                      | 4              |                         |                |
| Distribution Requirement                             | 3              | <b>Seventh Semester</b> |                |
| HST 102 – Europe Before 1600                         | 3              | Free Electives*         | 9              |
| <b>Total Credits</b>                                 | <b>15-16</b>   | Major Electives**       | 6              |
|                                                      |                | <b>Total Credits</b>    | <b>15</b>      |
| <b>Third Semester</b>                                |                |                         |                |
| Distribution Requirements                            | 6              | <b>Eighth Semester</b>  |                |
| Free Elective*                                       | 3              | Free Electives          | 11             |
| HST 125 – American History I                         | 3              | HST 397 – Seminar**     | 3              |
| HST 297 – Research & Methods Seminar                 | 3              | <b>Total Credits</b>    | <b>14</b>      |
| <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>      |                         |                |

\*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 for students planning to student teach in the eighth semester.

**HISTORY MINOR**

A minor in History shall consist 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).

**PHILOSOPHY**

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

**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 30 credit hours, including PHL (Philosophy) 101 (Introduction to Philosophy), 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).

**PHILOSOPHY MAJOR**  
**REQUIRED COURSES AND RECOMMENDED COURSE SEQUENCE**

| <b>First Semester</b>                    | <b>Credits</b> | <b>Fifth Semester</b>    | <b>Credits</b> |
|------------------------------------------|----------------|--------------------------|----------------|
| Distribution Requirements                | 6              | Free Electives           | 9              |
| ENG 101 – Composition <i>or</i>          | 4              | Major Elective           | 3              |
| Distribution Requirement                 | 3              | PHL 310 – Ethical Theory | 3              |
| FYF 101 – First-Year Foundations         | 3              | <b>Total Credits</b>     | <b>15</b>      |
| PHL 101 – Introduction to Philosophy     | 3              |                          |                |
| <b>Total Credits</b>                     | <b>15-16</b>   | <b>Sixth Semester</b>    |                |
|                                          |                | Free Electives           | 9              |
| <b>Second Semester</b>                   |                | Major Electives          | 6              |
| Distribution Requirements                | 9              | <b>Total Credits</b>     | <b>15</b>      |
| ENG 101 – Composition <i>or</i>          | 4              |                          |                |
| Distribution Requirement                 | 3              | <b>Seventh Semester</b>  |                |
| PHL 122 – Introduction to Symbolic Logic | 3              | Free Electives           | 12             |
| <b>Total Credits</b>                     | <b>15-16</b>   | Major Elective           | 3              |
|                                          |                | <b>Total Credits</b>     | <b>15</b>      |
| <b>Third Semester</b>                    |                |                          |                |
| Distribution Requirements                | 12             | <b>Eighth Semester</b>   |                |
| Major Elective                           | 3              | Free Electives           | 12             |
| <b>Total Credits</b>                     | <b>15</b>      | Major Elective           | 3              |
|                                          |                | PHL 390 – Capstone       | 1              |
| <b>Fourth Semester</b>                   |                | <b>Total Credits</b>     | <b>16</b>      |
| Free Electives                           | 12             |                          |                |
| PHL 301 – Origins of Western Thought     | 3              |                          |                |
| <b>Total Credits</b>                     | <b>15</b>      |                          |                |

**PHILOSOPHY MINOR**

The minor in Philosophy consists of 18 credit hours, including PHL (Philosophy) 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).

**SPANISH**

**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, a semester, or a year in the program of their choice.

**SPANISH MAJOR**

Spanish is offered as a major field of study. A major in Spanish consists of 24 credit hours beyond SP (Spanish) 204 (Intermediate Spanish II).

In the interest of broadening career options, all Spanish majors are advised to combine their language studies with another discipline. Students who elect a career in education are advised to study an additional language. All majors are strongly urged to spend at least one semester abroad, as arranged in consultation with their Spanish advisor.

**CERTIFICATIONS IN SECONDARY EDUCATION AND K-12 EDUCATION**

Students seeking secondary public school certification in Spanish will declare a major in Spanish and a minor in Secondary Education. All students seeking secondary certification must complete SP (Spanish) 205 (Conversation), SP 206 (Advanced Grammar, Stylistics, and Composition), SP 208 (Culture and Civilization), SP 298 (Topics in Spanish), SP 301 (Introduction to Latin American Literature), and another literature course in a major writer, genre, or period, and SP 397 (Seminar). Students pursuing Spanish certification are required to complete PSY 221 (Developmental Psychology).

Students interested in K-12 certification in Spanish should make an appointment with the chairperson of the Education Department as early as possible in their program of study to plan their professional studies. These students will declare a minor in Secondary Education. 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).

The requirements for the minor in Secondary Education and certification are contained in the Education section of the Wilkes University *Undergraduate Bulletin*. 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 course, a 3.0 overall GPA, and pass the appropriate PRAXIS tests in order to be certified. See “Secondary Education Programs of Study and Certification Requirements” in this bulletin for complete details.



**SPANISH MAJOR**  
**REQUIRED COURSES AND RECOMMENDED COURSE SEQUENCE**

| <b>First Semester</b>            | <b>Credits</b> | <b>Fifth Semester*</b>                               | <b>Credits</b> |
|----------------------------------|----------------|------------------------------------------------------|----------------|
| Distribution Requirements        | 6              | Free Electives                                       | 9              |
| ENG 101 – Composition <i>or</i>  | 4              | SP 206 – Adv. Grammar, Stylistics, & Comp.           | 3              |
| Distribution Requirement         | 3              | SP 198 – Topics in Spanish                           | 3              |
| FYF 101 – First-Year Foundations | 3              | <b>Total Credits</b>                                 | <b>15</b>      |
| SP 101 – Elementary Spanish I    | 3              |                                                      |                |
| <b>Total Credits</b>             | <b>15-16</b>   | <b>Sixth Semester</b>                                |                |
|                                  |                | Free Electives                                       | 9              |
| <b>Second Semester</b>           |                | SP 208 – Culture and Civilization                    | 3              |
| Distribution Requirements        | 9              | SP 301 – Introduction to Latin American Literature   | 6              |
| ENG 101 – Composition <i>or</i>  | 4              | <b>Total Credits</b>                                 | <b>15</b>      |
| Distribution Requirement         | 3              |                                                      |                |
| SP 102 – Elementary Spanish II   | 3              | <b>Seventh Semester</b>                              |                |
| <b>Total Credits</b>             | <b>15-16</b>   | Free Electives                                       | 9              |
|                                  |                | SP 307 or 308 – Survey of Spanish Literature I or II | 3              |
| <b>Third Semester</b>            |                | SP 298 – Topics in Spanish                           | 3              |
| Distribution Requirements        | 3              | <b>Total Credits</b>                                 | <b>15</b>      |
| Free Electives                   | 9              |                                                      |                |
| SP 203 – Intermediate Spanish I  | 3              | <b>Eighth Semester</b>                               |                |
| <b>Total Credits</b>             | <b>15</b>      | Free Electives                                       | 11             |
|                                  |                | SP 397 – Seminar                                     | 3              |
| <b>Fourth Semester</b>           |                | <b>Total Credits</b>                                 | <b>16</b>      |
| Free Electives                   | 9              |                                                      |                |
| SP 204 – Intermediate Spanish II | 3              |                                                      |                |
| SP 205 – Conversation            | 3              |                                                      |                |
| <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.

**SPANISH MINOR**

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.

**SPANISH LANGUAGE CERTIFICATE PROGRAM**

The Spanish Language Certificate Program is designed for students, adult learners, and working professionals who wish to develop proficiency in Spanish to enhance their academic and career opportunities. Students enrolled in the Certificate Program are required to complete 15 credits in the study of Spanish beginning at the intermediate level; students may receive up to 6 credits towards the Certificate Program through study abroad. The Certificate Program provides students with the flexibility to pursue Spanish at the advanced level without completing the requirements of an academic major or minor.

For more information, please contact Dr. Paola Bianco, Associate Professor of Spanish.

# Department of Integrative Media and Art

Chairperson: Mr. Eric A. Ruggiero

## Faculty

Associate Professors: Cosgrove, Ruggiero

Assistant Professor: Pisarchick-Reck

Adjunct Faculty: Adams, Beekman, Glennon, Lanning, Miller-Lanning, Reynolds, Sedor, Steinberg

Faculty Emeritus: Fuller

**Total minimum number of credits required for a major in Integrative Media leading to the B.A. degree – 122**

**Total minimum number of credits required for a minor in Integrative Media – 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**

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. The Department of Integrative Media and Art offers a variety of major and minor degree programs to meet the growing interest in and demand for visual content producers. Each of these degree programs—the B.A. in Integrative Media and minor degrees in Integrative Media, Studio Art, and Art History—are described in the following sections.

## INTEGRATIVE MEDIA MAJOR

Wilkes University requires 122 credit hours for a B.A. degree in Integrative Media. These include completion of the General Education Requirements, 40 credit hours of Integrative Media Core courses, and completion of a minor in one of the following cognate disciplines: Art; Business Administration; Communication Studies; Computer Science; English; Entrepreneurship; Theatre Arts (Acting and Directing, and Theatre Arts); and Theatre Design.

The Integrative Media 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 credit hours of study comprising the following courses:

|                                                                 |           |
|-----------------------------------------------------------------|-----------|
| ART 111 – Fundamentals of Color and Design                      | 3 cr.     |
| BA/ENT 153 – Management Foundations I                           | 3 cr.     |
| COM 102 – Principles of Communication                           | 3 cr.     |
| CS 125 – Computer Science I                                     | 4 cr.     |
| ENG 202 – Technical and Professional Writing                    | 3 cr.     |
| ENT 203 – Opportunity Identification: Creativity and 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 and 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 Integrative Media are required to complete a minor in a cognate discipline (Art, Business Administration, Communication Studies, Computer Science, English, Entrepreneurship, 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 Integrative Media 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 Integrative Media major program. Students are encouraged to pursue additional course work and, when possible, complete a second major in their Integrative Media cognate discipline. Students interested in pursuing a double major should consult carefully with their academic advisor. Also available for experience and credit (dependent upon departmental approvals) is involvement in Studio 20. This student operated production entity works with non-profit, start-up, and internal Wilkes clients to produce a variety of creative content in a real-world production setting.

## 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/ENT 153 – Management Foundations                          | 3 cr. (included in the IM core curriculum) |
| ACC 161 – Financial Accounting and Decision-Making           | 3 cr.                                      |
| ENT 203 – Opportunity Development: Creativity and Innovation | 3 cr. (included in the IM core curriculum) |
| BA 321 – Marketing                                           | 3 cr.                                      |
| BA 322 – Advertising                                         | 3 cr.                                      |
| BA 351 – 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 Communication   | 3 cr.                                      |
| COM 221 – Audio Production            | 3 cr.                                      |
| COM 222 – Basic Video Production      | 3 cr.                                      |
| COM 262 – Visual Rhetoric             | 3 cr.                                      |
| COM 322 – Advanced Video Production   | 3 cr.                                      |

### **COGNATE MINOR IN COMPUTER SCIENCE – 22 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:

|                                                    |                                            |
|----------------------------------------------------|--------------------------------------------|
| ACC 161 – Financial Accounting and Decision-Making | 3 cr.                                      |
| BA/ENT 153 – Management Foundations                | 3 cr. (included in the IM core curriculum) |
| BA 321 – Marketing                                 | 3 cr.                                      |
| ENT 301 – Nature and Essence of Entrepreneurship   | 3 cr.                                      |
| ENT 361 – Practicing Entrepreneurship              | 3 cr.                                      |
| ENT 384 – Small Business Consultancy <i>or</i>     |                                            |
| ENT 362 – Entrepreneurship Internship              | 3 cr.                                      |

### **COGNATE MINOR IN THEATRE ARTS (ACTING & DIRECTING) – 18 CREDITS**

The following courses are required for a cognate minor in Theatre (Acting & Directing):

|                                            |                                            |
|--------------------------------------------|--------------------------------------------|
| ART 111 – Fundamentals of Color and Design | 3 cr. (included in the IM core curriculum) |
| THE 131 – Acting I                         | 3 cr.                                      |
| THE 234 – Directing I                      | 3 cr.                                      |
| THE 335 – Directing II                     | 3 cr.                                      |
| Two Theatre Arts Electives                 | 6 cr.                                      |

### **COGNATE MINOR IN THEATRE ARTS (THEATRE DESIGN) – 18 CREDITS**

The following courses are required for a cognate minor in Entrepreneurship:

|                                                   |                                            |
|---------------------------------------------------|--------------------------------------------|
| ART 111 – Fundamentals of Color and Design        | 3 cr. (included in the IM core curriculum) |
| IM 350 – 3-Dimensional Environments and Animation | 3 cr.                                      |
| THE 121 - Stagecraft                              | 3 cr.                                      |
| THE 221 – Scene Design                            | 3 cr.                                      |
| THE 298 – Scene Painting                          | 3 cr.                                      |
| One Theatre Arts Elective                         | 3 cr.                                      |

**INTEGRATIVE MEDIA MAJOR WITH A COGNATE MINOR IN ART  
REQUIRED COURSES AND RECOMMENDED COURSE SEQUENCE**

| <b>First Semester</b>                      | <b>Credits</b> | <b>Fifth Semester</b>                         |                |
|--------------------------------------------|----------------|-----------------------------------------------|----------------|
| BA 153 – Management Foundations            | 3              | Distribution Requirement                      | 3              |
| Distribution Requirements                  | 6              | Electives                                     | 6              |
| ENG 101 – Composition                      | 4              | IM 302 – Principles of Interactivity          | 3              |
| FYF 101 – First-Year Foundations           | 3              | IM 320 – Concept Development & Processes      | 3              |
| <b>Total Credits</b>                       | <b>16</b>      | <b>Total Credits</b>                          | <b>15</b>      |
|                                            |                |                                               |                |
| <b>Second Semester</b>                     |                | <b>Sixth Semester</b>                         |                |
| ART 111 – Fundamentals of Color & Design   | 3              | Art Elective                                  | 3              |
| CS 125 – Computer Science I                | 4              | Distribution Requirement                      | 3              |
| Distribution Requirements                  | 6              | Electives                                     | 6              |
| IM 101 – Integrative Media Foundations I   | 3              | IM 391 – Integrative Media Project I          | 3              |
| <b>Total Credits</b>                       | <b>16</b>      | <b>Total Credits</b>                          | <b>15</b>      |
|                                            |                |                                               |                |
| <b>Third Semester</b>                      |                | <b>Seventh Semester</b>                       |                |
| ART 113 – Drawing                          | 3              | Art Elective                                  | 3              |
| ART 134 – Computer Graphics I              | 3              | Electives                                     | 6 – 9          |
| Distribution Requirements                  | 3              | IM 392 – Integrative Media Project II         | 3              |
| ENT 203 – Opportunity Identification       | 3              | IM 399 – Cooperative Education                | 0 – 3          |
| IM 201 – Integrative Media Foundations II  | 3              | <b>Total Credits</b>                          | <b>12 – 18</b> |
| <b>Total Credits</b>                       | <b>15</b>      |                                               |                |
|                                            |                |                                               |                |
| <b>Fourth Semester</b>                     |                | <b>Eighth Semester</b>                        |                |
| ART 234 – Computer Graphics II             | 3              | Electives                                     | 9 – 12         |
| COM 102 – Principles of Communication      | 3              | IM 399 – Cooperative Education                | 0 – 3          |
| Distribution Requirement                   | 3              | IM 400 – Integrative Media Portfolio Capstone | 3              |
| ENG 202 – Technical & Professional Writing | 3              | <b>Total Credits</b>                          | <b>12 – 18</b> |
| IM 301 – Principles of Motion & Layering   | 3              |                                               |                |
| <b>Total Credits</b>                       | <b>15</b>      |                                               |                |

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**INTEGRATIVE MEDIA MAJOR WITH A COGNATE MINOR IN BUSINESS ADMINISTRATION  
REQUIRED COURSES AND RECOMMENDED COURSE SEQUENCE**

| <b>First Semester</b>                            | <b>Credits</b> | <b>Fifth Semester</b>                         |                |
|--------------------------------------------------|----------------|-----------------------------------------------|----------------|
| BA 153 – Management Foundations                  | 3              | BA 321 - Marketing                            | 3              |
| Distribution Requirements                        | 6              | Distribution Requirements                     | 6              |
| ENG 101 – Composition                            | 4              | IM 302 – Principles of Interactivity          | 3              |
| FYF 101 – First-Year Foundations                 | 3              | IM 320 – Concept Development & Processes      | 3              |
| <b>Total Credits</b>                             | <b>16</b>      | <b>Total Credits</b>                          | <b>15</b>      |
|                                                  |                |                                               |                |
| <b>Second Semester</b>                           |                | <b>Sixth Semester</b>                         |                |
| ACC 161 – Financial Accounting & Decision-Making | 3              | BA 322 - Advertising                          | 3              |
| ART 111 – Fundamentals of Color & Design         | 3              | Electives                                     | 9              |
| CS 125 – Computer Science I                      | 4              | IM 391 – Integrative Media Project I          | 3              |
| Distribution Requirement                         | 3              | <b>Total Credits</b>                          | <b>15</b>      |
| IM 101 – Integrative Media Foundations I         | 3              |                                               |                |
| <b>Total Credits</b>                             | <b>16</b>      |                                               |                |
|                                                  |                |                                               |                |
| <b>Third Semester</b>                            |                | <b>Seventh Semester</b>                       |                |
| Distribution Requirements                        | 6              | BA 351 – Management of Organizations & People | 3              |
| Elective                                         | 3              | Electives                                     | 9              |
| ENT 203 – Opportunity Identification             | 3              | IM 392 – Integrative Media Project II         | 3              |
| IM 201 – Integrative Media Foundations II        | 3              | IM 399 – Cooperative Education                | 0 – 3          |
| <b>Total Credits</b>                             | <b>15</b>      | <b>Total Credits</b>                          | <b>15 – 18</b> |
|                                                  |                |                                               |                |
| <b>Fourth Semester</b>                           |                | <b>Eighth Semester</b>                        |                |
| COM 102 – Principles of Communication            | 3              | Electives                                     | 9 – 12         |
| Distribution Requirement                         | 3              | IM 399 – Cooperative Education                | 0 – 3          |
| Elective                                         | 3              | IM 400 – Integrative Media Portfolio Capstone | 3              |
| ENG 202 – Technical & Professional Writing       | 3              | <b>Total Credits</b>                          | <b>12 – 18</b> |
| IM 301 – Principles of Motion & Layering         | 3              |                                               |                |
| <b>Total Credits</b>                             | <b>15</b>      |                                               |                |

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**INTEGRATIVE MEDIA MAJOR WITH A COGNATE MINOR IN COMMUNICATION STUDIES  
REQUIRED COURSES AND RECOMMENDED COURSE SEQUENCE**

| <b>First Semester</b>                      | <b>Credits</b> | <b>Fifth Semester</b>                         |                |
|--------------------------------------------|----------------|-----------------------------------------------|----------------|
| BA 153 – Management Foundations            | 3              | COM 222 – Basic Video Production              | 3              |
| Distribution Requirements                  | 6              | Distribution Requirements                     | 6              |
| ENG 101 – Composition                      | 4              | IM 302 – Principles of Interactivity          | 3              |
| FYF 101 – First-Year Foundations           | 3              | IM 320 – Concept Development & Processes      | 3              |
| <b>Total Credits</b>                       | <b>16</b>      | <b>Total Credits</b>                          | <b>15</b>      |
| <br>                                       |                |                                               |                |
| <b>Second Semester</b>                     |                | <b>Sixth Semester</b>                         |                |
| ACC 161 – Fin. Acc. & Decision-Making      | 3              | COM 262 – Copyedit., Headwrit., & Layout      | 3              |
| ART 111 – Fundamentals of Color & Design   | 3              | COM 322 – Advanced Video Production           | 3              |
| CS 125 – Computer Science I                |                | Distribution Requirements                     | 6              |
| Distribution Requirement                   | 4              | IM 391 – Integrative Media Project I          | 3              |
| IM 101 – Integrative Media Foundations I   | 3              | <b>Total Credits</b>                          | <b>15</b>      |
| <b>Total Credits</b>                       | <b>16</b>      |                                               |                |
| <br>                                       |                |                                               |                |
| <b>Third Semester</b>                      |                | <b>Seventh Semester</b>                       |                |
| COM 221 – Audio Production                 | 3              | Electives                                     | 12             |
| Distribution Requirements                  | 6              | IM 392 – Integrative Media Project II         | 3              |
| ENT 203 – Opportunity Identification       | 3              | IM 399 – Cooperative Education                | 0 – 3          |
| IM 201 – Integrative Media Foundations II  | 3              | <b>Total Credits</b>                          | <b>15 – 18</b> |
| <b>Total Credits</b>                       | <b>15</b>      |                                               |                |
| <br>                                       |                |                                               |                |
| <b>Fourth Semester</b>                     |                | <b>Eighth Semester</b>                        |                |
| COM 102 – Principles of Communication      | 3              | Electives                                     | 9              |
| COM 124 – Mass Media Literacy              | 3              | IM 399 – Cooperative Education                | 0 – 3          |
| COM 203 – Small Group Communication        | 3              | IM 400 – Integrative Media Portfolio Capstone | 3              |
| ENG 202 – Technical & Professional Writing | 3              | <b>Total Credits</b>                          | <b>12 – 15</b> |
| IM 301 – Principles of Motion & Layering   | 3              |                                               |                |
| <b>Total Credits</b>                       | <b>15</b>      |                                               |                |

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**INTEGRATIVE MEDIA MAJOR WITH A COGNATE MINOR IN COMPUTER SCIENCE  
REQUIRED COURSES AND RECOMMENDED COURSE SEQUENCE**

| <b>First Semester</b>                      | <b>Credits</b> | <b>Fifth Semester</b>                         |                |
|--------------------------------------------|----------------|-----------------------------------------------|----------------|
| BA 153 – Management Foundations            | 3              | CS 283 – Web Development I                    | 3              |
| CS 125 – Computer Science I                | 4              | Distribution Requirement                      | 3              |
| Distribution Requirements                  | 6              | Elective                                      | 3              |
| FYF 101 – First-Year Foundations           | 3              | IM 302 – Principles of Interactivity          | 3              |
| <b>Total Credits</b>                       | <b>16</b>      | IM 320 – Concept Development & Processes      | 3              |
|                                            |                | <b>Total Credits</b>                          | <b>15</b>      |
| <br>                                       |                |                                               |                |
| <b>Second Semester</b>                     |                | <b>Sixth Semester</b>                         |                |
| ART 111 – Fundamentals of Color & Design   | 3              | CS 325 – Database Management                  | 3              |
| CS 126 – Computer Science II               | 4              | Distribution Requirement                      | 3              |
| Distribution Requirement                   | 3              | Electives                                     | 6              |
| ENG 101 – Composition                      | 4              | IM 391 – Integrative Media Project I          | 3              |
| IM 101 – Integrative Media Foundations I   | 3              | <b>Total Credits</b>                          | <b>15</b>      |
| <b>Total Credits</b>                       | <b>17</b>      |                                               |                |
| <br>                                       |                |                                               |                |
| <b>Third Semester</b>                      |                | <b>Seventh Semester</b>                       |                |
| CS 225 – Computer Science III              | 3              | CS 383 – Web Development II                   | 3              |
| Distribution Requirements                  | 3              | Electives                                     | 6 – 9          |
| Elective                                   | 3              | IM 392 – Integrative Media Project II         | 3              |
| ENT 203 – Opportunity Identification       | 3              | IM 399 – Cooperative Education                | 0 – 3          |
| IM 201 – Integrative Media Foundations II  | 3              | <b>Total Credits</b>                          | <b>12 – 18</b> |
| <b>Total Credits</b>                       | <b>15</b>      |                                               |                |
| <br>                                       |                |                                               |                |
| <b>Fourth Semester</b>                     |                | <b>Eighth Semester</b>                        |                |
| COM 102 – Principles of Communication      | 3              | Electives                                     | 9 – 12         |
| CS 226 – Computer Science IV               | 3              | IM 399 – Cooperative Education                | 0 – 3          |
| Distribution Requirement                   | 3              | IM 400 – Integrative Media Portfolio Capstone | 3              |
| ENG 202 – Technical & Professional Writing | 3              | <b>Total Credits</b>                          | <b>12 – 18</b> |
| IM 301 – Principles of Motion & Layering   | 3              |                                               |                |
| <b>Total Credits</b>                       | <b>15</b>      |                                               |                |

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**INTEGRATIVE MEDIA MAJOR WITH A COGNATE MINOR IN ENGLISH  
REQUIRED COURSES AND RECOMMENDED COURSE SEQUENCE**

| <b>First Semester</b>                          | <b>Credits</b> | <b>Fifth Semester</b>                         |                |
|------------------------------------------------|----------------|-----------------------------------------------|----------------|
| BA 153 – Management Foundations                | 3              | Distribution Requirement                      | 3              |
| Distribution Requirements                      | 6              | Electives                                     | 6              |
| ENG 101 – Composition                          | 4              | IM 302 – Principles of Interactivity          | 3              |
| FYF 101 – First-Year Foundations               | 3              | IM 320 – Concept Development & Processes      | 3              |
| <b>Total Credits</b>                           | <b>16</b>      | <b>Total Credits</b>                          | <b>15</b>      |
| <br>                                           |                |                                               |                |
| <b>Second Semester</b>                         |                | <b>Sixth Semester</b>                         |                |
| ART 111 – Fundamentals of Color & Design       | 3              | Distribution Requirement                      | 3              |
| CS 125 – Computer Science I                    | 4              | Electives                                     | 6              |
| Distribution Requirement                       | 3              | ENG 308 – Rhetorical Analysis &               |                |
| ENG 110 – Introduction to Literature & Culture | 3              | Nonfiction Prose Writing                      | 3              |
| IM 101 – Integrative Media Foundations I       | 3              | IM 391 – Integrative Media Project I          | 3              |
| <b>Total Credits</b>                           | <b>16</b>      | <b>Total Credits</b>                          | <b>15</b>      |
| <br>                                           |                |                                               |                |
| <b>Third Semester</b>                          |                | <b>Seventh Semester</b>                       |                |
| Distribution Requirements                      | 6              | Electives                                     | 9              |
| Elective                                       | 3              | ENG Elective                                  | 3              |
| ENT 203 – Opportunity Identification           | 3              | IM 392 – Integrative Media Project II         | 3              |
| IM 201 – Integrative Media Foundations II      | 3              | IM 399 – Cooperative Education                | 0 – 3          |
| <b>Total Credits</b>                           | <b>15</b>      | <b>Total Credits</b>                          | <b>15 – 18</b> |
| <br>                                           |                |                                               |                |
| <b>Fourth Semester</b>                         |                | <b>Eighth Semester</b>                        |                |
| COM 102 – Principles of Communication          | 3              | Electives                                     | 6 – 9          |
| Distribution Requirement                       | 3              | ENG Elective                                  | 3              |
| ENG 202 – Technical & Professional Writing     | 3              | IM 399 – Cooperative Education                | 0 – 3          |
| ENG 203 – Introduction to Creative Writing     | 3              | IM 400 – Integrative Media Portfolio Capstone | 3              |
| IM 301 – Principles of Motion & Layering       | 3              | <b>Total Credits</b>                          | <b>12 – 18</b> |
| <b>Total Credits</b>                           | <b>15</b>      |                                               |                |

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**INTEGRATIVE MEDIA MAJOR WITH A COGNATE MINOR IN ENTREPRENEURSHIP  
REQUIRED COURSES AND RECOMMENDED COURSE SEQUENCE**

| <b>First Semester</b>                          | <b>Credits</b> | <b>Fifth Semester</b>                          |                |
|------------------------------------------------|----------------|------------------------------------------------|----------------|
| BA 153 – Management Foundations                | 3              | Distribution Requirement                       | 6              |
| Distribution Requirements                      | 6              | ENT 361 – Practicing Entrepreneurship          | 3              |
| ENG 101 – Composition                          | 4              | IM 302 – Principles of Interactivity           | 3              |
| FYF 101 – First-Year Foundations               | 3              | IM 320 – Concept Development & Processes       | 3              |
| <b>Total Credits</b>                           | <b>16</b>      | <b>Total Credits</b>                           | <b>15</b>      |
| <br>                                           |                |                                                |                |
| <b>Second Semester</b>                         |                | <b>Sixth Semester</b>                          |                |
| ACC 161 – Financial Acct. & Decision-Making    | 3              | Distribution Requirement                       | 3              |
| ART 111 – Fundamentals of Color & Design       | 3              | Electives                                      | 6              |
| CS 125 – Computer Science I                    | 4              | BA 321 - Marketing                             | 3              |
| Distribution Requirement                       | 3              | IM 391 – Integrative Media Project I           | 3              |
| IM 101 – Integrative Media Foundations I       | 3              | <b>Total Credits</b>                           | <b>15</b>      |
| <b>Total Credits</b>                           | <b>16</b>      |                                                |                |
| <br>                                           |                |                                                |                |
| <b>Third Semester</b>                          |                | <b>Seventh Semester</b>                        |                |
| Distribution Requirements                      | 6              | Electives                                      | 9              |
| Elective                                       | 3              | ENT 384 – Small Business Consultancy <i>or</i> |                |
| ENT 201 – Nature & Essence of Entrepreneurship | 3              | ENT 362 – Internship                           | 3              |
| IM 201 – Integrative Media Foundations II      | 3              | IM 392 – Integrative Media Project II          | 3              |
| <b>Total Credits</b>                           | <b>15</b>      | IM 399 – Cooperative Education                 | 0 – 3          |
|                                                |                | <b>Total Credits</b>                           | <b>15 – 18</b> |
| <br>                                           |                |                                                |                |
| <b>Fourth Semester</b>                         |                | <b>Eighth Semester</b>                         |                |
| COM 102 – Principles of Communication          | 3              | Electives                                      | 9 - 12         |
| Distribution Requirement                       | 3              | IM 399 – Cooperative Education                 | 0 – 3          |
| ENG 202 – Technical & Professional Writing     | 3              | IM 400 – Integrative Media Portfolio Capstone  | 3              |
| ENT 203 – Opportunity Identification           | 3              | <b>Total Credits</b>                           | <b>12 – 18</b> |
| IM 301 – Principles of Motion & Layering       | 3              |                                                |                |
| <b>Total Credits</b>                           | <b>15</b>      |                                                |                |

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**INTEGRATIVE MEDIA MAJOR WITH A COGNATE MINOR IN THEATRE ARTS  
AND A CONCENTRATION IN ACTING & DIRECTING  
REQUIRED COURSES AND RECOMMENDED COURSE SEQUENCE**

|                                            |                |                                               |                |
|--------------------------------------------|----------------|-----------------------------------------------|----------------|
| <b>First Semester</b>                      | <b>Credits</b> | <b>Fifth Semester</b>                         |                |
| BA 153 – Management Foundations            | 3              | Distribution Requirement                      | 3              |
| Distribution Requirements                  | 6              | Elective                                      | 3              |
| ENG 101 – Composition                      | 4              | IM 302 – Principles of Interactivity          | 3              |
| FYF 101 – First-Year Foundations           | 3              | IM 320 – Concept Development & Processes      | 3              |
| <b>Total Credits</b>                       | <b>16</b>      | THE 335 – Directing                           | 3              |
|                                            |                | <b>Total Credits</b>                          | <b>15</b>      |
| <b>Second Semester</b>                     |                | <b>Sixth Semester</b>                         |                |
| ART 111 – Fundamentals of Color & Design   | 3              | Distribution Requirement                      | 3              |
| CS 125 – Computer Science I                | 4              | Electives                                     | 6              |
| Distribution Requirements                  | 6              | IM 391 – Integrative Media Project I          | 3              |
| IM 101 – Integrative Media Foundations I   | 3              | THE Elective                                  | 3              |
| <b>Total Credits</b>                       | <b>16</b>      | <b>Total Credits</b>                          | <b>15</b>      |
| <b>Third Semester</b>                      |                | <b>Seventh Semester</b>                       |                |
| Distribution Requirement                   | 3              | Electives                                     | 6-9            |
| Elective                                   | 3              | IM 392 – Integrative Media Project II         | 3              |
| ENT 203 – Opportunity Identification       | 3              | IM 399 – Cooperative Education                | 0 – 3          |
| IM 201 – Integrative Media Foundations II  | 3              | THE Elective                                  | 3              |
| THE 131 – Acting I                         | 3              | <b>Total Credits</b>                          | <b>12 – 18</b> |
| <b>Total Credits</b>                       | <b>15</b>      |                                               |                |
| <b>Fourth Semester</b>                     |                | <b>Eighth Semester</b>                        |                |
| COM 102 – Principles of Communication      | 3              | Electives                                     | 9 - 12         |
| Distribution Requirement                   | 3              | IM 399 – Cooperative Education                | 0 – 3          |
| ENG 202 – Technical & Professional Writing | 3              | IM 400 – Integrative Media Portfolio Capstone | 3              |
| IM 301 – Principles of Motion & Layering   | 3              | <b>Total Credits</b>                          | <b>12 - 18</b> |
| THE 234 – Directing                        | 3              |                                               |                |
| <b>Total Credits</b>                       | <b>15</b>      |                                               |                |

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**INTEGRATIVE MEDIA MAJOR WITH A COGNATE MINOR IN THEATRE ARTS  
AND A CONCENTRATION IN THEATRE DESIGN  
REQUIRED COURSES AND RECOMMENDED COURSE SEQUENCE**

|                                            |                |                                                |                |
|--------------------------------------------|----------------|------------------------------------------------|----------------|
| <b>First Semester</b>                      | <b>Credits</b> | <b>Fifth Semester</b>                          |                |
| BA 153 – Management Foundations            | 3              | Distribution Requirement                       | 3              |
| Distribution Requirements                  | 6              | Elective                                       | 3              |
| ENG 101 – Composition                      | 4              | IM 302 – Principles of Interactivity           | 3              |
| FYF 101 – First-Year Foundations           | 3              | IM 320 – Concept Development & Processes       | 3              |
| <b>Total Credits</b>                       | <b>16</b>      | THE 298 – Scene Painting                       | 3              |
|                                            |                | <b>Total Credits</b>                           | <b>15</b>      |
| <b>Second Semester</b>                     |                | <b>Sixth Semester</b>                          |                |
| ART 111 – Fundamentals of Color & Design   | 3              | Distribution Requirement                       | 3              |
| CS 125 – Computer Science I                | 4              | Electives                                      | 6              |
| Distribution Requirements                  | 6              | IM 350 – 3-Dimensional Environment & Animation | 3              |
| IM 101 – Integrative Media Foundations I   | 3              | IM 391 – Integrative Media Project I           | 3              |
| <b>Total Credits</b>                       | <b>16</b>      | <b>Total Credits</b>                           | <b>15</b>      |
| <b>Third Semester</b>                      |                | <b>Seventh Semester</b>                        |                |
| Distribution Requirement                   | 3              | Electives                                      | 6-9            |
| Elective                                   | 3              | IM 392 – Integrative Media Project II          | 3              |
| ENT 203 – Opportunity Identification       | 3              | IM 399 – Cooperative Education                 | 0 – 3          |
| IM 201 – Integrative Media Foundations II  | 3              | THE Elective                                   | 3              |
| THE 121 – Stagecraft                       | 3              | <b>Total Credits</b>                           | <b>12 – 18</b> |
| <b>Total Credits</b>                       | <b>15</b>      |                                                |                |
| <b>Fourth Semester</b>                     |                | <b>Eighth Semester</b>                         |                |
| COM 102 – Principles of Communication      | 3              | Electives                                      | 9 - 12         |
| Distribution Requirement                   | 3              | IM 399 – Cooperative Education                 | 0 – 3          |
| ENG 202 – Technical & Professional Writing | 3              | IM 400 – Integrative Media Portfolio Capstone  | 3              |
| IM 301 – Principles of Motion & Layering   | 3              | <b>Total Credits</b>                           | <b>12 - 18</b> |
| THE 221 – Scene Design                     | 3              |                                                |                |
| <b>Total Credits</b>                       | <b>15</b>      |                                                |                |

### **ART MINOR**

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.

The minor in Studio Art accepts any courses above the ART 101 level, with no more than 6 credits in art history. A total of 18 credit hours is required for the minor in Studio Art.

### **INTEGRATIVE MEDIA MINOR**

The minor in Integrative Media offers to the student body the foundational skill set delivered within the art, design, and technology core and elective IM 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 referred to in the IM 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

Core Courses (6 cr.)

|                                           |       |
|-------------------------------------------|-------|
| IM 101 – Integrative Media Foundations I  | 3 cr. |
| IM 201 – Integrative Media Foundations II | 3 cr. |

Three of the following courses (9 cr.)

|                                            |       |
|--------------------------------------------|-------|
| IM 301 – Principles of Motion and Layering | 3 cr. |
| IM 302 – Principles of Interactivity       | 3 cr. |
| IM 391 – Integrative Media Project I       | 3 cr. |

and

|                         |              |
|-------------------------|--------------|
| <u>IM Electives (2)</u> | <u>6 cr.</u> |
|-------------------------|--------------|

|                                |        |
|--------------------------------|--------|
| Minimum Total Required Credits | 21 cr. |
|--------------------------------|--------|



**Division of Performing Arts**  
**Chairperson: Mr. Joseph C. Dawson**

**Faculty**

Associate Professors: Baker, Dawson, Gregorie, Simon, Thomas  
 Director of Dance: Kristin Degnan-Boonin  
 Director of Theatre: Theresa Fallon  
 Adjunct Faculty: Cross, Driscoll, Gallo, Harris, Insalaco, Lish, Mariani, Minsavage, Phair, Rasmus, Smallcomb, Unice, Zipay  
 Faculty Emeritus: Groh

The Division of Performing Arts offers B.A. degrees in Theatre Arts and Musical Theatre and minor areas of study in Dance, Music, and Theatre. The Division presents a regular schedule of performances to the University and surrounding communities and is home to the Wilkes Community Conservatory.

**DANCE**

**Director: Ms. Kristin Degnan-Boonin**

**Total minimum number of credits required for a minor in Dance – 18**

As a dimension of its continuing development in the performing arts, Wilkes University provides a comprehensive program in the field of dance. The total minimum number of credits for a minor in Dance is 18 (above DAN 100). An advanced project in dance composition is also required of all students enrolled in the Dance minor; this project will be supervised by the minor advisor.

**MUSIC**

**Coordinator: Dr. Steven L. 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. Music faculty members will both advise and mentor music minors. The 18-credit-hour requirement may be sequenced over eight semesters or less.

The required courses for the minor in music are as follows:

| <b>Performance: 6 credits to choose from</b>                                                                           | <b>Credits</b>   |
|------------------------------------------------------------------------------------------------------------------------|------------------|
| MUS 121 – Civic Band                                                                                                   | 0/3 (repeatable) |
| MUS 125 – University Chorus                                                                                            | 0/3 (repeatable) |
| MUS 127 – Jazz Ensemble                                                                                                | 0/3 (repeatable) |
| MUS 131 – University Orchestra                                                                                         | 0/3 (repeatable) |
| <b>Music Theory: 3 credits</b>                                                                                         | <b>Credits</b>   |
| MUS 102 – Music Theory I                                                                                               | 3                |
| <b>Music History: 3 credits</b>                                                                                        | <b>Credits</b>   |
| MUS 210 – Music History I                                                                                              | 3                |
| MUS 211 – Music History II                                                                                             | 3                |
| <b>Music Elective: 3 credits</b>                                                                                       | <b>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                |
| MUS 198 – Topics in Music Theory or Music History                                                                      | 1 – 3            |
| MUS 298 – Topics in Music Theory or Music History                                                                      | 1 – 3            |
| MUS 395 – Independent Research (Music Theory or Music History)                                                         | 1 – 3            |

**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 faculty. 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.

**MUSICAL THEATRE**  
**Director: Ms. Theresa Fallon**

**Total minimum number of credits required for a major in Musical Theatre leading to the B.A. degree – 122**

The Musical Theatre degree program integrates studies in Theatre, Music, and Dance. Establishing a foundational level in all three disciplines, the program also provides opportunities for advanced study in each area.

**MUSICAL THEATRE MAJOR**  
**REQUIRED COURSES AND RECOMMENDED COURSE SEQUENCE**

|                                                  |                |                                       |                |
|--------------------------------------------------|----------------|---------------------------------------|----------------|
| <b>First Semester</b>                            | <b>Credits</b> | <b>Fifth Semester</b>                 | <b>Credits</b> |
| ENG 101 – Composition                            | 4              | Distribution Requirement              | 3              |
| FYF 101 – First-Year Foundations                 | 3              | Electives                             | 6              |
| MUS 100 – Voice                                  | 1              | MUS 300 - Voice                       | 1              |
| MUS 103 – Basic Musicianship or higher           | 3              | THE 190 – Theatre Laboratory          | 1              |
| MUS 125 – University Chorus                      | 3              | THE 211 – Theatre History I           | 3              |
| THE 131 – Acting I                               | 3              | THE Elective                          | 3              |
| THE 190 – Theatre Laboratory                     | 1              | <b>Total Credits</b>                  | <b>17</b>      |
| <b>Total Credits</b>                             | <b>18</b>      |                                       |                |
| <b>Second Semester</b>                           |                | <b>Sixth Semester</b>                 |                |
| Distribution Requirements                        | 6              | Distribution Requirement              | 3              |
| ENG 120 – Introduction to Literature and Culture | 3              | Electives                             | 6              |
| MUS 100 – Voice                                  | 1              | MUS 300 – Voice                       | 1              |
| MUS 125 – University Chorus                      | 3              | THE 190 – Theatre Laboratory          | 1              |
| THE 132 – Speech for the Stage                   | 3              | THE 312 – Theatre History II          | 3              |
| THE 190 – Theatre Laboratory                     | 1              | THE Elective                          | 3              |
| <b>Total Credits</b>                             | <b>17</b>      | <b>Total Credits</b>                  | <b>17</b>      |
| <b>Third Semester</b>                            |                | <b>Seventh Semester</b>               |                |
| Distribution Requirements                        | 6              | Electives                             | 9              |
| MUS 200 – Voice                                  | 1              | MUS 400 – Voice                       | 1              |
| THE 121 – Stagecraft                             | 3              | THE 190 – Theatre Laboratory          | 1              |
| THE 190 – Theatre Laboratory                     | 1              | THE 393 – Senior Seminar              | 1              |
| THE 232 – Acting II                              | 3              | THE Design Elective                   | 3              |
| <b>Total Credits</b>                             | <b>14</b>      | <b>Total Credits</b>                  | <b>15</b>      |
| <b>Fourth Semester</b>                           |                | <b>Eighth Semester</b>                |                |
| Distribution Requirements                        | 9              | DAN Elective                          | 3              |
| MUS 200 – Voice                                  | 1              | Electives                             | 6              |
| THE 112 – Script Analysis                        | 3              | MUS 400 – Voice                       | 1              |
| THE 190 – Theatre Laboratory                     | 1              | THE 190 – Theatre Laboratory          | 1              |
| <b>Total Credits</b>                             | <b>14</b>      | THE or MUS (Musical Theatre) Elective | 3              |
|                                                  |                | <b>Total Credits</b>                  | <b>14</b>      |

**THEATRE ARTS**  
**Director: Ms. Theresa Fallon**

**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 minor in Theatre Arts – 18**

**THEATRE ARTS MAJOR**

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 39 credits of Theatre Arts classes and 45 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 and Directing; Dance; and Theatre Design.

**THEATRE ARTS MAJOR**  
**REQUIRED COURSES AND RECOMMENDED COURSE SEQUENCE**

| <b>First Semester</b>                            | <b>Credits</b> | <b>Fifth Semester</b>        | <b>Credits</b> |
|--------------------------------------------------|----------------|------------------------------|----------------|
| ENG 101 – Composition                            | 4              | Distribution Requirement     | 3              |
| FYF 101 – First-Year Foundations                 | 3              | Electives                    | 6              |
| THE 121 – Stagecraft                             | 3              | THE 190 – Theatre Laboratory | 1              |
| THE 131 – Acting I                               | 3              | THE 211 – Theatre History I  | 3              |
| THE 190 – Theatre Laboratory                     | 1              | Theatre Design Elective      | 3              |
| <b>Total Credits</b>                             | <b>14</b>      | <b>Total Credits</b>         | <b>16</b>      |
| <br>                                             |                |                              |                |
| <b>Second Semester</b>                           |                | <b>Sixth Semester</b>        |                |
| Distribution Requirements                        | 6              | Distribution Requirement     | 3              |
| Elective                                         | 3              | Electives                    | 6              |
| ENG 120 – Introduction to Literature and Culture | 3              | THE 190 – Theatre Laboratory | 1              |
| THE 132 – Speech for the Stage                   | 3              | THE 312 – Theatre History II | 3              |
| THE 190 – Theatre Laboratory                     | 1              | THE Elective                 | 3              |
| <b>Total Credits</b>                             | <b>16</b>      | <b>Total Credits</b>         | <b>16</b>      |
| <br>                                             |                |                              |                |
| <b>Third Semester</b>                            |                | <b>Seventh Semester</b>      |                |
| Distribution Requirements                        | 6              | Electives                    | 12             |
| Elective                                         | 3              | THE 190 – Theatre Laboratory | 1              |
| THE 190 – Theatre Laboratory                     | 1              | THE 393 – Senior Seminar     | 1              |
| THE 232 – Acting II                              | 3              | <b>Total Credits</b>         | <b>15</b>      |
| <b>Total Credits</b>                             | <b>13</b>      |                              |                |
| <br>                                             |                |                              |                |
| <b>Fourth Semester</b>                           |                | <b>Eighth Semester</b>       |                |
| Distribution Requirements                        | 9              | Electives                    | 12             |
| Elective                                         | 3              | THE 190 – Theatre Laboratory | 1              |
| THE 112 – Script Analysis                        | 3              | THE Elective                 | 3              |
| THE 190 – Theatre Laboratory                     | 1              | <b>Total Credits</b>         | <b>16</b>      |
| <b>Total Credits</b>                             | <b>16</b>      |                              |                |

*Theatre Arts majors may use their elective credits to earn a concentration in Acting & Directing, Dance, or Theatre Design.*

Theatre Arts majors may use their elective credits to earn a concentration in Acting and Directing, Dance, or Theatre Design. Following are the Required Courses and Recommended Course Sequences for these concentrations.

**THEATRE ARTS MAJOR WITH A CONCENTRATION IN ACTING AND DIRECTING  
REQUIRED COURSES AND RECOMMENDED COURSE SEQUENCE**

|                                                  |                |                                  |                |
|--------------------------------------------------|----------------|----------------------------------|----------------|
| <b>First Semester</b>                            | <b>Credits</b> | <b>Fifth Semester</b>            | <b>Credits</b> |
| ENG 101 – Composition                            | 4              | Distribution Requirement         | 3              |
| FYF 101 – First-Year Foundations                 | 3              | Elective                         | 3              |
| THE 121 – Stagecraft                             | 3              | THE 190 – Theatre Laboratory     | 1              |
| THE 131 – Acting I                               | 3              | THE 211 – Theatre History I      | 3              |
| THE 190 – Theatre Laboratory                     | 1              | THE 331 – Acting III             | 3              |
| <b>Total Credits</b>                             | <b>14</b>      | THE 335 – Directing II           | 3              |
|                                                  |                | <b>Total Credits</b>             | <b>16</b>      |
| <b>Second Semester</b>                           |                | <b>Sixth Semester</b>            |                |
| Distribution Requirements                        | 6              | Distribution Requirement         | 3              |
| Elective                                         | 3              | Elective                         | 3              |
| ENG 120 – Introduction to Literature and Culture | 3              | ENG Dramatic Literature Elective | 3              |
| THE 132 – Speech for the Stage (OPO)             | 3              | THE 190 – Theatre Laboratory     | 1              |
| THE 190 – Theatre Laboratory                     | 1              | THE 312 – Theatre History II     | 3              |
| <b>Total Credits</b>                             | <b>16</b>      | THE Elective                     | 3              |
|                                                  |                | <b>Total Credits</b>             | <b>16</b>      |
| <b>Third Semester</b>                            |                | <b>Seventh Semester</b>          |                |
| Distribution Requirements                        | 6              | Electives                        | 6              |
| Elective                                         | 3              | THE 190 – Theatre Laboratory     | 1              |
| THE 190 – Theatre Laboratory                     | 1              | THE 393 – Senior Seminar         | 1              |
| THE 232 – Acting II                              | 3              | THE 431 – Acting IV              | 3              |
| THE 234 – Directing I                            | 3              | Theatre Design Elective          | 3              |
| <b>Total Credits</b>                             | <b>16</b>      | <b>Total Credits</b>             | <b>14</b>      |
|                                                  |                | <b>Eighth Semester</b>           |                |
| <b>Fourth Semester</b>                           |                | Electives                        | 9              |
| Distribution Requirements                        | 9              | THE 190 – Theatre Laboratory     | 1              |
| ENG Dramatic Literature Elective                 | 3              | THE Elective                     | 3              |
| THE 112 – Script Analysis                        | 3              | <b>Total Credits</b>             | <b>13</b>      |
| THE 190 – Theatre Laboratory                     | 1              |                                  |                |
| <b>Total Credits</b>                             | <b>16</b>      |                                  |                |

**THEATRE ARTS MAJOR WITH A CONCENTRATION IN DANCE  
REQUIRED COURSES AND RECOMMENDED COURSE SEQUENCE**

|                                                  |                |                              |                |
|--------------------------------------------------|----------------|------------------------------|----------------|
| <b>First Semester</b>                            | <b>Credits</b> | <b>Fifth Semester</b>        | <b>Credits</b> |
| ENG 101 – Composition                            | 4              | DAN 120 – Tap Dance          | 3              |
| FYF 101 – First-Year Foundations                 | 3              | Distribution Requirement     | 3              |
| THE 121 – Stagecraft                             | 3              | Electives                    | 6              |
| THE 131 – Acting I                               | 3              | THE 190 – Theatre Laboratory | 1              |
| THE 190 – Theatre Laboratory                     | 1              | THE 211 – Theatre History I  | 3              |
| <b>Total Credits</b>                             | <b>14</b>      | <b>Total Credits</b>         | <b>16</b>      |
| <b>Second Semester</b>                           |                | <b>Sixth Semester</b>        |                |
| DAN 250 – Classical Ballet                       | 3              | DAN 320 – Dance Composition  | 3              |
| Distribution Requirements                        | 6              | Distribution Requirement     | 3              |
| ENG 120 – Introduction to Literature and Culture | 3              | Elective                     | 3              |
| THE 132 – Speech for the Stage (OPO)             | 3              | THE 190 – Theatre Laboratory | 1              |
| THE 190 – Theatre Laboratory                     | 1              | THE 312 – Theatre History II | 3              |
| <b>Total Credits</b>                             | <b>16</b>      | THE Elective                 | 3              |
| <b>Third Semester</b>                            |                | <b>Total Credits</b>         | <b>16</b>      |
| DAN 130 – Introduction to Jazz Dance             | 3              | <b>Seventh Semester</b>      |                |
| Distribution Requirements                        | 6              | DAN Elective                 | 3              |
| Elective                                         | 3              | Electives                    | 6              |
| THE 190 – Theatre Laboratory                     | 1              | THE 190 – Theatre Laboratory | 1              |
| THE 232 – Acting II                              | 3              | THE 393 – Senior Seminar     | 1              |
| <b>Total Credits</b>                             | <b>16</b>      | Theatre Design Elective      | 3              |
| <b>Fourth Semester</b>                           |                | <b>Total Credits</b>         | <b>14</b>      |
| DAN 110 – Introduction to Modern Dance           | 3              | <b>Eighth Semester</b>       |                |
| Distribution Requirements                        | 9              | Electives                    | 9              |
| THE 112 – Script Analysis                        | 3              | THE 190 – Theatre Laboratory | 1              |
| THE 190 – Theatre Laboratory                     | 1              | THE Elective                 | 3              |
| <b>Total Credits</b>                             | <b>16</b>      | <b>Total Credits</b>         | <b>13</b>      |

**THEATRE ARTS MAJOR WITH A CONCENTRATION IN THEATRE DESIGN  
REQUIRED COURSES AND RECOMMENDED COURSE SEQUENCE**

|                                                  |                |                              |                |
|--------------------------------------------------|----------------|------------------------------|----------------|
| <b>First Semester</b>                            | <b>Credits</b> | <b>Fifth Semester</b>        | <b>Credits</b> |
| ENG 101 – Composition                            | 4              | Distribution Requirement     | 3              |
| FYF 101 – First-Year Foundations                 | 3              | Electives                    | 6              |
| THE 121 – Stagecraft                             | 3              | THE 190 – Theatre Laboratory | 1              |
| THE 131 – Acting I                               | 3              | THE 211 – Theatre History I  | 3              |
| THE 190 – Theatre Laboratory                     | 1              | Theatre Design Elective      | 3              |
| <b>Total Credits</b>                             | <b>14</b>      | <b>Total Credits</b>         | <b>16</b>      |
| <b>Second Semester</b>                           |                | <b>Sixth Semester</b>        |                |
| ART 113 – Drawing and Composition                | 3              | Distribution Requirement     | 3              |
| Distribution Requirements                        | 6              | Electives                    | 6              |
| ENG 120 – Introduction to Literature and Culture | 3              | THE 190 – Theatre Laboratory | 1              |
| THE 132 – Speech for the Stage (OPO)             | 3              | THE 312 – Theatre History II | 3              |
| THE 190 – Theatre Laboratory                     | 1              | Theatre Design Elective      | 3              |
| <b>Total Credits</b>                             | <b>16</b>      | <b>Total Credits</b>         | <b>16</b>      |
| <b>Third Semester</b>                            |                | <b>Seventh Semester</b>      |                |
| Distribution Requirements                        | 6              | Electives                    | 9              |
| Elective                                         | 3              | THE 190 – Theatre Laboratory | 1              |
| THE 190 – Theatre Laboratory                     | 1              | THE 191 – Design Practicum   | 3              |
| THE 232 – Acting II                              | 3              | THE 393 – Senior Seminar     | 1              |
| Theatre Design Elective                          | 3              | <b>Total Credits</b>         | <b>14</b>      |
| <b>Total Credits</b>                             | <b>16</b>      | <b>Eighth Semester</b>       |                |
| <b>Fourth Semester</b>                           |                | Electives                    | 12             |
| Art Elective                                     | 3              | THE 190 – Theatre Laboratory | 1              |
| Distribution Requirements                        | 9              | <b>Total Credits</b>         | <b>13</b>      |
| THE 112 – Script Analysis                        | 3              |                              |                |
| THE 190 – Theatre Laboratory                     | 1              |                              |                |
| <b>Total Credits</b>                             | <b>16</b>      |                              |                |

**THEATRE ARTS MINOR**

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.

Required Courses for a minor in Theatre Arts:

THE 121 – Stagecraft 3 cr.

Electives (select five of the following courses):

THE 111 – Fundamentals of Play Structure and Criticism 3 cr.

THE 131 – Acting I 3 cr.

THE 132 – Speech for the Stage 3 cr.

THE 211 – Theatre History I 3 cr.

THE 221 – Scene Design 3 cr.

THE 232 – Acting II 3 cr.

THE 234 – Directing I 3 cr.

THE 312 – Theatre History II 3 cr.

THE 335 – Directing II 3 cr.

# COLLEGE OF SCIENCE AND ENGINEERING

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Department of Air and Space Studies

Division of Biology and Health Sciences

Department of Chemistry

Division of Engineering and Physics

Department of Environmental Engineering and Earth Sciences

Department of Mathematics and Computer Science

# **College of Science and Engineering**

## **Dean: Dr. Dale A. Bruns**

### **Our 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.

### **Our 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 and Health Sciences
- Chemistry
- Engineering and Physics
- Environmental Engineering and Earth Sciences
- Mathematics and Computer Science

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

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



**Department of Air and Space Studies**  
**Chairperson: Lieutenant Colonel Todd Peachey**

**Faculty**

Professor: Lt. Col. Peachey  
 Assistant Professor: Major Everitte  
 Instructor: Captain Honrath

**AIR AND SPACE STUDIES**  
**(AIR FORCE ROTC)**

**Total minimum number of credits required for a minor in Air and Space Studies – 22**

The Air Force Reserve Office 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 Air and Space 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 (408-4860).

A minor in Air and Space Studies is available to students who complete a minimum of 22 semester hours including the following: up to 16 hours of Air and Space 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)**

| <b>Business Administration</b>                               | <b>Credits</b> |
|--------------------------------------------------------------|----------------|
| 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              |
| <b>Communication Studies</b>                                 | <b>Credits</b> |
| 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            |
| <b>History</b>                                               | <b>Credits</b> |
| 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              |
| <b>Political Science</b>                                     | <b>Credits</b> |
| 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 Air and Space 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) twice weekly.

### **FIELD TRAINING**

Field training consists of a four-week, 3-credit Air and Space 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) experience aircraft orientation flights, and 4) 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 Air and Space 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 PROGRAM (PD) (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, navigators, 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 Air and Space Studies Department early in the fall semester. High school students wishing to compete for AFROTC college scholarships must complete and submit an application early in 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.

**RECOMMENDED FOUR-YEAR COURSE SEQUENCE LEADING TO A  
COMMISSION IN THE UNITED STATES AIR FORCE**

**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.)

| <b>First Semester</b>               | <b>Credits</b> | <b>Third Semester</b>                      | <b>Credits</b> |
|-------------------------------------|----------------|--------------------------------------------|----------------|
| AS 101 – Foundations of the USAF I  | 1              | AS 201 – Evolution of Air & Space Power I  | 1              |
| AS 103 – Leadership Laboratory      | 0              | AS 203 – Leadership Laboratory             | 0              |
| <b>Total Credits</b>                | <b>1</b>       | <b>Total Credits</b>                       | <b>1</b>       |
| <br>                                |                | <br>                                       |                |
| <b>Second Semester</b>              |                | <b>Fourth Semester</b>                     |                |
| AS 102 – Foundations of the USAF II | 1              | AS 202 – Evolution of Air & Space Power II | 1              |
| AS 104 – Leadership Laboratory      | 0              | AS 204 – Leadership Laboratory             | 0              |
| <b>Total Credits</b>                | <b>1</b>       | <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.

| <b>Summer</b>                       | <b>Credits</b> |
|-------------------------------------|----------------|
| AS 240 – 4-wk Summer 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. Student 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.

| <b>Fifth Semester</b>                    | <b>Credits</b> | <b>Seventh Semester</b>                       | <b>Credits</b> |
|------------------------------------------|----------------|-----------------------------------------------|----------------|
| AS 301 – Air Force Leadership Studies I  | 3              | AS 401 – Nat’l Sec. Aff./Active Duty Prep. I  | 3              |
| AS 303 – Leadership Laboratory           | 0              | AS 403 – Leadership Laboratory                | 0              |
| <b>Total Credits</b>                     | <b>3</b>       | <b>Total Credits</b>                          | <b>3</b>       |
| <br>                                     |                | <br>                                          |                |
| <b>Sixth Semester</b>                    |                | <b>Eighth Semester</b>                        |                |
| AS 302 – Air Force Leadership Studies II | 3              | AS 402 – Nat’l Sec. Aff./Active Duty Prep. II | 3              |
| AS 304 – Leadership Laboratory           | 0              | AS 404 – Leadership Laboratory                | 0              |
| <b>Total Credits</b>                     | <b>3</b>       | <b>Total Credits</b>                          | <b>3</b>       |

**Division of Biology and Health Sciences**  
**Chairperson: Dr. Kenneth A. Pidcock**

**Faculty**

Professors: Klemow, Steele, Terzaghi  
Associate Professors: Biggers, Kadlec, Kalter, Pidcock  
Assistant Professors: Gutierrez, Laing, Stratford  
Adjunct Faculty: Mullen, Serfass  
Faculty Emeriti: Hayes, Turoczi  
Coordinator of Health Sciences: Sharp  
Laboratory Preparation Supervisor: Elias  
Laboratory Preparation Assistant: Buzalka  
Biology Instructor and Education Specialist: Chapman

**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**

The Biology program is a generalized program covering basic areas of biology. Specific pre-professional training is minimized in favor of the broadest possible background in the liberal arts as well as the biological sciences.

The B.A. curriculum offers flexibility so that those students in secondary education who are preparing to teach can include the professional semester of student teaching in the eighth semester. Students majoring in biology may opt to earn a Pennsylvania Teacher Certificate for teaching biology in grades 7-12 by completing a minor in secondary education.

Students interested in Secondary Education declare the minor in secondary education with their advisor. The minor consists of the following courses: ED 180, ED 190, ED 191, ED 220, ED 371 (Teaching Methods in Science), ED 380, ED 390, EDSP 210, EDSP 225, and EDSP 388. All Teacher Education students must apply for admission to the Teacher Education Program in the sophomore or junior year. Candidates must maintain a 2.0 GPA in their secondary major courses and an overall 3.0 grade point average and pass the appropriate PRAXIS tests in order to be certified.

The B.S. curriculum meets all of the liberal arts requirements for the Bachelor of Arts degree. In addition, it provides a greater concentration of advanced biology courses. This program is recommended for those students planning to enter industry, professional schools, or continue with graduate study in biology.

In order to emphasize the broadening aspects of biological knowledge, the department has established categories of specific biological fields from which the student must achieve reasonable diversity in the selection of upper-level courses. The four categories are 1) Molecular and Cellular Biology, 2) Structural and Functional Biology, 3) Diversity and Populational Biology, and 4) Botanical Biology. The B.A. major is required to take a total of four electives, with one upper-level course from each of the four categories. The B.S. major must take a total of five electives, with one upper-level course from each of the four categories and, in addition, must select any one course from those same categories. Both B.S. and B.A. majors are required to complete at least one course in Biology that has emphasis in quantitative biology.

**COURSE SELECTIONS WITHIN THE FOUR BIOLOGICAL FIELDS**

**A. Molecular and Cellular Biology**

BIO 324 – Molecular Biology  
BIO 326 – Immunology and Immunochemistry  
BIO 327 – Medical Microbiology  
BIO 328 – Developmental Biology  
BIO 329 - Virology  
BIO 338 – Biology of Cancer  
BIO 345 - Genetics  
BIO 398 – Topics

**B. Structural and Functional Biology**

BIO 311 – Comparative Physiology  
BIO 314 – Comparative Vertebrate Anatomy  
BIO 321 – Mammalian Physiology  
BIO 323 – Functional Histology  
BIO 325 – Endocrinology  
BIO 352 – Pathophysiology  
BIO 398 – Topics

**C. Diversity and Populational Biology**

BIO 306 – Invertebrate Biology  
BIO 312 – Parasitology  
BIO 340 – Conservation Biology  
BIO 341 – Freshwater Ecosystems  
BIO 342 – The Archosaurs  
BIO 343 – Marine Ecology  
BIO 344 – Ecology  
BIO 346 – Animal Behavior  
BIO 348 – Field Zoology  
BIO 398 - Topics

**D. Botanical Biology**

BIO 361 – Plant Form and Function  
BIO 362 – Plant Diversity  
BIO 366 – Field Botany  
BIO 368 – Medical Botany  
BIO 369 – Plant Physiology  
BIO 398 - Topics

**BIOLOGY MAJOR**  
**REQUIRED COURSES AND RECOMMENDED COURSE SEQUENCE**

|                                           | Credits   |           |                                                | Credits      |              |
|-------------------------------------------|-----------|-----------|------------------------------------------------|--------------|--------------|
| First Semester                            | BA        | BS        | Fifth Semester                                 | BA           | BS           |
| BIO 121 – Principles of Modern Biology I  | 4         | 4         | BIO 397 – Professional Prep. Techniques*       | 0-2          | 0-2          |
| CHM 113 – Elements & Compounds Lab        | 1         | 1         | BIO Elective or Research**                     | 3            | 3            |
| CHM 115 – Elements & Compounds            | 3         | 3         | Distribution Requirements                      | 0            | 3            |
| FYF 101 – First-Year Foundations          | 3         | 3         | Free Elective(s)***                            | 9            | 3            |
| MTH 111 – Calculus I                      | 4         | 4         | MTH 150 – Elementary Statistics                | 0            | 3            |
| <b>Total Credits</b>                      | <b>15</b> | <b>15</b> | PHY 171 – Principles of Classical & Mod. Phy.  | 4            | 4            |
|                                           |           |           | <b>Total Credits</b>                           | <b>16-18</b> | <b>16-18</b> |
| <b>Second Semester</b>                    |           |           | <b>Sixth Semester</b>                          |              |              |
| BIO 122 – Principles of Modern Biology II | 4         | 4         | BIO 397 – Professional Prep. Tech*             | 0-2          | 0-2          |
| CHM 114 – The Chemical Reaction Lab       | 1         | 1         | BIO Elective or Research                       | 3            | 3            |
| CHM 116 – The Chemical Reaction           | 3         | 3         | Computer Science Elective                      | 3            | 3            |
| ENG 101 – Composition                     | 4         | 4         | Distribution Requirement                       | 3            | 3            |
| – Calculus and Modeling...                | 4         | 4         | PHY 174 – Appls. of Classical & Modern Physics | 4            | 4            |
| <b>Total Credits</b>                      | <b>16</b> | <b>16</b> | <b>Total Credits</b>                           | <b>13-15</b> | <b>13-15</b> |
| <b>Third Semester</b>                     |           |           | <b>Seventh Semester</b>                        |              |              |
| BIO 225 – Pop. & Evolutionary Bio.        | 4         | 4         | BIO 391 – Senior Research Projects             | 1            | 1            |
| CHM 231 – Organic Chemistry I             | 3         | 3         | BIO Electives                                  | 3-4          | 6-8          |
| CHM 233 – Organic Chemistry I Lab         | 1         | 1         | Free Electives                                 | 12           | 9            |
| Distribution Requirements                 | 6         | 6         | <b>Total Credits</b>                           | <b>16-17</b> | <b>16-18</b> |
| <b>Total Credits</b>                      | <b>14</b> | <b>14</b> | <b>Eighth Semester</b>                         |              |              |
| <b>Fourth Semester</b>                    |           |           | BIO 392 – Senior Research Projects             | 2            | 2            |
| BIO 226 – Cellular & Molecular Biology    | 4         | 4         | BIO Electives                                  | 3-4          | 6-7          |
| CHM 232 – Organic Chemistry II            | 3         | 3         | Distribution Requirement                       | 3            | 0            |
| CHM 234 – Organic Chemistry II Lab        | 1         | 1         | Free Electives                                 | 7            | 7            |
| Distribution Requirements                 | 6         | 6         | <b>Total Credits</b>                           | <b>15-16</b> | <b>15-16</b> |
| <b>Total Credits</b>                      | <b>14</b> | <b>14</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 MAJOR WITH A MARINE SCIENCE OPTION AND A  
MINOR IN EARTH AND ENVIRONMENTAL SCIENCES**

Wilkes University is a member of the Wallops Island Marine Science Consortium, an association of both state and private institutions that oversees the operation of a marine field station located in southeastern Virginia. Through its membership in the Consortium, Wilkes offers to its students the full range of courses in marine sciences and oceanography regularly taught at the Station each summer. Interested students in Biology may formally pursue a minor in Earth and Environmental Sciences and Marine Science Option within a four-year program of study that is fully integrated into their major. On a less formal basis, students who meet course prerequisites may complement regular course work with these unique summer field experiences in oceanography.

Courses taken at the Wallops Island Marine Science Station typically carry three credits and involve three weeks of intensive field and laboratory study at the Marine Station and related field sites (e.g., the Florida Keys and Honduras). Facilities at the Station include dormitory space, cafeteria, labs, lecture halls, a variety of field and laboratory equipment (e.g., one large oceanographic vessel and three inshore vessels), and a range of inshore, offshore, and estuarine field sites.

To enroll in the Wallops Island program, students must first contact the coordinators of the Wallops Island Program at Wilkes University and then register for the appropriate course through the Wilkes University Registrar.

Courses regularly offered at the Station include

|                                                        |                                                            |
|--------------------------------------------------------|------------------------------------------------------------|
| MS 110 – Introduction to Oceanography                  | MS 394 – Physiology of Marine Organisms                    |
| MS 211 – Field Methods in Oceanography                 | MS 431 – Ecology of Marine Plankton                        |
| MS 221 – Marine Invertebrates                          | MS 432 – Marine Evolutionary Ecology                       |
| MS 241 – Marine Biology                                | MS 433 – Advanced Methods in Coastal Ecology               |
| MS 250 – Wetland Ecology                               | MS 450 – Coastal Geomorphology                             |
| MS 260 – Marine Ecology                                | MS 451 – Coastal Environmental Oceanography                |
| MS 300 – Behavior of Marine Organisms                  | MS 464 – Biological Oceanography                           |
| MS 330 – Tropical Invertebrates                        | MS 470 – Research Diver Methods                            |
| MS 331 – Chemical Oceanography                         | MS 471 – Scanning Electron Microscopy: Marine Applications |
| MS 342 – Marine Biology                                | MS 490 – Marine Aquaculture                                |
| MS 343 – Marine Ichthyology                            | MS 491 – Coral Reef Ecology and                            |
| MS 345 – Ornithology                                   | MS 492 – Marine Mammals                                    |
| MS 352 – Modeling in Environmental Biological Sciences | MS 493 – Behavioral Ecology                                |
| MS 362 – Marine Geology                                | MS 500 – Problems in Marine Science                        |
| MS 390 – Undergraduate Research in Marine Science      |                                                            |

See the Coordinator of the Wallops Island Program for outlines of individual course and for information on the structure of the Marine Sciences Option.

**BIOLOGY MAJOR WITH A MARINE SCIENCE OPTION AND A  
MINOR IN EARTH AND ENVIRONMENTAL SCIENCES  
REQUIRED COURSES AND RECOMMENDED COURSE SEQUENCE**

|                                           |                |                                                  |                |
|-------------------------------------------|----------------|--------------------------------------------------|----------------|
| <b>First Semester</b>                     | <b>Credits</b> | <b>MS – Summer College MSC*</b>                  | <b>3</b>       |
| BIO 121 – Principles of Modern Biology I  | 4              |                                                  |                |
| CHM 113 – Elements & Compounds Lab        | 1              | <b>Fifth Semester</b>                            | <b>Credits</b> |
| CHM 115 – Elements & Compounds            | 3              | BIO 397 – Professional Preparation Techniques    | 2              |
| FYF 101 – First-Year Foundations          | 3              | BIO Electives or Research                        | 6              |
| MTH 111 – Calculus I                      | 4              | Distribution Requirement                         | 3              |
| <b>Total Credits</b>                      | <b>15</b>      | PHY 171 – Principles of Classical & Mod. Physics | 4              |
|                                           |                | <b>Total Credits</b>                             | <b>15</b>      |
| <b>Second Semester</b>                    |                | <b>Sixth Semester</b>                            |                |
| BIO 122 – Principles of Modern Biology II | 4              | BIO/EES 343**                                    | 3              |
| CHM 114 – The Chemical Reaction Lab       | 1              | BIO Elective or Research                         | 3              |
| CHM 116 – The Chemical Reaction           | 3              | Distribution Requirement                         | 3              |
| ENG 101 – Composition                     | 4              | EES Elective                                     | 3              |
| MTH 114 – Calculus and Modeling...        | 4              | PHY 174 – Appls. of Classical & Modern Physics   | 4              |
| <b>Total Credits</b>                      | <b>16</b>      | <b>Total Credits</b>                             | <b>16</b>      |
| <b>Third Semester</b>                     |                | <b>MS – Summer College MSC*</b>                  | <b>3</b>       |
| BIO 225 – Population & Evolutionary Bio.  | 4              |                                                  |                |
| CHM 231 – Organic Chemistry I             | 3              | <b>Seventh Semester</b>                          |                |
| CHM 233 – Organic Chemistry I Lab         | 1              | BIO 391 – Senior Projects I                      | 2              |
| Distribution Requirement                  | 3              | BIO Elective                                     | 3-4            |
| EES 230 – Ocean Science                   | 4              | Distribution Requirement                         | 3              |
| <b>Total Credits</b>                      | <b>15</b>      | Free Electives                                   | 6              |
|                                           |                | <b>Total Credits</b>                             | <b>14-15</b>   |
| <b>Fourth Semester</b>                    |                | <b>Eighth Semester</b>                           |                |
| BIO 226 – Cellular & Molecular Biology    | 4              | BIO 392 – Senior Projects II                     | 2              |
| CHM 232 – Organic Chemistry II            | 3              | BIO Electives                                    | 6 – 7          |
| CHM 234 – Organic Chemistry II Lab        | 1              | Distribution Requirement                         | 3              |
| Computer Science Elective                 | 3              | EES Elective                                     | 2-3            |
| Distribution Requirement                  | 3              | <b>Total Credits</b>                             | <b>13-15</b>   |
| MTH 150 – Elementary Statistics           | 3              |                                                  |                |
| <b>Total Credits</b>                      | <b>17</b>      |                                                  |                |

\*EES minor includes 2 MS courses at MSC Wallops Island, excluding MS 110 and MS 260.

\*\*BIO/EES 343 counts toward both the BIO degree and the EES minor. The 18-credit minimum for the minor in EES includes BIO/EES 343.

**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 course 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.

## HEALTH SCIENCES PROFESSIONAL PROGRAMS

**Coordinator and Chief Health Professions Advisor: Ms. Eileen M. Sharp**  
**Premedical and Pre-Professional Programs Advisor: Ms. Debra I. Chapman**

### Adjunct Faculty

Ms. Jennifer Gartland, Coordinator, Medical Education, Guthrie Health System, Sayre, PA (premedical programs)  
Richard English, M.D., Program Director, Family Practice Residency Program, Wyoming Valley Health Care System, Wilkes-Barre, PA (premedical programs)  
Brian D. Spezialetti, Program Director, Medical Laboratory Science Program, Robert Packer Hospital, Sayre, PA  
Joseph King, M.D., Medical Director, Medical Laboratory Science Program, Robert Packer Hospital, Sayre, PA  
Edwin Beitz, M.H.A., M.L.S. (ASCP), Program Director, Clinical Laboratory Science, Williamsport Regional Medical Center, Williamsport, PA  
Willem Lubbe, M.D., Medical Advisor, Clinical Laboratory Science, Williamsport Regional Medical Center, Williamsport, PA

### Health Sciences Committee (reports to Dale Bruns, Ph.D., Dean of the College of Science and Engineering)

Eileen M. Sharp, M.S., Committee Chair, Coordinator for Health Sciences Professional Programs

William J. Biggers, Associate Professor of Biology  
Amy Bradley, Ph.D., Associate Professor of Chemistry  
Dale A. Bruns, Ph.D., Dean of the College of Science and Engineering  
Debra I. Chapman, M.S., Instructor in Biology  
Linda Gutierrez, M.D., Assistant Research Professor in Biology  
Lisa Kadlec, Ph.D., Associate Professor of Biology  
Dan F. Kopen, M.D., Physician  
Donald Mencer, Ph.D., Associate Professor of Chemistry  
Kenneth A. Pidcock, Ph.D., Associate Professor of Biology  
Edward J. Schicatano, 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 medical 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.

## 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 first of all because he or she is not only broadly trained but also has mastered the rapidly evolving medical information technologies. Throughout the science curriculum at Wilkes, students are exposed to and use databases that relate up-to-date information at the cutting edge of research in science fields. Interviews with professional school professors and admissions officers indicate that such information access skills are increasingly relevant and are essential for the health practitioner. As a comprehensive University, with a full range of bachelor's and master's degree programs in natural sciences, computer science, and engineering, Wilkes provides a sophisticated, research-capable science environment in which students learn how to negotiate the information-rich and highly complex world of scientific database communications.

The future health practitioner will also be called upon to assess and implement promising information emerging in the fields of molecular biology, biochemistry, cell biology, and organic chemistry. A general exposure to science at the undergraduate level, typical of liberal arts college 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.

## 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

- A. help the student develop a useful scientific foundation for their selected career choice;
- B. serve as a unique signature, which Wilkes graduates can carry forward as successful professionals; and
- C. 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 Health Sciences Office.

The Wilkes Pre-professional Core Curriculum requires the following courses as a minimum:\*

- Two courses in Modern Biology
  - BIO 121 – Principles of Modern Biology I; and
  - BIO 122 – Principles of Modern Biology II
- At least one to two upper level biology courses are recommended based on a student's career choice
- 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
  - CHM 361 – Biochemistry: Structure and Function *or*
  - CHM 362: Biochemistry: Metabolism
- One course in Medical Informatics
  - CS 265
- Two courses in Physics
  - PHY 171 – Principles of Classical and Modern Physics and
  - PHY 174 – Applications of Classical and Modern Physics; *or*
  - PHY 201 – General Physics I (calculus based) and
  - PHY 202 – General Physics II (calculus based)
- Two courses in Mathematics
  - MTH 111 – Calculus I and
  - MTH 114 – Calculus and Modeling for the Biological and Health Sciences
- One course in Psychology
  - PSY 101 – General Psychology
- One to two courses in English\*\* (emphasizing writing skills)
- Research course with a Special Project\*\*\*
- A shadowing experience (20-25 hours) in each of the undergraduate years
- Attendance at Health Science Office sponsored events on campus

\*Pre-optometry students are also required to MTH 150 – Elementary Statistics, BIO 226 – Cellular and Molecular Biology, and BIO 327 – Medical Microbiology.

Pre-dentistry students are also required to complete ART 122 – Sculpture

\*\*English course requirements (as well as other prerequisite course requirements) vary from one health professions school to another. It is the student's responsibility to meet the requirements of a particular health professions school.

\*\*\*Students enrolled in one of the accelerated seven-year programs may elect to be waived from the senior year research course or special project.

All students intending to enter doctoral programs in health care must complete these pre-professional core courses. Students should work with their academic advisors 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 most health professions schools. The application for the committee letter must be submitted to the Health Sciences Committee by April 1<sup>st</sup> of a student's junior year.

### 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 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. 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. 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. PROGRAMS IN ALLOPATHIC MEDICINE**

Wilkes has developed special early assurance joint B.S.-M.D. degree programs and established agreements with three major medical schools, which lead to a baccalaureate degree from Wilkes University and the professional degree in medicine upon completion of medical school. Once students have been granted acceptance to Wilkes University and identified as qualified to be considered for selection to one of the early assurance programs, they will be required to submit letters from two high school science teachers and one humanities or English teacher to the Health Sciences Committee and successfully complete three interviews. If ultimately selected for any of the three programs, students must satisfy all requirements as articulated in each specific affiliation agreement. All students in these early assurance programs will spend their 7<sup>th</sup> or 8<sup>th</sup> 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), and the Wyoming Valley Health Care System (WVHCS), which includes the General Hospital in Wilkes-Barre, PA (Wyoming Valley 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 or both rural and medically underserved areas of Pennsylvania who must be interested in a career in primary health medicine. This program allows students to select either the Guthrie Scholars clinical site or the Wyoming Valley Scholars clinical site 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 Drexel Premedical Scholars Program, applicants must meet the following conditions:
    - be accepted into the entering freshman class at Wilkes University by November 15<sup>th</sup> of their senior year in high school;
    - have a minimum combined SAT score of 1250. The new SAT writing sample will be considered, but no official minimum score has yet been determined;
    - 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); and
    - have had at least one shadowing experience (preferably with a primary care or general practice physician).
  - Two Premedical Scholars may be selected to the program each year.
  - Once students have been accepted to Wilkes University, the Wilkes Health Sciences Office 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 either the Robert Packer Medical Center of the Guthrie Health Care System or the Wyoming Valley 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 or from rural and medically underserved areas of Pennsylvania who wish to pursue a career in primary care medicine.
  - Successful applicants should expect to be interviewed at Wilkes before the winter break of their senior year in high school. Finalists from this interview will be called to subsequent interviews in early January of their senior year in high school.
  - Final selection for this program is at the discretion of the medical school at which a student interviews.
- 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 the Wilkes University Premedical Core courses
      - Participate in the clinical site experience during the 7<sup>th</sup> or 8<sup>th</sup> semester
      - Meet with the Associate Dean for Admissions and Student Affairs of the Penn State College of Medicine.
  - The off-campus clinical semester requires a total of 15 credits of course work, including Cooperative Education in Clinical Observation (6), Senior or Independent Research or both (3), Lectures in Biomedicine (3), and Discussion on Medical Ethics (3). Faculty advisors can elaborate on how this impacts on course requirements in each academic department.
    - Students must complete their 7<sup>th</sup> or 8<sup>th</sup> semester of undergraduate study at the Robert Packer Medical Center in Sayre, PA or the Wilkes-Barre General Hospital in Wilkes-Barre, PA. In return for Guthrie's or Wyoming Valley's investment in them, students must

- spend parts of the 3<sup>rd</sup> and 4<sup>th</sup> years in medical school doing required and elective clinical rotations at either Robert Packer Medical Center or the Wilkes-Barre General Hospital, depending upon the site of the undergraduate off-campus clinical semester.
- Completion of the MCAT examination is required for admission to the Pennsylvania State University College of Medicine. The exam must be taken no later than mid-June after the junior year at Wilkes. Students are expected to perform at or above the mean score in each section when compared with the previous College of Medicine entering class. Additional requirements are specified in the acceptance letter from the medical school and Wilkes University.
- Four (4) years of medical school study at the Pennsylvania State University College of Medicine at Hershey.

### **The Premedical Scholars Program with the State University of New York Upstate Medical University at Syracuse, New York (SUNY Upstate)**

The State University of New York Upstate Medical University at Syracuse, New York (SUNY Upstate) and Wilkes University offer a special Premedical Scholars Program for outstanding high school seniors from the southern tier of New York State, from Binghamton to Corning. Students will spend their clinical semester at the Guthrie Scholars clinical site in Sayre, PA.

The program allows high school seniors to be assured admission to SUNY Upstate Medical University as they enter Wilkes University to pursue undergraduate study. Details of this program are as follows:

- Program Admission
  - High school applicants must have a minimum combined SAT score of 1200 to be considered for admission to the SUNY Upstate Premedical Scholars Program. The new SAT writing sample will be considered, but no official minimum score has yet been determined.
  - Students admitted to the program, after successful interview at Wilkes, Robert Packer Medical Center, and SUNY Upstate, will be simultaneously assured admission to medical school at SUNY Upstate Medical University and to Wilkes University.
  - Students must maintain a minimum GPA of 3.5 in biology, chemistry, mathematics, and physics (BCMP) during their first three (3) years at Wilkes to complete the medical school admission requirements. The Medical College Admission test (MCAT) is required. Additional requirements will be specified in the acceptance letter from the medical school and Wilkes University.
  - Emphasis in recruiting for this program will be placed on students from the southern tier of New York State, from Binghamton to Elmira/Corning.
  - The deadline for application and acceptance to Wilkes University is November 15<sup>th</sup> of their senior year in high school.
  - Successful applicants should expect to be interviewed at Wilkes before the winter break of their senior year in high school. Finalists from this interview will be called to subsequent interviews in early January of their senior year in high school.
  - Final selection for this program is at the discretion of the medical school at which a student interviews.
- Program Format
  - Four (4) years of successful undergraduate study at Wilkes University, which includes completion of an academic major and the Pre-professional Core.
  - The off-campus clinical semester requires a total of 15 credits of course work, including Cooperative Education in Clinical Observation (6), Senior or Independent Research or both (3), Lectures in Biomedicine (3), and Discussion on Medical Ethics and Alternative Therapies (3). Faculty advisors can elaborate on how this impacts on course requirements in each academic department.
  - Students must complete their 7<sup>th</sup> or 8<sup>th</sup> semester of undergraduate study at the Robert Packer Medical Center in Sayre, PA, conducting clinical and basic science research and studying the rural and semi-rural Health Care Delivery System of New York. In return for Guthrie's investment in them, students in the SUNY Upstate Program must spend part of the 3<sup>rd</sup> and 4<sup>th</sup> years in medical school engaged in required and elective clinical rotations at either Robert Packer Medical Center.
  - Four (4) years of medical school study at the SUNY Upstate Medical University. Third- and fourth-year medical students in the program will be assigned to the SUNY Upstate Clinical campus at Binghamton to complete their required and elective clinical rotations.

### **Early Acceptance Program with The Commonwealth Medical College at Scranton, PA**

The Commonwealth Medical College (TCMC) at Scranton, PA and Wilkes University have developed a special Early Acceptance Program with Wilkes University.

This program allows Wilkes University students to apply for Early Acceptance Admission to TCMC at the end of their sophomore year. If accepted to the medical school at this time, students must continue to meet admission requirements for TCMC by the time they graduate from Wilkes University. However, students may then spend their final two undergraduate years on their studies and will not have to go through the traditional application process, which generally occurs during the junior and senior years at Wilkes.

### **SEVEN-YEAR AFFILIATED 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, dentistry, optometry, and podiatric medicine 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)
- Temple University School of Dentistry (TUSD)
- Pennsylvania College of Optometry (PCO)
- Temple University School of Podiatric Medicine (TUSPM)
- State University of New York College of Optometry (SUNY-Optometry)

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 1200 or better (with no score less than 550), and should have completed Honors or AP course work, especially in the sciences. The new SAT writing sample will be considered, but no official minimum score has yet been determined.

In order to qualify for any of these seven-year programs, students must apply and be accepted to Wilkes University by January 1<sup>st</sup> 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 prior to April 1<sup>st</sup> of their senior year in high school for final selection. Once students are selected for one of these affiliated programs and begin their undergraduate education, they will receive assistance from the Health Sciences Office in advising them through their accelerated program of study and in the application process to the health profession school. Students will be expected to maintain a high GPA and are required to participate in shadowing experiences, volunteer activities, and seminars and programs sponsored by the Health Sciences Office during their three years at Wilkes in addition to meeting the requirements listed below by each individual health professional institution.

**SEVEN-YEAR PROGRAMS WITH A MAJOR IN BIOLOGY  
REQUIRED COURSES AND RECOMMENDED COURSE SEQUENCE**

| <b>First Semester</b>                     | <b>Credits</b> | <b>Fourth Semester</b>                           | <b>Credits</b> |
|-------------------------------------------|----------------|--------------------------------------------------|----------------|
| BIO 121 – Principles of Modern Biology I  | 4              | BIO 226 – Cellular & Molecular Biology           | 4              |
| CHM 113 – Elements & Compounds Lab        | 1              | CHM 232 – Organic Chemistry II                   | 3              |
| CHM 115 – Elements & Compounds            | 3              | CHM 234 – Organic Chemistry II Lab               | 1              |
| FYF 101 – First-Year Foundations          | 3              | CS 265 – Medical Informatics                     | 3              |
| MTH 111 – Calculus I                      | 4              | Distribution Requirement                         | 3              |
| <b>Total Credits</b>                      | <b>15</b>      | PSY 101 – General Psychology                     | 3              |
|                                           |                | <b>Total Credits</b>                             | <b>17</b>      |
| <b>Second Semester</b>                    |                | <b>Fifth Semester</b>                            |                |
| BIO 122 – Principles of Modern Biology II | 4              | BIO 397 – Professional Preparation Techniques    | 2              |
| CHM 114 – The Chemical Reaction Lab       | 1              | BIO Elective*                                    | 4              |
| CHM 116 – The Chemical Reaction           | 3              | Distribution Requirement                         | 3              |
| ENG 101 – Composition                     | 4              | MTH 150 – Elementary Statistics                  | 3              |
| MTH 114 – Calculus and Modeling...        | 4              | PHY 171 – Principles of Classical & Mod. Physics | 4              |
| <b>Total Credits</b>                      | <b>16</b>      | <b>Total Credits</b>                             | <b>16</b>      |
| <b>Third Semester</b>                     |                | <b>Sixth Semester</b>                            |                |
| BIO 225 – Population & Evolutionary Bio.  | 4              | BIO Elective*                                    | 4              |
| CHM 231 – Organic Chemistry I             | 3              | CHM 362 – Biochemistry: Metabolism               | 4              |
| CHM 233 – Organic Chemistry I Lab         | 1              | Distribution Requirement                         | 3              |
| COM 101 – Fundamentals of Public Speaking | 3              | Free Elective                                    | 3              |
| Distribution Requirements                 | 6              | PHY 174 – Application of & Mod. Physics          | 4              |
| <b>Total Credits</b>                      | <b>17</b>      | <b>Total Credits</b>                             | <b>18</b>      |

\*Select one course from the Structural and Functional Biology category and one course from the Diversity and Populational Biology category. Pre-optometry students must complete BIO 327 – Medical Microbiology.

Following successful completion of their 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 in Biology.

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 affiliated institutions. 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 seven-year programs. 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. Decisions for admission to these health professions schools are made by a Joint Admissions Committee from Wilkes University and the Affiliated institution. 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)**

PCOM holds up to fifteen (15) seats each year for Wilkes University students who are recommended by the Health Sciences Committee for admission and who meet all of PCOM's admission requirements. Students should consult the Wilkes Health Sciences Office for information regarding PCOM's requirements for a minimum grade point average and MCAT score.

**Temple University Kornberg School of Dentistry (TUSD)**

TUSD reserves a minimum of four (4) seats each year for Wilkes students who meet all of Temple University's admission requirements. Wilkes students will be granted an automatic invitation for an interview if they submit their application no later than December 1 of the year prior to matriculation to TUSD and they meet the following minimum requirements as specified by Temple University School of Dentistry:

- a. track as a science major in the Wilkes pre-dental program;
- b. submit application letter to TUSD prior to December 1 of the junior year at Wilkes;
- c. receive a Letter of Evaluation from the Wilkes University Health Sciences Committee;
- d. earn a minimum grade point average of 3.5 by the end of the 5<sup>th</sup> semester of study in the basic sciences, 3.4 in the sciences, and 3.3 overall; and
- e. earn a minimum score of 18 in the Science section and 18 in the academic average on the Dental Admission test (DAT).

Students who are interviewed will then be evaluated for admission by the Temple University Admission Committee.

**Pennsylvania College of Optometry (PCO) at Salus University  
State University of New York College of Optometry (SUNY-Optometry)  
Temple University School of Podiatric Medicine (TUSPM)**

PCO holds up to four (4) seats, SUNY-Optometry holds up to six (6) seats, and TUSPM holds up to six (6) seats each year for Wilkes University students who are endorsed for admission by the Wilkes Health Sciences Committee and who meet all of the appropriate institution's admission requirements. Students should consult the Wilkes Health Sciences Office for information regarding requirements for a minimum grade point average and a minimum score on the appropriate health professions school admission test.

Wilkes University takes pride in having developed these affiliated seven-year medical programs, which have been ongoing since the late 1970s. Currently, large numbers of alumni who have graduated from these programs are in successful professional practice. We especially encourage highly motivated and academically gifted students to take advantage of these abbreviated specialized programs and join those already enrolled in this pursuit.

## STATE UNIVERSITY OF NEW YORK, STATE COLLEGE OF OPTOMETRY AFFILIATION PROGRAMS

### Optometry Scholars Program

Wilkes University and the State University of New York, State College of Optometry offer a special academic affiliation in optometric education, the Optometry Scholars Program. Up to six (6) students per year may be selected into a seven-year Bachelor of Arts (B.A.) or Bachelor of Science (B.S.) and Doctor of Optometry (O.D.) program. Students chosen for this joint degree program are admitted to a designated prescribed major at Wilkes University and simultaneously admitted to candidacy to the SUNY College of Optometry's professional program of study.

#### ➤ Program Admission

- High school applicants must have a minimum combined SAT of 1200 (at least 600 math and 550 verbal), a minimum of 93 for their high school grade point average, and place in the top 10% of their graduating class. The new SAT writing sample will be considered, but no official minimum score has yet been determined.
- Students selected for the SUNY Optometry Scholars Program, after successful interview at Wilkes and SUNY College of Optometry, will be simultaneously admitted to candidacy in the Optometry School at the State University of New York, College of Optometry and to Wilkes University.
- Students in this program must maintain a GPA of 3.3 overall and a 3.3 in the required science and math portion of the joint degree track curriculum with no grade lower than a 2.0 in each individual science and math prerequisite course. Students must also attain a total science score above 330 on the Optometry Admissions Test (OAT) with no score in any one area below 310.
- Students must receive a positive Letter of Evaluation from the Wilkes Health Sciences Committee, pass reasonable personal interview standards, and submit all required application materials during their junior year at Wilkes.

#### ➤ Program Format

- Three (3) years of successful undergraduate study at Wilkes University, which includes course work in an academic major and in the Pre-professional Core.
- Students in this program must also visit and shadow three different professional optometric offices in order to become more fully acquainted with the profession of optometry during their undergraduate study at Wilkes University
- Four (4) years of Optometry School study at SUNY College of Optometry. Upon successful completion of their first year of Optometry school, students may transfer their credits to Wilkes and Wilkes will grant the baccalaureate degree.

### Early Assurance Program

Wilkes University and SUNY Optometry also offer an Early Assurance program to which Wilkes sophomores who are interested in a career in optometry may apply.

#### ➤ Program Admission

To be considered for admission to the Early Assurance Program, each applicant must

- have completed two (2) years of undergraduate study (approximately 60 hours) and at least 70% of SUNY's prerequisite courses;
- maintain throughout the four years a total GPA of 3.3 and a 3.3 GPA in the SUNY prerequisite science and math courses, with no grade lower than a 2.0 (C) in any of the SUNY prerequisite courses;
- demonstrate a basic knowledge of and a motivation for a career in optometry;
- take the Optometry Admission Test (OAT) in their junior or senior year and attain a total science score above 330 with no score below 310;
- provide high school and college transcripts and SAT scores to SUNY Optometry;
- receive a positive Letter of Evaluation from the Wilkes University Health Sciences Committee; and
- during their senior year at Wilkes University, be interviewed at SUNY Optometry.

Applications are due at SUNY by June 1 following the sophomore year. After the submission and review of all written materials, each applicant receiving serious consideration for admission to the Early Assurance Program will be offered an opportunity to interview at the SUNY College of Optometry. Candidates will be notified of committee action in writing prior to August 31<sup>st</sup>.

### Traditional Admission Program

SUNY Optometry also welcomes applications from Wilkes University juniors interested in a career in optometry who wish to apply to the professional program by the traditional method.

## 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 allopathic and osteopathic medicine, dentistry, optometry, podiatric medicine, veterinary medicine, and doctoral level physical therapy (DTP).

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 clinical laboratory sciences.

### OVERVIEW

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 Office 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 sciences advisors 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.

### I. 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.

The following minimum requirements are based upon the Drexel University and Widener University Doctor of Physical Therapy degree programs:

- Five courses in Biology for a total of 19-20 credits to include the following:
  - BIO 121 – Principles of Modern Biology I
  - BIO 122 – Principles of Modern Biology II
  - BIO 314 – Medical Anatomy and Physiology I (prerequisite: BIO 226 – Cellular and Molecular Biology)
  - BIO 321 – Medical Anatomy and Physiology II (prerequisite: BIO 226 – Cellular and Molecular Biology)
  - One of the following upper-level Biology courses:
    - BIO 323 – Functional Histology
    - BIO 324 –Molecular Biology
    - BIO 326 – Immunology and Immunochemistry
    - BIO 327 – Medical Microbiology
    - BIO 345 - Genetics
  - One of the following research-based courses:
    - BIO 391, 392 – Senior Research Projects I, II
    - BIO 395, 396 – Independent Research
    - PSY 395, 396 – Independent Research
- Two courses in General Chemistry with laboratory for a total of 8 credits (for example, CHM 113 – Elements and Compounds Lab *and* CHM 115 – Elements and Compounds; CHM 114 – The Chemical Reaction Lab *and* CHM 116 – The Chemical Reaction)
- Two courses in Physics with laboratory for a total of 8 credits (for example, PHY 171 – Principles of Classical and Modern Physics and PHY 174 – Applications of Classical and Modern Physics)
- Two courses in Psychology for a total of 6 credits
  - PSY 101 – General Psychology
  - PSY 221 – Developmental Psychology
- One course in Statistics for a total of 3 credits (for example, PSY 200 – Research and Design Statistics I *or* MTH 150 – Elementary Statistics)
- Mathematics (per the requirements of the professional school)
- Five courses in the Humanities and Social Sciences for a total of 15 credits (for example, courses that satisfy Areas I and III of the Distribution Requirements of the Wilkes University General Education Curriculum)

**VOLUNTEER EXPERIENCE IN PHYSICAL THERAPY** – Each institution has varied prerequisites and all professional schools generally require a certain number of volunteer hours in physical therapy. Some or all of those hours may be fulfilled by the cooperative education or internship experience available through the Wilkes Cooperative Education office or through the Health Sciences Office.

**LETTERS OF EVALUATION** – One composite letter from the Wilkes University Health Sciences Committee and one letter from a licensed physical therapist

In addition to completing the Pre-Physical Therapy Core requirements, students must consult the prerequisite guidelines published by the particular institutions to which they wish to gain admission.

**Affiliated Program with Drexel University Department of Rehabilitation Sciences:  
Doctor of Physical Therapy Degree Program**

The affiliated physical therapy program requires four (4) years of study at Wilkes University leading to the bachelor's degree and three (3) years of study at Drexel University leading to the doctoral degree in Physical Therapy. Early admission to the Drexel University graduate program is granted annually to up to five (5) Wilkes students, who have satisfied all requirements for admission.

Students should consult the previous section of the Bulletin for the prerequisite courses required for admission to Drexel University's Affiliated Physical Therapy Program. Additionally, Wilkes students applying to Drexel University must meet the following criteria for admission:

- a cumulative GPA of 3.25 or above at the end of six full semesters of study, as noted in the curricular outline;
- completion of all science courses with a cumulative GPA of 3.00 or above;
- minimum Graduate Record Examination (GRE) score of 1600;
- volunteer experience in Physical Therapy for at least 75 hours;
- petition to the Wilkes University Health Sciences Committee for a Letter of Evaluation to accompany the application for admission. This request must be made in writing to the Committee by May 15 of the student's junior year; and
- one Letter of Evaluation and Recommendation from a licensed physical therapist.

Students who meet the guidelines of this program will be automatically granted an interview with the Drexel Physical Therapy Committee on Admissions. The decision to offer acceptance to students into this program shall be made by the Program in Physical Therapy Committee on Admissions of Drexel University. In addition, students must also complete all requirements for the bachelor's degree from Wilkes University in whatever major they choose prior to matriculation at Drexel University.

**Affiliated Program with Widener University: Doctor of Physical Therapy Degree Program**

The Affiliated Physical Therapy Program provides students the opportunity to transfer 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. Selected students able to meet or exceed established criteria will be eligible for a guaranteed place in the Widener Physical Therapy Program. Widener guarantees five seats each year for the D.P.T. 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.

- High school students applying for admission to this guaranteed seat program must meet the following criteria:
  - apply and be accepted to Wilkes University by January 1 of their senior year in high school;
  - have a minimum SAT score of 1200 (with no subsection less than 550). The new SAT writing sample will be considered, but no official minimum score has yet been determined;
  - have a high school GPA of 3.45 or higher; and
  - rank in the top 25% of their high school graduating class.
- Wilkes University freshmen or sophomores who wish to be considered for admission must meet the following criteria:
  - be a student in good standing at Wilkes University; and
  - have a cumulative GPA of 3.0 with no grade in the Pre-Physical Therapy Core curriculum of less than a 3.0.

The selection process will include interviews with the Wilkes University Health Sciences Committee and the Widener University Department of Physical Therapy.

Undergraduate program requirements are as follows:

- completion of prerequisite courses with a cumulative GPA of 3.0;
- computer literacy, either by demonstration or successful completion of a computer course or challenge examination;
- Graduate Record Examination (GRE) general test scores of 1000 or better on the combined verbal and quantitative sections;
- evidence of volunteer service in Physical Therapy (usually 50 hours or more);
- 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; and
- participation in Health Sciences Office sponsored events on campus.

Students who have completed their baccalaureate degree at Wilkes will be subject to the same admission guidelines as 3+3 students.

**Affiliated Program with Temple University College of Allied Health Professions:  
Doctor of Physical Therapy Program**

This Affiliated Physical Therapy Program requires four (4) years of study at Wilkes University and three (3) years of professional study at Temple University, leading to the Doctor of Physical Therapy degree following the successful completion of three years at Temple.

The Affiliated Physical Therapy Program with Temple University requires students to complete a series of prerequisite courses as part of their four years of study at Wilkes. A listing of these courses is available in the Wilkes Health Sciences Office or through the Temple University Department of Physical Therapy.

Candidates must also complete the Graduate Record Examination (GRE) in the fall semester of their fourth year of study at Wilkes. To qualify for admission to Temple, students must earn a minimum GPA of 3.0 while at Wilkes and score above the 50<sup>th</sup> percentile on the GRE. Wilkes students who meet the standards of this affiliated program will be given special consideration for admission by Temple.

## II. 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, which present barriers for an individual to function in life. The occupational therapist bases service on a rapidly growing field of knowledge to enhance the individual's abilities to function and prevent areas of dysfunction. The therapist uses selected, goal-directed activities to encourage learning, re-education, growth and strength, and to promote general health. 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.

The Wilkes Pre-Occupational Therapy Core requires as a minimum

- Two courses in Modern Biology
  - BIO 121 – Principles of Modern Biology I
  - BIO 122 – Principles of Modern Biology II
- Two courses in Anatomy and Physiology
  - BIO 115 – Anatomy and Physiology I and
  - BIO 116 – Anatomy and Physiology II *or*
  - BIO 331 and BIO 332 – consult the Chief Health Professions Advisor for information about these courses
- One course in Chemistry
  - CHM 113 – Elements and Compound Lab and CHM 115 – Elements and Compounds
- One course in Mathematics
  - MTH 100 – Pre-calculus (NOTE: This course does not satisfy the Quantitative Literacy requirements of the Wilkes University General Education Curriculum) *or*
  - MTH 101 – Solving Problems Using Mathematics
- 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
  - SOC 251 – Sociology of Minorities is also recommended, but not required
- Cooperative Education or Internship

In addition to completing the Pre-Occupational Therapy Core, students must consult prerequisite guidelines published by the particular institutions to which they wish to gain admission. Institutions have varied prerequisites and generally require a certain number of volunteer hours in occupational therapy. Some or all of those hours may be fulfilled by the cooperative education or internship experience available through the Wilkes Cooperative Education Office.

### Affiliated Program in Occupational Therapy at Temple University College of Allied Health Professions: Master's in Occupational Therapy

Wilkes University offers a specialized affiliated program in Occupational Therapy with Temple University that requires four years of study at Wilkes and two years of study at Temple University, leading to the master's degree in Occupational Therapy.

The Affiliated Occupational Therapy Program with Temple University requires students to complete a series of prerequisite courses as part of their four years of study at Wilkes. A list of these courses is available in the Wilkes Health Sciences Office or through the Temple University Department of Occupational Therapy.

### PLACEMENT OF PRE-PHYSICAL THERAPY AND PRE-OCCUPATIONAL THERAPY STUDENTS

Wilkes University graduates have been accepted to a number of physical therapy and occupational therapy schools including Columbia University College of Physicians and Surgeons, Duke University, Drexel University (formerly MCP-Hahnemann) School for the Health Sciences, Tufts Graduate Schools of Arts and Sciences, Thomas Jefferson University Program in Occupational Therapy, Temple University Health Sciences Center, Allegheny University, and University of Pittsburgh School of Health and Rehabilitation Sciences.

## III. Clinical Laboratory Science (Medical Technology, Medical Laboratory Science)

**Total minimum number of credits required for a major in Clinical Laboratory Science (Medical Technology) leading to the B.S. degree – 120.**

The Board of Registry 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 Technology. The curriculum offered at Wilkes University follows these recommendations and is presented below.

At the completion of three years, the student may be accepted by an affiliated program of medical technology for a period of twelve months of clinical training. Following graduation from the programs, the students will receive the B.S. degree in Medical Technology 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 the Robert Packer Hospital in Sayre, PA and with the Williamsport Regional Medical Center, Williamsport, PA. Fulfillment of the fourth year requirement at non-affiliated NACCLS certified hospital programs may be arranged by agreement between the program and Wilkes University.

**CLINICAL LABORATORY SCIENCE MAJOR (MEDICAL TECHNOLOGY)**  
**REQUIRED COURSES AND RECOMMENDED COURSE SEQUENCE**

| <b>First Semester</b>                     | <b>Credits</b> | <b>Fourth Semester</b>                         | <b>Credits</b> |
|-------------------------------------------|----------------|------------------------------------------------|----------------|
| BIO 121 – Principles of Modern Biology I  | 4              | BIO 226 – Cellular & Molecular Biology         | 4              |
| CHM 113 – Elements & Compounds Lab        | 1              | CHM 232 – Organic Chemistry II                 | 3              |
| CHM 115 – Elements & Compounds            | 3              | CHM 234 – Organic Chemistry II Lab             | 1              |
| FYF 101 – First-Year Foundations          | 3              | Distribution Requirement                       | 3              |
| MTH 111 – Calculus I                      | 4              | MTH 150 – Elementary Statistics                | 3              |
| <b>Total Credits</b>                      | <b>15</b>      | <b>Total Credits</b>                           | <b>14</b>      |
| <br>                                      |                | <br>                                           |                |
| <b>Second Semester</b>                    | <b>Credits</b> | <b>Fifth Semester</b>                          | <b>Credits</b> |
| BIO 122 – Principles of Modern Biology II | 4              | BIO 327 – Medical Microbiology                 | 4              |
| CHM 114 – The Chemical Reaction Lab       | 1              | CHM 361 – Biochemistry: Structure & Function   | 3              |
| CHM 116 – The Chemical Reaction           | 3              | Distribution Requirements <i>or</i>            |                |
| ENG 101 – Composition                     | 4              | Free Electives                                 | 9              |
| Distribution Requirement                  | 3              | <b>Total Credits</b>                           | <b>16</b>      |
| <b>Total Credits</b>                      | <b>15</b>      | <br>                                           |                |
| <br>                                      |                | <br>                                           |                |
| <b>Third Semester</b>                     | <b>Credits</b> | <b>Sixth Semester</b>                          | <b>Credits</b> |
| BIO 225 – Population & Evolutionary Bio.  | 4              | BIO 326 – Immunology & Immunochemistry         | 4              |
| CHM 231 – Organic Chemistry I             | 3              | BIO 397 – Professional Preparation Techniques  | 2              |
| CHM 233 – Organic Chemistry I Lab         | 1              | Distribution Requirements <i>or</i>            |                |
| Computer Science Elective                 | 3              | Free Elective                                  | 6              |
| Distribution Requirement                  | 3              | PHY 174 – Appls. of Classical & Modern Physics | 4              |
| <b>Total Credits</b>                      | <b>14</b>      | <b>Total Credits</b>                           | <b>16</b>      |

**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:

|                                             | <b>Credits</b> |
|---------------------------------------------|----------------|
| 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 and Serology  | 3              |
| BIO 376 – Clinical Seminar                  | 3              |
| <b>Total Credits</b>                        | <b>30</b>      |

**OTHER PROFESSIONS**

Information on academic programs in related health fields such as Nursing, Pre-pharmacy and Pharmacy (Pharm.D.) at Wilkes may be found in the appropriately labeled sections of this bulletin. Wilkes University has a number of affiliations with other health professions institutes whereby students receive some special consideration for interview and admission. Consult the Health Sciences Office for information on these affiliations.



## Department of Chemistry

Chairperson: Dr. Amy L. Bradley

### ***Faculty***

Professor: Verret  
 Associate Professors: Bradley, Castejon, Mencer, Trujillo, Wignot  
 Assistant Professors: Dinescu, Henkels  
 Adjunct Faculty: Carr, Stchur  
 Faculty Emeriti: Bohning, Faut, Rozelle, Stine, Swain

**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. Students who complete the B.S. program are certified for membership eligibility in the Society at graduation. The B.S. programs in Chemistry and Biochemistry will maintain ACS accreditation. The B.A. program in Chemistry may be accredited, dependent upon the student's choice of chemistry courses.

### **BIOCHEMISTRY MAJOR**

The Biochemistry curriculum is designed to provide comprehensive background education and training for those students interested in this interdisciplinary area. 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 school.

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 Biochemistry 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.

### **BIOCHEMISTRY MAJOR**

#### **REQUIRED COURSES AND RECOMMENDED COURSE SEQUENCE**

| <b>First Semester</b>                     | <b>Credits</b> | <b>Fifth Semester</b>                  | <b>Credits</b> |
|-------------------------------------------|----------------|----------------------------------------|----------------|
| BIO 121 – Principles of Modern Biology I  | 4              | CHM 341 – Instrumental Analysis        | 3              |
| CHM 113 – Elements & Compounds Lab        | 1              | CHM 343 – Instrumental Analysis Lab    | 1              |
| CHM 115 – Elements & Compounds            | 3              | CHM 351 – Physical Chemistry I         | 3              |
| Distribution Requirement                  | 3              | CHM 353 – Physical Chemistry I Lab     | 1              |
| FYF 101 – First-Year Foundations          | 3              | CHM 361 – Biochemistry I               | 3              |
| MTH 111 – Calculus I                      | 4              | Distribution Requirement               | 3              |
| <b>Total Credits</b>                      | <b>18</b>      | <b>Total Credits</b>                   | <b>14</b>      |
| <br>                                      |                |                                        |                |
| <b>Second Semester</b>                    |                | <b>Sixth Semester</b>                  |                |
| BIO 122 – Principles of Modern Biology II | 4              | BIO 226 – Cellular & Molecular Biology | 4              |
| CHM 114 – The Chem. Reaction Lab          | 1              | CHM 352 – Physical Chemistry II        | 3              |
| CHM 116 – The Chemical Reaction           | 3              | CHM 354 – Physical Chemistry II Lab    | 1              |
| ENG 101 – Composition                     | 4              | CHM 362 – Biochemistry II              | 3              |
| MTH 112 – Calculus II                     | 4              | CHM 370 – Integrated Laboratory*       | 1              |
| <b>Total Credits</b>                      | <b>16</b>      | CHM 390 – Junior Seminar               | 1              |
|                                           |                | Distribution Requirement               | 3              |
|                                           |                | <b>Total Credits</b>                   | <b>16</b>      |
| <br>                                      |                |                                        |                |
| <b>Third Semester</b>                     |                | <b>Seventh Semester</b>                |                |
| CHM 231 – Organic Chemistry I             | 3              | Biology Elective                       | 3 – 4          |
| CHM 233 – Organic Chemistry I Lab         | 1              | CHM 371 – Integrated Laboratory*       | 1              |
| CS 125 – Computer Science I               | 4              | CHM 391 – Senior Research I            | 2              |
| Distribution Requirements                 | 6              | Distribution Requirement               | 3              |
| PHY 201 – General Physics I               | 4              | Free Elective                          | 3              |
| <b>Total Credits</b>                      | <b>18</b>      | <b>Total Credits</b>                   | <b>12 – 13</b> |
| <br>                                      |                |                                        |                |
| <b>Fourth Semester</b>                    |                | <b>Eighth Semester</b>                 |                |
| CHM 232 – Organic Chemistry II            | 3              | Biology Elective                       | 3 – 4          |
| CHM 234 – Organic Chemistry II Lab        | 1              | CHM 322 – Inorganic Chemistry          | 3              |
| CHM 246 – Analytical Chemistry Lab        | 1              | CHM 372 – Integrated Laboratory*       | 1              |
| CHM 248 – Analytical Chemistry            | 3              | CHM 392 – Senior Research II           | 2              |
| MTH 212 – Multivariable Calculus          | 4              | Free Elective                          | 3              |
| PHY 202 – General Physics II              | 4              | <b>Total Credits</b>                   | <b>12 – 13</b> |
| <b>Total Credits</b>                      | <b>16</b>      |                                        |                |

\* All Biochemistry majors are required to take a total of three (3) credits of Integrated Laboratory (CHM 370, 371, 372).

## 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, dentistry, etc.), law, business, engineering, computer science, or other related fields. The B.A. program in Chemistry includes specific concentrations, which will allow students to have a solid, fundamental background in Chemistry in combination with other disciplines such as in Art, Business, Computer Science, Education, Environmental Sciences, Forensic Science, Mathematics, Pharmaceutical Sciences, and Pre-med 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 advisors.

### 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 Distribution Area IV 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 (MINOR)

Students interested in Secondary Education in Chemistry should make an appointment with the chairperson of the Education Department as early as possible in their program of study to plan their professional studies. These students will declare a major in Chemistry and a minor in Secondary Education. Required courses for the minor in Secondary Education are as follows:

|                                                                  |        |
|------------------------------------------------------------------|--------|
| ED 180 – Educational Psychology                                  | 3 cr.  |
| ED 190 – Effective Teaching                                      | 3 cr.  |
| ED 191 – Integrating Technology into the Classroom               | 3 cr.  |
| ED 220 – Teaching Culturally and Linguistically Diverse Learners | 3 cr.  |
| ED 371 – Teaching Methods in Science with Field Experience       | 4 cr.  |
| ED 380 – Content Area Literacy                                   | 3 cr.  |
| ED 390 – Student Teaching with Seminar                           | 12 cr. |
| EDSP 210 – Teaching Students with Special Needs                  | 3 cr.  |
| EDSP 388 – Inclusionary Practices                                | 3 cr.  |

Required Free Electives:

|                                                                |       |
|----------------------------------------------------------------|-------|
| EDSP 225 – Special Education Methodology with Field Experience | 3 cr. |
|----------------------------------------------------------------|-------|

Recommended Distribution Course:

|                              |       |
|------------------------------|-------|
| PSY 101 – General Psychology | 3 cr. |
|------------------------------|-------|

All Teacher Education students must apply for admission to the Teacher Education Program in the sophomore or junior year. Candidates must maintain a 2.0 GPA in their secondary major courses, a 3.0 cumulative GPA, and pass the appropriate PRAXIS tests in order to be certified.

## FORENSIC SCIENCE

Recommended courses for the B.A. degree in Chemistry with a concentration in Forensic Science:

|                                          |       |
|------------------------------------------|-------|
| BIO 121 – Principles of Modern Biology I | 4 cr. |
| CHM 398 – Forensic Chemistry             | 3 cr. |
| PS 232 – Criminal Law                    | 3 cr. |
| PSY 242 – Personality                    | 3 cr. |
| PSY 355 – Forensic Psychology            | 3 cr. |
| SOC 222 – Criminology                    | 3 cr. |

Recommended Distribution Courses:

|                                     |       |
|-------------------------------------|-------|
| EC 102 – Principles of Economics II | 3 cr. |
| PSY 101 – General Psychology        | 3 cr. |
| SOC 101 – Introduction to Sociology | 3 cr. |

Recommended Free Electives:

|                                          |       |
|------------------------------------------|-------|
| BIO 226 – Cellular and Molecular Biology | 4 cr. |
| BIO 345 – Genetics                       | 4 cr. |
| MTH 150 – Elementary Statistics          | 3 cr. |

Students pursuing a concentration in Forensic Science must satisfy all prerequisites for recommended concentration courses.

## PHARMACEUTICAL SCIENCES

Required courses for the B.A. degree in Chemistry with a concentration in Pharmaceutical Sciences:

|                                                 |       |
|-------------------------------------------------|-------|
| PHS 301 – Advanced Pharmaceutics                | 3 cr. |
| PHS 413 – Heterogeneous Pharmaceutical Systems  | 2 cr. |
| PHS 414 – Pharmaceutical Regulatory Affairs     | 3 cr. |
| PHS 415 – Solid Dosage Forms                    | 2 cr. |
| PHS 417 – Biopharmaceutics and Pharmacokinetics | 3 cr. |
| PHS 498 – Drug Delivery                         | 3 cr. |
| PHS 498 – Polymers                              | 3 cr. |

Required Free Electives:

|                                                    |       |
|----------------------------------------------------|-------|
| MTH 150 – Elementary Statistics                    | 3 cr. |
| PHS 416 – Operation of Quality Control Systems     | 2 cr. |
| PHS 418 – Externship in Pharmaceutical Manufacture | 8 cr. |

Students pursuing a concentration in Pharmaceutical Sciences must satisfy all prerequisites for recommended concentration courses.

## PRE-MED STUDIES

Recommended and required courses for the B.A. degree in Chemistry with a concentration in Pre-Med 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:

| <b>Content Area I: Writing Perspective (3 cr.)</b>                 | <b>Credits</b> |
|--------------------------------------------------------------------|----------------|
| ENG 202 – Technical and Professional Writing                       | 3              |
| ENG 228 – Professional and Workplace Writing                       | 3              |
| <b>Content Area II: Political and Legal Perspective (6 cr.)</b>    | <b>Credits</b> |
| BA 223 – Legal Environment of Business                             | 3              |
| PS 224 – Public Policy Analysis                                    | 3              |
| PS 260 – Introduction to Political Thinking                        | 3              |
| <b>Content Area III: Ethical Perspective (3 cr.)</b>               | <b>Credits</b> |
| PHL 218 – Environmental Ethics                                     | 3              |
| PHL 250 – Philosophy of Science                                    | 3              |
| <b>Content Area IV: Environmental Perspective (17 cr.)</b>         | <b>Credits</b> |
| 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 340 – 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**

| <b>First Semester</b>               | <b>Credits</b> | <b>Fifth Semester</b>                                   | <b>Credits</b> |
|-------------------------------------|----------------|---------------------------------------------------------|----------------|
| CHM 113 – Elements & Compounds Lab  | 1              | CHM 341 – Instrumental Methods                          | 3              |
| CHM 115 – Elements & Compounds      | 3              | CHM 343 – Instrumental Methods Lab                      | 1              |
| ENG 101 – Composition               | 4              | CHM 355 –Physical Chemistry for the Life Sciences       | 3              |
| FYF 101 – First-Year Foundations    | 3              | CHM 357 –Physical Chemistry for the Life Sci. Lab       | 1              |
| MTH 111 – Calculus I                | 4              | Distribution Requirement                                | 3              |
| <b>Total Credits</b>                | <b>15</b>      | Concentration Area or Minor Courses                     | 6              |
|                                     |                | <b>Total Credits</b>                                    | <b>17</b>      |
| <b>Second Semester</b>              |                | <b>Sixth Semester</b>                                   |                |
| CHM 114 – The Chemical Reaction Lab | 1              | CHM 322 – Inorganic Chemistry                           | 3              |
| CHM 116 – The Chemical Reaction     | 3              | CHM 365 – Medical Biochemistry                          | 4              |
| CS 125 – Computer Science I         | 4              | CHM 370 – Integrated Chemistry Lab*                     | 1              |
| Distribution Requirement            | 3              | CHM 390 – Chemistry Junior Seminar                      | 1              |
| MTH 112 – Calculus II               | 4              | Concentration Area or Minor Courses                     | 6              |
| <b>Total Credits</b>                | <b>15</b>      | <b>Total Credits</b>                                    | <b>15</b>      |
| <b>Third Semester</b>               |                | <b>Seventh Semester</b>                                 |                |
| CHM 231 – Organic Chemistry I       | 3              | CHM 371 – Integrated Chemistry Lab*                     | 0-1            |
| CHM 233 – Organic Chemistry Lab I   | 1              | CHM 391 – Senior Research                               | 2              |
| Distribution Requirements           | 6              | Distribution Requirement                                | 3              |
| PHY 201 – General Physics I         | 4              | Free Electives (see Concentration Area & Minor courses) | 6              |
| Concentration Area or Minor Course  | 3              | Concentration Area or Minor Course                      | 3              |
| <b>Total Credits</b>                | <b>17</b>      | <b>Total Credits</b>                                    | <b>14 – 15</b> |
| <b>Fourth Semester</b>              |                | <b>Eighth Semester</b>                                  |                |
| CHM 232 – Organic Chemistry II      | 3              | CHM 372 – Integrated Chemistry Lab*                     | 0-1            |
| CHM 234 – Organic Chemistry Lab II  | 1              | CHM 392 – Senior Research                               | 2              |
| CHM 246 – Analytical Chemistry Lab  | 1              | Distribution Requirement                                | 3              |
| CHM 248 – Analytical Chemistry      | 3              | Free Elective (see Concentration Area & Minor courses)  | 3-4            |
| MTH 212 – Multivariable Calculus    | 4              | Concentration Area or Minor Course                      | 3              |
| PHY 202 – General Physics II        | 4              | <b>Total Credits</b>                                    | <b>12 – 13</b> |
| <b>Total Credits</b>                | <b>16</b>      |                                                         |                |

\*Students pursuing the B.A. in Chemistry are required to complete two (2) credits of Integrated Laboratory (CHM 370, 371, 372).

**CHEMISTRY MAJOR (B.S. DEGREE)**  
**REQUIRED COURSES AND RECOMMENDED COURSE SEQUENCE**

| <b>First Semester</b>               | <b>Credits</b> | <b>Fifth Semester</b>               | <b>Credits</b> |
|-------------------------------------|----------------|-------------------------------------|----------------|
| CHM 113 – Elements & Compounds Lab  | 1              | CHM 341 – Instrumental Methods      | 3              |
| CHM 115 – Elements & Compounds      | 3              | CHM 343 – Instrumental Methods Lab  | 1              |
| ENG 101 – Composition <i>or</i>     | 4              | CHM 351 – Physical Chemistry I      | 3              |
| Distribution Requirement            | 3              | CHM 353 – Physical Chemistry I Lab  | 1              |
| FYF 101 – First-Year Foundations    | 3              | CHM 365 – Medical Biochemistry      | 4              |
| MTH 111 – Calculus I                | 4              | Distribution Requirement            | 3              |
| <b>Total Credits</b>                | <b>14 – 15</b> | <b>Total Credits</b>                | <b>15</b>      |
| <br>                                |                |                                     |                |
| <b>Second Semester</b>              |                | <b>Sixth Semester</b>               |                |
| CHM 114 – The Chemical Reaction Lab | 1              | CHM 322 – Inorganic Chemistry       | 3              |
| CHM 116 – The Chemical Reaction     | 3              | CHM 352 – Physical Chemistry II     | 3              |
| CS 125 – Computer Science I         | 4              | CHM 354 – Physical Chemistry II Lab | 1              |
| ENG 101 – Composition <i>or</i>     | 4              | CHM 370 – Integrated Chemistry Lab* | 1-2            |
| Distribution Requirement            | 3              | CHM 390 – Chemistry Junior Seminar  | 1              |
| MTH 112 – Calculus II               | 4              | Distribution Requirements           | 6              |
| <b>Total Credits</b>                | <b>15 – 16</b> | <b>Total Credits</b>                | <b>15 – 16</b> |
| <br>                                |                |                                     |                |
| <b>Third Semester</b>               |                | <b>Seventh Semester</b>             |                |
| CHM 231 – Organic Chemistry I       | 3              | CHM 371 – Integrated Chemistry Lab* | 1-2            |
| CHM 233 – Organic Chemistry Lab I   | 1              | CHM 391 – Senior Research I         | 2              |
| Distribution Requirements           | 6              | Free Electives                      | 9              |
| PHY 201 – General Physics I         | 4              | Major Elective                      | 3              |
| <b>Total Credits</b>                | <b>14</b>      | <b>Total Credits</b>                | <b>15 - 16</b> |
| <br>                                |                |                                     |                |
| <b>Fourth Semester</b>              |                | <b>Eighth Semester</b>              |                |
| CHM 232 – Organic Chemistry II      | 3              | CHM 372 – Integrated Chemistry Lab* | 0-1            |
| CHM 234 – Organic Chemistry Lab II  | 1              | CHM 392 – Senior Research           | 2              |
| CHM 246 – Analytical Chemistry Lab  | 1              | Free Electives                      | 9              |
| CHM 248 – Analytical Chemistry      | 3              | Major Elective                      | 3              |
| MTH 212 – Multivariable Calculus    | 4              | <b>Total Credits</b>                | <b>14 - 15</b> |
| PHY 202 – General Physics II        | 4              |                                     |                |
| <b>Total Credits</b>                | <b>16</b>      |                                     |                |

\*Students pursuing the B.S. in Chemistry are required to complete four (4) credits of Integrated Laboratory (CHM 370, 371, 372).

## **Department of Environmental Engineering and Earth Sciences**

**Chairperson: Dr. Brian E. Whitman**

### ***Faculty***

Professors: Bruns, Case, Halsor, Redmond

Associate Professors: Murthy, Troy, Whitman

Adjunct Professors: Hofman, Skoronski, Walski

Visiting Assistant Professor: Frederick

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 Earth and Environmental Sciences; and the B.A. in Earth and Environmental Sciences. These programs incorporate a strong background in all of the sciences and include extensive laboratory and field experience. The department highlights unique facilities such as a certified water quality laboratory used for teaching and research and The Center for Geographic Information Science (GIS). Other facilities in the area are used for field study in courses and for student research.

The Center for Geographic Information Science is an EEES state-of-the-art technology facility that integrates the use of GIS student research encompassing a variety of applications: environmental planning and assessment; watershed analysis; lake and stream studies; database management; and analysis for soils, wetlands, vegetation, land cover, and environmental pollution. The Center was originally funded in 1993 by an extramural EEES faculty research grant and recently was expanded with a faculty education grant to facilitate GIS applications across various courses in the EEES environmental curriculum

### **EARTH AND ENVIRONMENTAL SCIENCES**

**Total minimum number of credits required for a major in Earth and Environmental Sciences leading to the B.S. degree – 124**

**Total minimum number of credits required for a major in Earth and Environmental Sciences leading to the B.A. degree with Secondary teaching Certification in Earth and Space Science – 140**

**Total minimum number of credits required for a major in Earth and Environmental Sciences leading to the B.A. degree – 123**

**Total minimum number of credits required for a minor in Earth and Environmental Sciences – 18**

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

The interdisciplinary nature of the programs provides the student with a unique breadth of understanding of the principles and concepts of the earth and environmental sciences while emphasizing methods of analysis and experimentation of very complex, dynamic, and interactive quality; cooperative internships with environmental organizations and industries are encouraged.

### **EARTH AND ENVIRONMENTAL SCIENCES MAJOR**

The major leading to the B.S. degree emphasizes the technical and analytical aspects of the earth and environmental sciences and 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, meteorology, and environmental sciences.

The major leading to the B.A. degree emphasizes human interactions with the earth and the environment. The student is required to choose an appropriate minor, such as political science, technical writing, and business administration. Another option is to satisfy the requirements leading to a Pennsylvania Secondary Teaching Certificate with certification in Earth and Space Science. By adding courses in chemistry and biology, the student may also satisfy requirements for certification in General Science.

Students interested in Secondary Education should make an appointment with the chairperson of the Department of Education as early as possible 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.

**EARTH AND ENVIRONMENTAL SCIENCES MAJOR (B.S. DEGREE)**  
**REQUIRED COURSES AND RECOMMENDED COURSE SEQUENCE**

| <b>First Semester</b>                              | <b>Credits</b> | <b>Fifth Semester</b>                        | <b>Credits</b> |
|----------------------------------------------------|----------------|----------------------------------------------|----------------|
| CHM 113 – Elements & Compounds Lab                 | 1              | EES 230 – Ocean Science                      | 4              |
| CHM 115 – Elements & Compounds                     | 3              | EES 251 – Synoptic Meteorology               | 4              |
| ENG 101 – Composition                              | 4              | EES 271 – Environmental Mapping I <i>or</i>  |                |
| FYF 101 – First-Year Foundations                   | 3              | ENV Elective                                 | 3              |
| MTH 111 – Calculus I                               |                | EES 394 – Field Study                        | 1              |
| <b>Total Credits</b>                               | <b>15</b>      | ENV 321 – Hydrology                          | 4              |
|                                                    |                | ME 180 – CADD Lab                            | 1              |
|                                                    |                | <b>Total Credits</b>                         | <b>17</b>      |
| <b>Second Semester</b>                             |                | <b>Sixth Semester</b>                        |                |
| CHM 114 – The Chemical Reaction Lab                | 1              | EES 202 – Biogeochemistry                    | 3              |
| CHM 116 – The Chemical Reaction                    | 3              | EES 272 – Environmental Mapping II <i>or</i> |                |
| Distribution Requirement                           | 3              | EES/ENV Elective                             | 6              |
| EES 211 – Physical Geology                         | 4              | EES 302 – Literature Methods                 | 1              |
| MTH 112 – Calculus II                              | 4              | EES 304 – Environmental Data Analysis        | 2              |
| <b>Total Credits</b>                               | <b>15</b>      | Free Elective                                | 3              |
|                                                    |                | <b>Total Credits</b>                         | <b>15</b>      |
| <b>Third Semester</b>                              |                | <b>Seventh Semester</b>                      |                |
| BIO 121 – Principles of Modern Biology I           | 4              | Distribution Requirements                    | 6              |
| Distribution Requirement                           | 3              | EES 391 – Senior Projects I                  | 1              |
| Free Elective                                      | 3              | EES/ENV Electives                            | 6              |
| MTH 150 – Elementary Statistics                    | 3              | Free Elective                                | 2 - 3          |
| PHY 171 – Principles of Classical & Modern Physics | 4              | <b>Total Credits</b>                         | <b>15 - 16</b> |
| <b>Total Credits</b>                               | <b>17</b>      |                                              |                |
| <b>Fourth Semester</b>                             |                | <b>Eighth Semester</b>                       |                |
| BIO 122 – Principles of Modern Biology II          | 4              | Distribution Requirements                    | 6              |
| CS Elective                                        | 3              | EES 392 - Senior Projects II                 | 2              |
| EES 240 – Princ. of Environmental Engr. & Science  | 4              | EES/ENV Elective                             | 3              |
| PHY 174 – Appls. of Classical & Modern Physics     | 4              | ENV 330 – Water Quality <i>or</i>            | 4              |
| <b>Total Credits</b>                               | <b>15</b>      | ENV 332 – Air Quality                        | 3              |
|                                                    |                | <b>Total Credits</b>                         | <b>14 - 15</b> |

NOTE:

1. 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.
2. 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.



**EARTH AND ENVIRONMENTAL SCIENCES MAJOR (B.A. DEGREE – EARTH AND SPACE SCIENCE EDUCATION)**  
**REQUIRED COURSES AND RECOMMENDED COURSE SEQUENCE**

| First Semester                                       | Credits   | Fifth Semester                                                  | Credits   |
|------------------------------------------------------|-----------|-----------------------------------------------------------------|-----------|
| BIO 121 – Principles of Modern Biology I             | 4         | Distribution Requirement                                        | 3         |
| ENG 101 – Composition                                | 4         | EES 251 – Synoptic Meteorology                                  | 4         |
| FYF 101 – First-Year Foundations                     | 3         | EES 394 – Field Study                                           | 1         |
| MTH 111 – Calculus I                                 | 4         | ED 191 – Integrating Technology into the Classroom              | 3         |
| PSY 101 – General Psychology                         | 3         | EDSP 210 – Students with Special Needs                          | 3         |
| <b>Total Credits</b>                                 | <b>18</b> | MTH 150 – Elementary Statistics                                 | 3         |
|                                                      |           | <b>Total Credits</b>                                            | <b>17</b> |
| <b>Second Semester</b>                               |           | <b>Sixth Semester</b>                                           |           |
| BIO 122 – Principles of Mod. Biology II <i>or</i>    |           | Distribution Requirement                                        | 3         |
| BIO 225 – Population & Evolutionary Bio.             | 4         | EES 212 – Historical Geology                                    | 3         |
| CS Elective                                          | 3         | EES 302 – Literature Methods                                    | 1         |
| Distribution Requirements                            | 6         | EES 304 – Environmental Data Analysis                           | 2         |
| EES 211 – Physical Geology                           | 4         | ED 220 – Teaching...Diverse Learners                            | 3         |
| <b>Total Credits</b>                                 | <b>17</b> | ED 380 – Content Area Literacy                                  | 3         |
|                                                      |           | EDSP 225 – Special Ed. Methods                                  | 3         |
| <b>Third Semester</b>                                |           | <b>Total Credits</b>                                            | <b>18</b> |
| CHM 113 – Elements & Compounds Lab                   | 1         | <b>Seventh Semester</b>                                         |           |
| CHM 115 – Elements & Compounds                       | 3         | EES 391 – Senior Projects I                                     | 1         |
| EES 230 – Ocean Science                              | 4         | ED 390 – Intern Teaching with Seminar                           | 15        |
| ED 190 – Effective Teaching                          | 3         | <b>Total Credits</b>                                            | <b>16</b> |
| Distribution Requirements                            | 3         |                                                                 |           |
| PHY 171 – Principles of Classical & Modern Physics   | 4         | <b>Eighth Semester</b>                                          |           |
| <b>Total Credits</b>                                 | <b>18</b> | EES 210 – Global Climate Change                                 | 3         |
|                                                      |           | EES 280 – Principles of Astronomy                               | 4         |
| <b>Fourth Semester</b>                               |           | EES 392 – Senior Projects II                                    | 2         |
| CHM 114 – The Chemical Reaction Lab                  | 1         | EES Electives*                                                  | 9         |
| CHM 116 – The Chemical Reaction                      | 3         | <b>Total Credits</b>                                            | <b>18</b> |
| EES 240 – Principles of Environmental Eng. & Science | 4         |                                                                 |           |
| ED 180 – Educational Psychology                      | 3         | *Three credits of the required Earth and Environmental Sciences |           |
| ED 371 – Methods of Teaching Science                 | 3         | (EES) Electives must include EES 271 <i>or</i> EES 272.         |           |
| PHY 174 – Appls. of Classical & Modern Physics       | 4         |                                                                 |           |
| <b>Total Credits</b>                                 | <b>18</b> |                                                                 |           |

NOTE:

- All B.A. degree candidates are required to complete an appropriate minor or the requirements for secondary teaching certification.
- Adding additional courses in Chemistry and Biology may satisfy the course requirements for certification in General Science. Consult with your faculty advisor to schedule additional courses.

**EARTH AND ENVIRONMENTAL SCIENCES MAJOR WITH A MINOR IN BIOLOGY AND A MARINE SCIENCE OPTION**

Wilkes University is a member of the Wallops Island Marine Science Consortium, an association of both state and private institutions that oversee the operation of the Wallops Island Marine Science Station located in southeastern Virginia. Through its membership in the Consortium, Wilkes offers to its students the full range of courses in marine sciences and oceanography regularly taught at the field station each summer. Interested students in Earth and Environmental Sciences may formally pursue a Marine Science Option concentration in a four-year program that is fully integrated into their EES major and a minor in Biology. On a less formal basis, students who meet course prerequisites may complement regular course work with these unique summer field experiences in oceanography.

Courses taken at the Wallops Island facility typically carry three credits and involve three weeks of intensive field and laboratory study at the Marine Science Station and related field sites (e.g., the Florida Keys and Honduras). Facilities at the Station include dormitory space, cafeteria, labs, lecture halls, a variety of field and laboratory equipment (e.g., one large oceanographic vessel and three inshore vessels) and a range of inshore, offshore, and estuarine field sites. To participate in the Marine Science Option concentration or to enroll in individual courses, students must first contact the coordinators of the Wallops Island Program at Wilkes University (prior to the spring semester) and then register for the appropriate course through the Wilkes University Registrar.

Courses regularly offered at the Wallops Island Marine Science Station include

|                                                    |                                                     |
|----------------------------------------------------|-----------------------------------------------------|
| MS 110 – Introduction to Oceanography              | MS 394 – Physiology of Marine Organisms             |
| MS 211 – Field Methods in Oceanography             | MS 431 – Ecology of Marine Plankton                 |
| MS 221 – Marine Invertebrates                      | MS 432 – Marine Evolutionary Ecology                |
| MS 241 – Marine Biology                            | MS 433 – Advanced Methods in Coastal Ecology        |
| MS 250 – Wetland Ecology                           | MS 450 – Coastal Geomorphology                      |
| MS 260 – Marine Ecology                            | MS 451 – Coastal Environmental Oceanography         |
| MS 300 – Tropical Invertebrates                    | MS 464 – Biological Oceanography                    |
| MS 331 – Chemical Oceanography                     | MS 470 – Research Diver Methods                     |
| MS 342 – Marine Biology                            | MS 471 – Scanning Electron Microscopy: Marine Apps. |
| MS 343 – Marine Ichthyology                        | MS 490 – Marine Aquaculture                         |
| MS 345 – Ornithology                               | MS 491 – Coral Reef Ecology                         |
| MS 352 – Modeling in Environmental Biological Sci. | MS 492 – Marine Mammals                             |
| MS 362 – Marine Geology                            | MS 493 – Behavioral Ecology                         |
| MS 390 – Undergraduate Research in Marine Science  | MS 500 – Problems in Marine Science                 |

See the Coordinators of the Wallops Island Program for outlines of individual course and for information on the structure of the Marine Sciences Option.

**EARTH AND ENVIRONMENTAL SCIENCES MAJOR (B.S. DEGREE) WITH A MINOR IN BIOLOGY AND A  
CONCENTRATION IN MARINE SCIENCE**

**REQUIRED COURSES AND RECOMMENDED COURSE SEQUENCE**

|                                                                             |                |                                                                             |           |
|-----------------------------------------------------------------------------|----------------|-----------------------------------------------------------------------------|-----------|
| <b>First Semester</b>                                                       | <b>Credits</b> | <b>Fifth Semester</b>                                                       |           |
| BIO 121 – Principles of Modern Biology I                                    | 4              | Distribution Requirement                                                    | 3         |
| CHM 113 – Elements & Compounds Lab                                          | 1              | EES 251 – Synoptic Meteorology                                              | 4         |
| CHM 115 – Elements & Compounds                                              | 3              | EES 394 – Field Study                                                       | 1         |
| FYF 101 – First-Year Foundations                                            | 3              | EES/ENV Elective                                                            | 3         |
| MTH 111 – Calculus I                                                        | 4              | PHY 171 – Principles of Classical & Modern Physics <i>or</i>                |           |
| <b>Total Credits</b>                                                        | <b>15</b>      | PHY 201 – General Physics I                                                 | 4         |
|                                                                             |                | <b>Total Credits</b>                                                        | <b>15</b> |
| <b>Second Semester</b>                                                      |                | <b>Sixth Semester</b>                                                       |           |
| BIO 122 – Principles of Modern Biology II                                   | 4              | BIO/EES 343 – Marine Ecology**                                              | 3         |
| CHM 114 – The Chemical Reaction Lab                                         | 1              | EES 302 – Literature Methods                                                | 1         |
| CHM 116 – The Chemical Reaction                                             | 3              | EES 304 – Environmental Data Analysis                                       | 2         |
| ENG 101 – Composition                                                       | 4              | EES/ENV Elective                                                            | 3         |
| MTH 112 – Calculus II                                                       | 4              | MTH 150 – Elementary Statistics                                             | 3         |
| <b>Total Credits</b>                                                        | <b>16</b>      | PHY 174 – Appls. of Classical & Modern Physics <i>or</i>                    |           |
|                                                                             |                | PHY 202 – General Physics II                                                | 4         |
| <b>Third Semester</b>                                                       |                | <b>Total Credits</b>                                                        | <b>16</b> |
| BIO 225 – Population & Evolutionary Bio                                     | 4              |                                                                             |           |
| Distribution Requirements                                                   | 6              | <b>Marine Science Summer College –<br/>Marine Science Consortium (MSC)*</b> |           |
| EES 230 – Ocean Science                                                     | 4              | BIO Course (see MSC course listings)                                        | 3         |
| ME 180 – CADD Lab                                                           | 1              | <b>Total Credits</b>                                                        | <b>3</b>  |
| <b>Total Credits</b>                                                        | <b>15</b>      |                                                                             |           |
| <b>Fourth Semester</b>                                                      |                | <b>Seventh Semester</b>                                                     |           |
| BIO 226 – Cellular & Molecular Biology                                      | 4              | Distribution Requirement                                                    | 3         |
| CS Elective                                                                 | 3              | EES 391 – Senior Projects I                                                 | 1         |
| EES 211 – Physical Geology                                                  | 4              | EES/ENV Electives                                                           | 6         |
| EES 240 – Principles of Environmental Engr. & Sci.                          | 4              | Free Electives                                                              | 5         |
| <b>Total Credits</b>                                                        | <b>15</b>      | <b>Total Credits</b>                                                        | <b>15</b> |
|                                                                             |                | <b>Eighth Semester</b>                                                      |           |
| <b>Marine Science Summer College –<br/>Marine Science Consortium (MSC)*</b> |                | Distribution Requirements                                                   | 6         |
| BIO Course (see MSC course listings)                                        | 3              | EES 392 – Senior Projects II                                                | 2         |
| <b>Total Credits</b>                                                        | <b>3</b>       | EES/ENV Electives                                                           | 6         |
|                                                                             |                | Free Elective                                                               | 2         |
|                                                                             |                | <b>Total Credits</b>                                                        | <b>16</b> |

\*The minor in Biology includes 2 MS courses (biology content) at the Marine Science Consortium (MSC) Wallops Island, excluding MS 110 and MS 260.

\*\*EES/BIO 343 counts toward both the EES degree and the Biology minor. The 22 minimum credits for the Biology minor includes BIO/EES 343.

NOTE: 3 of the 15 credits of EES/ENV Electives must include either EES 271 *or* EES 272.

## EARTH AND ENVIRONMENTAL SCIENCES AND GEOLOGY MINORS

Two minors are offered by the Department of Environmental Engineering and Earth Sciences. A minor may be awarded to students with demonstrated expertise in Earth and Environmental Sciences or Geology, as determined by the faculty of the department.

The minimum requirements for the minor in Earth and Environmental Sciences consist of 18 credits of course work in Earth and Environmental Sciences (EES), 12 credits of which must be at the 200-level or above. For the Geology minor, 18 credits of prequalified environmental EES geology courses are required, 15 credits of which must be at the 200-level or above. Only those course credits for which a student has achieved a grade of 2.0 or higher will count toward the minimum requirements for either minor. Courses counted toward the Geology minor may not be counted toward the existing EES minor. Since there is no major in Geology, however, EES majors, like any other major, may pursue a minor in Geology. Additionally, EES majors may take any of the Environmental Engineering courses (ENV), if prerequisites are satisfied.

### GEOLOGY MINOR COURSE OFFERINGS

Students should select courses from the following list to satisfy the requirements for the minor in Geology:

|                                     | <b>Credits</b> |
|-------------------------------------|----------------|
| EES 105 – Planet Earth              | 3              |
| EES 211 – Physical Geology          | 4              |
| EES 212 – Historical Geology        | 3              |
| ENV 315 – Soils                     | 3              |
| ENV 321 – Hydrology                 | 4              |
| EES 370 – Geomorphology             | 3              |
| EES 381 – Mineralogy*               | 3              |
| EES 382 – Petrology*                | 3              |
| EES 391 – Senior Projects I**       | 1              |
| EES 392 – Senior Projects II**      | 2              |
| EES 395 – Independent Research I**  | 1-3            |
| EES 396 – Independent Research II** | 1-3            |

\*Required for the minor in geology

\*\*Content must be within the field of geology

## 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 Society of Women Engineers (SWE) and the Air & Waste Management Association (A&WMA), 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**

| <b>First Semester</b>                                | <b>Credits</b> | <b>Fifth Semester</b>                   | <b>Credits</b> |
|------------------------------------------------------|----------------|-----------------------------------------|----------------|
| CHM 113 – Elements & Compounds Lab                   | 1              | Distribution Requirement                | 3              |
| CHM 115 – Elements & Compounds                       | 3              | ENV 315 – Soils                         | 3              |
| ENG 101 – Composition                                | 4              | ENV 321 – Hydrology                     | 4              |
| FYF 101 – First-Year Foundations                     | 3              | ME 321 – Fluid Mechanics                | 3              |
| ME 180 – CADD Lab                                    | 1              | ME 323 – Fluid Mechanics Lab            | 1              |
| MTH 111 – Calculus I                                 | 4              | Technical Elective**                    | 3              |
| <b>Total Credits</b>                                 | <b>16</b>      | <b>Total Credits</b>                    | <b>17</b>      |
| <br>                                                 |                | <br>                                    |                |
| <b>Second Semester</b>                               |                | <b>Sixth Semester</b>                   |                |
| Distribution Requirement                             | 3              | Distribution Requirement                | 3              |
| EES 202 – Biogeochemistry                            | 3              | EGM 320 – Engineering Project Analysis  | 3              |
| Free Elective*                                       | 3              | EGR 201 – Professionalism and Ethics    | 1              |
| MTH 112 – Calculus II                                | 4              | ENV 330 – Water Quality                 | 4              |
| PHY 201 – General Physics I                          | 4              | ENV 332 – Air Quality                   | 3              |
| <b>Total Credits</b>                                 | <b>17</b>      | Technical Elective*                     | 3              |
|                                                      |                | <b>Total Credits</b>                    | <b>17</b>      |
| <br>                                                 |                | <br>                                    |                |
| <b>Third Semester</b>                                |                | <b>Seventh Semester</b>                 |                |
| EE 211- Electrical Circuits & Devices                | 3              | Distribution Requirement                | 3              |
| EE 283 – Electrical Measurements Lab                 | 1              | ENV 305 – Solid Waste Management        | 3              |
| ENV 205 – Environmental Microbiology                 | 1              | ENV 351 – Water & Wastewater Treatment  | 4              |
| ME 231 – Statics and Dynamics                        | 3              | ENV 353 – Air Pollution Control         | 3              |
| MTH 211 – Introduction to Differential Equations     | 4              | ENV 391 – Senior Projects I             | 1              |
| PHY 202 – General Physics II                         | 4              | Technical Elective*                     | 3              |
| <b>Total Credits</b>                                 | <b>16</b>      | <b>Total Credits</b>                    | <b>17</b>      |
| <br>                                                 |                | <br>                                    |                |
| <b>Fourth Semester</b>                               |                | <b>Eighth Semester</b>                  |                |
| Distribution Requirement                             | 3              | Distribution Requirement                | 3              |
| EES 211 – Physical Geology                           | 4              | ENV 322 – Water Resources Engineering   | 3              |
| EES 240 – Principles of Environmental Eng. & Science | 4              | ENV 352 – Environmental Eng. Hydraulics | 3              |
| ME 232 – Strength of Materials                       | 3              | ENV 354 – Hazardous Waste Management    | 3              |
| ME 322 – Engineering Thermodynamics                  | 3              | ENV 392 – Senior Projects II            | 2              |
| <b>Total Credits</b>                                 | <b>17</b>      | Technical Elective*                     | 3              |
|                                                      |                | <b>Total Credits</b>                    | <b>17</b>      |

\*Free elective must be numbered 101 or higher.

\*\*Advisor approved science or engineering courses numbered 200 or above, with at least one course in engineering. Technical electives must include either EES 271 or EES 272.

## **Division of Engineering and Physics**

**Director: Dr. Rodney S. Ridley, Sr.**

### Faculty

Professors: Arora, Ghorieshi, Gilmer, Kalim, Orehotsky, Razavi, Srinivasan

Associate Professor: Ridley

Assistant Professors: Harms, Janecek, Lucent, Nazzal, Zhang

Instructor: Taylor

Faculty Emeriti: Bailey, Donahoe, Hostler, Maxwell, Placek

Technical Support Staff: Adams

### **MISSION**

The mission for engineering students is to enable the professional development of their abilities for analysis and design within the context of environment. The Wilkes view emphasizes engineering as a creative, hands-on profession with leadership responsibilities. Teamwork, ethics, and professional communications 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 throughout their careers.

### **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 Electrical Engineering leading to the B.S. degree – 130.**

**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**

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

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. 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). Electrical Engineering and Mechanical Engineering are housed in the Division of Engineering and Physics, and Environmental Engineering is housed within the Department of Environmental Engineering and Earth Sciences.

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. Both of these programs are housed in the Division of 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 Institute of Electrical and Electronic Engineers (IEEE), the Society of Women Engineers (SWE), the Pennsylvania Society of Professional Engineers (PSPE), the Society of Automotive Engineers (SAE), and the Engineering Student Council. Students also participate in various on-campus activities and design competitions such as the Mini-Baja Off-Road Design Competition.

ETA KAPPA NU, the International Electrical Engineering Honor Society, established the Kappa Beta chapter at Wilkes University in 1991. The Society recognizes Electrical Engineering students and professionals who demonstrate exemplary academic achievement and service. It provides a forum to encourage continued achievement and service among its members, the University, and the community.

### **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. 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.

### **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**

|                                             |                |                                           |                |
|---------------------------------------------|----------------|-------------------------------------------|----------------|
| <b>First Semester</b>                       | <b>Credits</b> | <b>Fifth Semester</b>                     | <b>Credits</b> |
| ENG 101 – Composition                       | 4              | EE 211 – Electrical Circuits and Devices  | 3              |
| FYF 101 – First-Year Foundations            | 3              | EE 283 – Electrical Measurements Lab.     | 1              |
| ME 180 – CADD Lab                           | 1              | Distribution Requirement                  | 3              |
| MTH 111 – Calculus I                        | 4              | Free Electives                            | 6              |
| PHY 201 – General Physics I                 | 4              | ME 231 – Statics and Dynamics I           | 3              |
| <b>Total Credits</b>                        | <b>16</b>      | <b>Total Credits</b>                      | <b>16</b>      |
| <b>Second Semester</b>                      |                | <b>Sixth Semester</b>                     |                |
| EGR 140 – Computer Utilization              | 3              | EGM 320 – Engineering Project Analysis    | 3              |
| Distribution Requirements                   | 6              | EGR 201 – Professionalism and Ethics      | 1              |
| MTH 112 – Calculus II                       | 4              | EGR 399 – Coop Ed. or Technical Electives | 6              |
| PHY 202 – General Physics II                | 4              | Technical Elective                        | 3              |
| <b>Total Credits</b>                        | <b>17</b>      | <b>Total Credits</b>                      | <b>13</b>      |
| <b>Third Semester</b>                       |                | <b>Seventh Semester</b>                   |                |
| CHM 113 – Elements & Compounds Lab          | 1              | EGR 391 – Senior Project I*               | 1              |
| CHM 115 – Elements & Compounds              | 3              | Free Electives                            | 9              |
| Distribution Requirements                   | 6              | Technical Electives                       | 6              |
| Free Elective                               | 3              | <b>Total Credits</b>                      | <b>16</b>      |
| <b>Total Credits</b>                        | <b>13</b>      |                                           |                |
| <b>Fourth Semester</b>                      |                | <b>Eighth Semester</b>                    |                |
| EES 202 – Biogeochemistry <i>or</i>         |                | EGR 392 – Senior Project II*              | 2              |
| EGR 200 – Introduction to Materials Science | 3              | Electives                                 | 6              |
| Distribution Requirement                    | 3              | Technical Electives                       | 6              |
| Free Electives                              | 9              | <b>Total Credits</b>                      | <b>14</b>      |
| <b>Total Credits</b>                        | <b>15</b>      |                                           |                |

\*EGR 391 and 392 may be replaced by 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. Consult with the Cooperative Education coordinator for availability and proper scheduling of Cooperative Education experience.

**ELECTRICAL ENGINEERING**

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. 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 Electrical Engineering Program maintains ABET accreditation as noted above in the general program description.

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; Computer Hardware and Software Engineering; and Design and Fabrication of Microelectronic Devices and Circuits. A description of program objectives and outcomes is available in the Division office and is posted on the Division of Engineering and Physics Bulletin Board.

A Master of Science degree in Electrical Engineering (MSEE) is also available. This degree program is described in the Graduate Bulletin.

**ELECTRICAL ENGINEERING MAJOR  
REQUIRED COURSES AND RECOMMENDED COURSE SEQUENCE**

| <b>First Semester</b>                            | <b>Credits</b> | <b>Fifth Semester</b>                       | <b>Credits</b> |
|--------------------------------------------------|----------------|---------------------------------------------|----------------|
| ENG 101 – Composition                            | 4              | Distribution Requirement                    | 3              |
| FYF 101 – First-Year Foundations                 | 3              | EE 252 – Electronics II                     | 4              |
| ME 180 – CADD Lab                                | 1              | EE 271 – Semiconductor Devices              | 3              |
| MTH 111 – Calculus I                             | 4              | EE 373 – CAD for Microfabrication           | 1              |
| PHY 201 – General Physics I                      | 4              | EE 381 – Microfabrication Lab               | 3              |
| <b>Total Credits</b>                             | <b>16</b>      | Technical Elective*                         | 3              |
|                                                  |                | <b>Total Credits</b>                        | <b>16</b>      |
| <b>Second Semester</b>                           |                | <b>Sixth Semester</b>                       |                |
| EES 202 – Biogeochemistry <i>or</i>              |                | Distribution Requirements                   | 6              |
| EGR 200 – Introduction to Materials Science      | 3              | EGR 201 – Professionalism and Ethics        | 1              |
| EGR 140 – Computer Utilization                   | 3              | EGR 399 – Cooperative Education** <i>or</i> |                |
| Distribution Requirement                         | 3              | Technical Electives*                        | 6              |
| MTH 112 – Calculus II                            | 4              | EGM 320 – Engineering Project Analysis      | 3              |
| PHY 202 – General Physics II                     | 4              | <b>Total Credits</b>                        | <b>16</b>      |
| <b>Total Credits</b>                             | <b>17</b>      |                                             |                |
| <b>Third Semester</b>                            |                | <b>Seventh Semester</b>                     |                |
| CHM 113 – Elements and Compounds Lab             | 1              | Distribution Requirement                    | 3              |
| CHM 114 – Elements and Compounds                 | 3              | EE 314 – Control System                     | 3              |
| EE 211 – Electrical Circuits & Devices           | 3              | EE 325 – Energy Conversion Devices          | 3              |
| EE 283 – Electrical Measurements Lab             | 1              | EE 337 – Engineering Electromagnetics I     | 4              |
| MTH 211 – Introduction to Differential Equations | 4              | EE 391 – Senior Project I                   | 1              |
| ME 231 – Statics and Dynamics                    | 3              | Technical Elective*                         | 3              |
| <b>Total Credits</b>                             | <b>15</b>      | <b>Total Credits</b>                        | <b>17</b>      |
| <b>Fourth Semester</b>                           |                | <b>Eighth Semester</b>                      |                |
| Distribution Requirement                         | 3              | EE 339 – Engineering Electromagnetics II    | 4              |
| EE 241 – Digital Design                          | 4              | EE 382 – Modern Communication Systems       | 4              |
| EE 251 – Electronics I                           | 3              | EE 392 – Senior Project II                  | 2              |
| EGR 214 – Linear Systems                         | 3              | Free Elective                               | 3              |
| EGR 222 – Mechatronics                           | 3              | Technical Elective*                         | 3              |
| <b>Total Credits</b>                             | <b>16</b>      | <b>Total Credits</b>                        | <b>16</b>      |

\*Technical electives may be chosen from any advisor approved math, science, or engineering course numbered 200 or above, to satisfy a concentration requirement.

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

**MINOR IN COMPUTER ENGINEERING**

A 22-credit Computer Engineering (CE) minor is a special and highly focused option for students majoring in Electrical Engineering and other related disciplines. The CE minor consists of the following course requirements:

CS 125 – Computer Science I  
 CS 126 – Computer Science II  
 EE 241 – Digital Design  
 EE 345 – Computer Organization  
 EE 342 – Microcomputer Operation and Design  
 One elective course from and Application Area (e.g., EE 314 – Control Systems; CS 355 – Computer Networks; CS 367 – Computer Graphics; or ME 317 – Robotics)

**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**

| <b>First Semester</b>                            | <b>Credits</b> | <b>Fifth Semester</b>                                             | <b>Credits</b> |
|--------------------------------------------------|----------------|-------------------------------------------------------------------|----------------|
| ENG 101 – Composition                            | 4              | BA 234 – Business Law <i>or</i>                                   |                |
| FYF 101 – First-Year Foundations                 | 3              | ACC 162 – Managerial Accounting & Dec. Making                     | 3              |
| ME 180 – CADD Lab                                | 1              | BA 321 – Marketing <i>or</i>                                      |                |
| MTH 111 – Calculus I                             | 4              | EC 101 – Principles of Economics                                  | 3              |
| PHY 201 – General Physics I                      | 4              | BA 351 – Management of Organizations                              | 3              |
| <b>Total Credits</b>                             | <b>16</b>      | EGM 321 – Quant. Analysis & Programming Methods                   | 3              |
|                                                  |                | ME 335 – Engineering Modeling and Analysis                        | 3              |
|                                                  |                | <b>Total Credits</b>                                              | <b>15</b>      |
| <b>Second Semester</b>                           |                | <b>Sixth Semester</b>                                             |                |
| EES 202 – Biogeochemistry <i>or</i>              |                | Distribution Requirements                                         | 6              |
| EGR 200 Introduction to Materials Science        | 3              | EGR 201 – Professionalism and Ethics                              | 1              |
| EGR 140 – Computer Utilization                   | 3              | EGR 399 – Cooperative Education** <i>or</i>                       |                |
| Distribution Requirement                         | 3              | Technical Electives*                                              | 6              |
| MTH 112 – Calculus II                            | 4              | EGM 320 – Engineering Project Analysis                            | 3              |
| PHY 202 – General Physics II                     | 4              | <b>Total Credits</b>                                              | <b>16</b>      |
| <b>Total Credits</b>                             | <b>17</b>      |                                                                   |                |
| <b>Third Semester</b>                            |                | <b>Seventh Semester</b>                                           |                |
| CHM 113 – Elements and Compounds Lab             | 1              | BA 341 – Managerial Finance                                       | 3              |
| CHM 114 – Elements and Compounds                 | 3              | Distribution Requirement                                          | 3              |
| Distribution Requirement                         | 3              | EGR 391 – Senior Project I                                        | 1              |
| EE 211 – Electrical Circuits & Devices           | 3              | Free Elective                                                     | 3              |
| EE 283 – Electrical Measurements Lab             | 1              | Technical Electives*                                              | 6              |
| MTH 211 – Introduction to Differential Equations | 4              | <b>Total Credits</b>                                              | <b>16</b>      |
| ME 231 – Statics and Dynamics                    | 3              |                                                                   |                |
| <b>Total Credits</b>                             | <b>18</b>      | <b>Eighth Semester</b>                                            |                |
| <b>Fourth Semester</b>                           |                | EGR 336 – Engr. & Management Models                               | 3              |
| ACC 161 – Introduction to Financial Accounting   | 3              | EGR 392 – Senior Projects II                                      | 2              |
| EC 102 – Principles of Economics                 | 3              | Free Elective                                                     | 3              |
| EGR 214 – Linear Systems                         | 3              | Technical Electives                                               | 6              |
| EGR 222 – Mechatronics                           | 3              | <b>Total Credits</b>                                              | <b>14</b>      |
| ME 232 – Strength of Materials                   | 3              | *Technical electives may be chosen from any advisor approved      |                |
| MTH 150 – Statistics <i>or</i>                   |                | math, science, or engineering course numbered 200 or above to     |                |
| BA/EC 319 – Economic Statistics                  | 3              | satisfy a concentration requirement.                              |                |
| <b>Total Credits</b>                             | <b>18</b>      | **Consult with the Cooperative Education Coordinator to determine |                |
|                                                  |                | availability and proper scheduling of the Cooperative Education   |                |
|                                                  |                | experience.                                                       |                |

**MECHANICAL ENGINEERING**

The Division of Engineering and Physics 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 ABET accreditation as noted above in the general information about the division.

The ME program is designed to achieve a balance among the major areas of Machine Design, Electro-Mechanical Systems, and Thermal Systems. The student may choose to specialize within the ME program in any of the following areas: Thermal Systems; Design Systems; and Micro-Electro-Mechanical Systems. A description of program objectives and outcomes is available in the Division office and is posted on the Division of Engineering and Physics bulletin board.

The Master of Science degree in Mechanical Engineering (MSME) is also available. This degree program is described in the Graduate Bulletin.



**MECHANICAL ENGINEERING MAJOR**  
**REQUIRED COURSES AND RECOMMENDED COURSE SEQUENCE**

| <b>First Semester</b>                                 | <b>Credits</b> | <b>Fifth Semester</b>                                            | <b>Credits</b> |
|-------------------------------------------------------|----------------|------------------------------------------------------------------|----------------|
| ENG 101 – Composition                                 | 4              | Distribution Requirement                                         | 3              |
| FYF 101 – First-Year Foundations                      | 3              | ME 215 – Introduction to Manufacturing Processes                 | 3              |
| ME 180 – CADD Lab                                     | 1              | ME 321 – Fluid Mechanics                                         | 3              |
| MTH 111 – Calculus I                                  | 4              | ME 323 – Fluid Mechanics Lab                                     | 1              |
| PHY 201 – General Physics I                           | 4              | ME 333 – Machine Design I                                        | 3              |
| <b>Total Credits</b>                                  | <b>16</b>      | ME 335 – Engr. Modeling & Analysis                               | 3              |
|                                                       |                | <b>Total Credits</b>                                             | <b>16</b>      |
| <b>Second Semester</b>                                |                | <b>Sixth Semester</b>                                            |                |
| Distribution Requirement                              | 3              | Distribution Requirements                                        | 6              |
| EGR 140 – Computer Utilization                        | 3              | EGR 201 – Professionalism & Ethics                               | 1              |
| EGR 200 – Introduction to Materials Science <i>or</i> |                | EGR 399 – Cooperative Education* <i>or</i>                       |                |
| EES 202 – Biogeochemistry                             | 3              | Technical Electives**                                            | 6              |
| MTH 112 – Calculus II                                 | 4              | EGM 320 – Engr. Project Analysis                                 | 3              |
| PHY 202 – General Physics II                          | 4              | <b>Total Credits</b>                                             | <b>16</b>      |
| <b>Total Credits</b>                                  | <b>17</b>      |                                                                  |                |
| <b>Third Semester</b>                                 |                | <b>Seventh Semester</b>                                          |                |
| CHM 113 – Elements & Compounds Lab                    | 1              | Distribution Requirement                                         | 3              |
| CHM 115 – Elements & Compounds                        | 3              | EE 314 – Control Systems                                         | 3              |
| Distribution Requirement                              | 3              | ME 324 – Heat and Mass Transfer                                  | 3              |
| EE 211 – Electrical Circuits and Devices              | 3              | ME 326 – Heat and Mass Transfer Lab                              | 1              |
| EE 283 – Electrical Measurements Lab                  | 1              | ME 384 – Mechanical Design Lab                                   | 3              |
| ME 231 – Statics & Dynamics I                         | 3              | ME 391 – Senior Projects I                                       | 1              |
| MTH 211 – Introduction to Differential Equations      | 4              | Technical Elective**                                             | 3              |
| <b>Total Credits</b>                                  | <b>18</b>      | <b>Total Credits</b>                                             | <b>18</b>      |
| <b>Fourth Semester</b>                                |                | <b>Eighth Semester</b>                                           |                |
| EGR 214 – Linear Systems                              | 3              | Free Elective                                                    | 3              |
| EGR – Mechatronics                                    | 3              | ME 332 – Mechanics of Vibration                                  | 3              |
| ME 175 – Introduction to Mfg. & Machining             | 1              | ME 392 – Senior Projects II                                      | 2              |
| ME 232 – Strength of Materials                        | 3              | Technical Electives**                                            | 6              |
| ME 234 – Statics & Dynamics II                        | 3              | <b>Total Credits</b>                                             | <b>14</b>      |
| ME 322 – Engr. Thermodynamics                         | 3              | *Consult with the Cooperative Education Coordinator to determine |                |
| <b>Total Credits</b>                                  | <b>16</b>      | availability and proper scheduling of the Cooperative Education  |                |
|                                                       |                | experience.                                                      |                |
|                                                       |                | **Technical electives may be chosen from any advisor approved    |                |
|                                                       |                | math, science, or engineering course numbered 200 or above to    |                |
|                                                       |                | satisfy a concentration requirement.                             |                |

**PHYSICS MINOR**

Physics is the study of physical phenomena, including forces, energy, momentum, friction, electricity, electrostatics, magnetics, 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 hours as follows:

| <b>Required Courses</b>                                   | <b>Credits</b> |
|-----------------------------------------------------------|----------------|
| Eleven credits of required courses in Physics             | <b>11</b>      |
| PHY 201 – General Physics I <i>and</i>                    | 4              |
| PHY 202 – General Physics II <i>and</i>                   | 4              |
| PHY 203 – General Physics III                             | 3              |
| Nine credits of electives selected from the following:    | <b>9</b>       |
| 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       |
| <b>Minimum total credits required</b>                     | <b>20</b>      |

The Physics minor may be ideally suited for engineers seeking additional theoretical preparation in the physical sciences.

# Department of Mathematics and Computer Science

Chairperson: Dr. Barbara Bracken

## Faculty

Professors: Berard, Koch  
 Associate Professors: Bracken, Harrison, Kapolka, Kong, Lew, Sullivan  
 Assistant Professor: Laing, Zhang  
 Visiting Assistant Professor: Pryor  
 Math Specialist: Gapinski  
 Faculty Emeriti: Merrill, Tillman, Wong

## 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.

### COMPUTER INFORMATION SYSTEMS MAJOR

#### REQUIRED COURSES AND RECOMMENDED COURSE SEQUENCE

| First Semester                                | Credits      | Fifth Semester                                | Credits      |
|-----------------------------------------------|--------------|-----------------------------------------------|--------------|
| ACC 161 – Fin. Acc. & Decision Making         | 3            | BA 351 – Management of Organizations & People | 3            |
| CS 125 – Computer Science I                   | 4            | CS 224 – Cobol & File Management <i>or</i>    |              |
| ENG 101 – Composition                         | 4            | CS 283 – Web Development I                    | 3            |
| FYF 101 – First-Year Foundations              | 3            | CS 317 – Software Integration <i>or</i>       |              |
| <b>Total Credits</b>                          | <b>14</b>    | CS Elective                                   | 3            |
|                                               |              | CS 324 – Systems Analysis <i>or</i>           |              |
| <b>Second Semester</b>                        |              | CS 325 – Database Management                  | 3            |
| ACC 162 – Managerial Accounting & Dec. Making | 3            | Distribution Requirements                     | 3-6          |
| CS 126 – Computer Science II                  | 4            | <b>Total Credits</b>                          | <b>15-18</b> |
| Distribution Requirements                     | 3-6          |                                               |              |
| MTH 111 – Calculus I                          | 4            | <b>Sixth Semester</b>                         |              |
| <b>Total Credits</b>                          | <b>14-17</b> | BA 354 – Organizational Behavior              | 3            |
|                                               |              | CS Electives                                  | 6            |
| <b>Third Semester</b>                         |              | Distribution Requirements <i>or</i>           |              |
| CS 225 – Computer Science III                 | 3            | Free Electives                                | 6            |
| CS 224 – Cobol & File Management <i>or</i>    |              | <b>Total Credits</b>                          | <b>15</b>    |
| CS 283 – Web Development I                    | 3            |                                               |              |
| Distribution Requirements                     | 6            | <b>Seventh Semester</b>                       |              |
| ENG 202 – Technical & Professional Writing    | 3            | BA Elective                                   | 3            |
| <b>Total Credits</b>                          | <b>15</b>    | CS 317 – Software Integration <i>or</i>       |              |
|                                               |              | CS Elective                                   | 3            |
| <b>Fourth Semester</b>                        |              | CS 324 – Systems Analysis <i>or</i>           |              |
| BA 153 – Management Foundations               | 3            | CS 325 – Database Management                  | 3            |
| CS 226 – Computer Science IV                  | 3            | CS 391 – Senior Projects I                    | 1            |
| Distribution Requirements                     | 6            | Distribution Requirements <i>or</i>           |              |
| MTH 150 – Elementary Statistics               | 3            | Free Electives                                | 3-6          |
| <b>Total Credits</b>                          | <b>15</b>    | <b>Total Credits</b>                          | <b>13-16</b> |
|                                               |              |                                               |              |
|                                               |              | <b>Eighth Semester</b>                        |              |
|                                               |              | CS 392 – Senior Projects II                   | 2            |
|                                               |              | Distribution Requirements <i>or</i>           |              |
|                                               |              | Free Electives                                | 12-15        |
|                                               |              | <b>Total Credits</b>                          | <b>14-17</b> |

**SUMMARY OF THE MINIMUM CREDIT DISTRIBUTION FOR THE MAJOR IN COMPUTER INFORMATION SYSTEMS:**

| <b>Business Administration (18 credits)</b>         | <b>Credits</b> |
|-----------------------------------------------------|----------------|
| <b>Required Courses (15 credits)</b>                |                |
| ACC 161 – Financial Accounting and Decision Making  | 3              |
| ACC 162 – Managerial Accounting and Decision Making | 3              |
| BA 153 – Management Foundations                     | 3              |
| BA 351 – Management of Organizations and People     | 3              |
| BA 354 – Organizational Behavior                    | 3              |
| <b>Elective (3 credits)</b>                         |                |
| BA 321 – Marketing                                  | 3              |
| BA 341 – Managerial Finance                         | 3              |
| BA 352 – Production and Operations Management       | 3              |
| <b>Computer Science Courses (41 credits)</b>        | <b>Credits</b> |
| <b>Required Courses (32 credits)</b>                |                |
| CS 125 – Computer Science I                         | 4              |
| CS 126 – Computer Science II                        | 4              |
| CS 224 – Cobol and File Management                  | 3              |
| CS 225 – Computer Science III                       | 3              |
| CS 226 – Computer Science IV                        | 3              |
| CS 283 – Web Development I                          | 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              |
| <b>Electives (9 credits)</b>                        |                |
| 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              |
| <b>Additional Courses (61 credits)</b>              | <b>Credits</b> |
| Distribution Requirements                           | 24             |
| ENG 101 – Composition                               | 4              |
| ENG 202 – Technical and Professional Writing        | 3              |
| FYF 101 – First-Year Foundations                    | 3              |
| Free Electives                                      | 20             |
| MTH 111 – Calculus I                                | 4              |
| MTH 150 – Elementary Statistics                     | 3              |

**COMPUTER INFORMATION SYSTEMS MINOR**

A minor in Computer Information Systems requires the completion of 17 credits, consisting of the following courses:

| <b>Required Courses (14 credits)</b>                     | <b>Credits</b> |
|----------------------------------------------------------|----------------|
| CS 125 – Computer Science I                              | 4              |
| CS 126 – Computer Science II                             | 4              |
| CS 225 – Computer Science III                            | 3              |
| CS 324 – Systems Analysis                                | 3              |
| <b>One additional course selected from the following</b> | <b>Credits</b> |
| 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

**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. Two tracks of study are offered to satisfy students' interests and career goals—the Gaming and Media Design track and the Classic track. The gaming and media design track prepares students for work in the expanded gaming industry, while the traditional track 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 – CLASSIC TRACK REQUIRED COURSES AND RECOMMENDED COURSE SEQUENCE

| First Semester                             | Credits      |              | Fifth Semester                                  | Credits      |              |
|--------------------------------------------|--------------|--------------|-------------------------------------------------|--------------|--------------|
|                                            | BA           | BS           |                                                 | BA           | BS           |
| CS 125 – Computer Science I                | 4            | 4            | CS 326 – Operating Systems Principles <i>or</i> |              |              |
| Distribution Requirement <i>or</i>         | 3            | 3            | CS 328 – Analysis of Algorithms                 | 3            | 3            |
| ENG 101 – Composition                      | 4            | 4            | Distribution Requirements <i>or</i>             |              |              |
| FYF 101 – First-Year Foundations           | 3            | 3            | Free Electives                                  | 9            | 6            |
| MTH 111 – Calculus I                       | 4            | 4            | Laboratory Science Elective                     | 0            | 4            |
| <b>Total Credits</b>                       | <b>14-15</b> | <b>14-15</b> | MTH 150 – Elementary Statistics <i>or</i>       |              |              |
|                                            |              |              | MTH 351 – Probability & Stats. I                | 3            | 3            |
| <b>Second Semester</b>                     |              |              | <b>Total Credits</b>                            | <b>15</b>    | <b>16</b>    |
| CS 126 – Computer Science II               | 4            | 4            | <b>Sixth Semester</b>                           |              |              |
| Distribution Requirements                  | 3            | 3            | CS Elective <i>or</i>                           |              |              |
| Distribution Requirement <i>or</i>         | 3            | 3            | CS 319 – Programming Languages <i>or</i>        |              |              |
| ENG 101 – Composition                      | 4            | 4            | CS 323 – Theory of Computation <i>or</i>        |              |              |
| MTH 112 – Calculus II                      | 4            | 4            | CS 327 – Compiler Design                        | 3            | 3            |
| <b>Total Credits</b>                       | <b>14-15</b> | <b>14-15</b> | CS Elective <i>or</i>                           |              |              |
|                                            |              |              | CS 330 – Computer Architecture                  | 3            | 3            |
| <b>Third Semester</b>                      |              |              | CS 334 – Software Engineering                   | 3            | 3            |
| CS 225 – Computer Science III              | 3            | 3            | Free Electives                                  | 6            | 6            |
| Distribution Requirements                  | 9            | 6            | <b>Total Credits</b>                            | <b>15</b>    | <b>15</b>    |
| Laboratory Science Sequence                | 0            | 4            | <b>Seventh Semester</b>                         |              |              |
| MTH 202 – Set Theory and Logic             | 4            | 4            | CS 326 – Operating Systems Principles <i>or</i> |              |              |
| <b>Total Credits</b>                       | <b>16</b>    | <b>17</b>    | CS 328 – Analysis of Algorithms                 | 3            | 3            |
|                                            |              |              | CS 391 – Senior Projects I                      | 1            | 1            |
| <b>Fourth Semester</b>                     |              |              | CS Elective                                     | 3            | 3            |
| CS 226 – Computer Science IV               | 3            | 3            | Free Electives                                  | 6-9          | 6-9          |
| Distribution Requirement(s)                | 6            | 3            | <b>Total Credits</b>                            | <b>13-16</b> | <b>13-16</b> |
| ENG 202 – Technical & Professional Writing | 3            | 3            | <b>Eighth Semester</b>                          |              |              |
| Laboratory Science Sequence                | 0            | 4            | CS Elective <i>or</i>                           |              |              |
| MTH 231 – Discrete Mathematics             | 3            | 3            | CS 319 – Programming Languages <i>or</i>        |              |              |
| <b>Total Credits</b>                       | <b>15</b>    | <b>16</b>    | CS 323 – Theory of Computation <i>or</i>        |              |              |
|                                            |              |              | CS 327 – Compiler Design                        | 3            | 3            |
|                                            |              |              | CS Elective <i>or</i>                           |              |              |
|                                            |              |              | CS 330 – Computer Architecture                  | 3            | 3            |
|                                            |              |              | CS 392 – Senior Projects II                     | 2            | 2            |
|                                            |              |              | Free Electives                                  | 6-9          | 6-9          |
|                                            |              |              | <b>Total Credits</b>                            | <b>14-17</b> | <b>14-17</b> |

**COMPUTER SCIENCE MAJOR – GAMING AND MEDIA DESIGN TRACK (B.S. DEGREE)**  
**REQUIRED COURSES AND RECOMMENDED COURSE SEQUENCE**

| <b>First Semester</b>                          | <b>Credits</b> | <b>Fifth Semester</b>                          | <b>Credits</b> |
|------------------------------------------------|----------------|------------------------------------------------|----------------|
| CS 125 – Computer Science I                    | 4              | CS 328 – Analysis of Algorithms <i>or</i>      |                |
| Distribution Requirement <i>or</i>             | 3              | CS Elective                                    | 3              |
| ENG 101 – Composition                          | 4              | CS 340 – Artificial Intelligence <i>or</i>     |                |
| FYF 101 – First-Year Foundations               | 3              | CS 367 – Computer Graphics                     | 3              |
| MTH 111 – Calculus I                           | 4              | MTH 150 – Elementary Statistics <i>or</i>      |                |
| <b>Total Credits</b>                           | <b>14-15</b>   | MTH 351 – Probability and Statistics I         | 3              |
|                                                |                | PHY 201 – General Physics I                    | 4              |
|                                                |                | <b>Total Credits</b>                           | <b>13</b>      |
| <b>Second Semester</b>                         |                | <b>Sixth Semester</b>                          |                |
| CS 126 – Computer Science II                   | 4              | CS 334 – Software Engineering                  | 3              |
| Distribution Requirement                       | 3              | CS 366 – 3-D Environment & Animation <i>or</i> |                |
| Distribution Requirement <i>or</i>             | 3              | CS 368 – 3-D Game Development                  | 3              |
| ENG 101 – Composition                          | 4              | CS Elective <i>or</i>                          |                |
| MTH 112 – Calculus II                          | 4              | Distribution Requirement                       | 3              |
| <b>Total Credits</b>                           | <b>14-15</b>   | Distribution Requirements                      | 6              |
|                                                |                | <b>Total Credits</b>                           | <b>15</b>      |
| <b>Third Semester</b>                          |                | <b>Seventh Semester</b>                        |                |
| CS 225 – Computer Science III                  | 3              | CS 328 – Analysis of Algorithms <i>or</i>      |                |
| Distribution Requirements                      | 6              | CS Elective                                    | 3              |
| Laboratory Science Sequence                    | 4              | CS 340 – Artificial Intelligence <i>or</i>     |                |
| MTH 202 – Set Theory and Logic                 | 4              | CS 367 – Computer Graphics                     | 3              |
| <b>Total Credits</b>                           | <b>17</b>      | CS 391 – Senior Projects I                     | 1              |
|                                                |                | Free Electives                                 | 6-9            |
| <b>Fourth Semester</b>                         |                | <b>Total Credits</b>                           | <b>13-16</b>   |
| CS 226 – Computer Science IV                   | 3              | <b>Eighth Semester</b>                         |                |
| CS 366 – 3-D Environment & Animation <i>or</i> |                | CS Elective <i>or</i>                          |                |
| Distribution Requirement                       | 3              | CS 368 – 3-Dimensional Game Development        | 3              |
| ENG 202 – Technical & Professional Writing     | 3              | CS 392 – Senior Projects II                    | 2              |
| Laboratory Science Sequence                    | 4              | Free Electives                                 | 9-12           |
| MTH 231 – Discrete Mathematics                 | 3              | <b>Total Credits</b>                           | <b>14-17</b>   |
| <b>Total Credits</b>                           | <b>16</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 & 115; CHM 114 & 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 115, CHM 114 and 116 are also acceptable in fulfilling this requirement.

Computer Science Electives for Computer Science Majors

Classic Track: CS 319 *or* CS 323 *or* CS 327 and one additional 300-level CS course not listed as a required course.

Gaming and Media Design: Any two 300-level CS courses not listed as required courses.

**SUMMARY OF THE MINIMUM CREDIT DISTRIBUTION FOR THE MAJOR IN COMPUTER SCIENCE – CLASSIC TRACK:**

|                                                                       | Credits    |            |
|-----------------------------------------------------------------------|------------|------------|
|                                                                       | B.A.       | B.S.       |
| CS 125 – Computer Science I                                           | 4          | 4          |
| CS 126 – Computer Science II                                          | 4          | 4          |
| CS 225 – Computer Science III                                         | 3          | 3          |
| CS 226 – Computer Science IV                                          | 3          | 3          |
| CS 326 – Operating System Principles                                  | 3          | 3          |
| CS 328 – Algorithms                                                   | 3          | 3          |
| CS 330 – Computer Architecture                                        | 3          | 3          |
| CS 334 – Software Engineering                                         | 3          | 3          |
| CS 391 – Senior Projects I                                            | 1          | 1          |
| CS 392 – Senior Projects II                                           | 2          | 2          |
| CS 319 – Principles of Programming Languages <i>or</i>                |            |            |
| CS 323 – Theory of Computation <i>or</i>                              |            |            |
| CS 327 – Compiler Design                                              | 3          | 3          |
| CS Electives                                                          | 9          | 9          |
| MTH 111 – Calculus I                                                  | 4          | 4          |
| MTH 112 – Calculus II                                                 | 4          | 4          |
| MTH 202 – Set Theory and Logic                                        | 4          | 4          |
| MTH 231 – Discrete Mathematics                                        | 3          | 3          |
| MTH 150 – Elementary Statistics <i>or</i>                             |            |            |
| MTH 351 – Probability and Statistics I                                | 3          | 3          |
| ENG 101 – Composition                                                 | 4          | 4          |
| ENG 202 – Technical and Professional Writing                          | 3          | 3          |
| FYF 101 – First-Year Foundations                                      | 3          | 3          |
| Science Electives                                                     | 6          | 12         |
| Distribution Requirements                                             | 18         | 18         |
| Free Electives                                                        | 27         | 21         |
| <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 COMPUTER SCIENCE – GAMING AND MEDIA DESIGN TRACK:**

| Computer Science Courses (41 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          |
| CS 328 – Algorithms                                                   | 3          |
| CS 334 – Software Engineering                                         | 3          |
| CS 340 – Artificial Intelligence                                      | 3          |
| CS 366 – 3-Dimensional Environments and Animation                     | 3          |
| CS 367 – Computer Graphics                                            | 3          |
| CS 368 – 3-Dimensional Game Development                               | 3          |
| CS 391 – Senior Projects I                                            | 1          |
| CS 392 – Senior Projects II                                           | 2          |
| CS Electives                                                          | 6          |
| MTH 111 – Calculus I                                                  | 4          |
| MTH 112 – Calculus II                                                 | 4          |
| MTH 202 – Set Theory and Logic                                        | 4          |
| MTH 231 – Discrete Mathematics                                        | 3          |
| MTH 150 – Elementary Statistics <i>or</i>                             |            |
| MTH 351 – Probability and Statistics                                  | 3          |
| ENG 101 – Composition                                                 | 4          |
| ENG 202 – Technical and Professional Writing                          | 3          |
| FYF 101 – First-Year Foundations                                      | 3          |
| PHY 201 – General Physics I                                           | 4          |
| Science Electives                                                     | 8          |
| Distribution Requirements                                             | 18         |
| Free Electives                                                        | 21         |
| <b>Total minimum number of credits required for degree completion</b> | <b>120</b> |

## COMPUTER SCIENCE MINOR

A minor in Computer Science requires the completion of 17 credits, consisting of the following courses:

| <b>Required Courses (14 credits)</b>                                                       | <b>Credits</b> |
|--------------------------------------------------------------------------------------------|----------------|
| CS 125 – Computer Science I                                                                | 4              |
| CS 126 – Computer Science II                                                               | 4              |
| CS 225 – Computer Science III                                                              | 3              |
| CS 334 – Software Engineering                                                              | 3              |
| and                                                                                        |                |
| one additional 300-level course, excluding:<br>CS 321, CS 324, CS 360, CS 363, and CS 364. | 3              |
| <b>Total Credits</b>                                                                       | <b>17</b>      |

## 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.

**MATHEMATICS MAJOR – STANDARD TRACK**  
**REQUIRED COURSES AND RECOMMENDED COURSE SEQUENCE**

| First Semester                                 | Credits      |              | Fifth Semester                                   | Credits   |           |
|------------------------------------------------|--------------|--------------|--------------------------------------------------|-----------|-----------|
|                                                | BA           | BS           |                                                  | BA        | BS        |
| CS 125 – Computer Science I                    | 4            | 4            | Free Electives                                   | 9         | 6         |
| ENG 101 – Composition <i>or</i>                | 4            | 4            | MTH 311 – Functions of a Real Variable <i>or</i> |           |           |
| Distribution Requirement                       | 3            | 3            | MTH 331 – Introduction to Abstr. Algebra I       | 4         | 4         |
| FYF 101 – First-Year Foundations               | 3            | 3            | MTH 351 – Prob. & Mathematical Stats I           | 3         | 3         |
| MTH 111 – Calculus I                           | 4            | 4            | <b>Total Credits</b>                             | <b>16</b> | <b>13</b> |
| <b>Total Credits</b>                           | <b>14-15</b> | <b>14-15</b> |                                                  |           |           |
|                                                |              |              | <b>Sixth Semester</b>                            |           |           |
| <b>Second Semester</b>                         |              |              | Free Electives                                   | 9         | 9         |
| Distribution Requirements                      | 9            | 6            | MTH/CS Electives                                 | 6         | 6         |
| ENG 101 – Composition <i>or</i>                | 4            | 4            | <b>Total Credits</b>                             | <b>15</b> | <b>15</b> |
| Distribution Requirement                       | 3            | 3            |                                                  |           |           |
| MTH 112 – Calculus II                          | 4            | 4            | <b>Seventh Semester</b>                          |           |           |
| PHY 201 – General Physics I                    | 0            | 4            | Free Electives                                   | 9         | 7         |
| <b>Total Credits</b>                           | <b>16-17</b> | <b>17-18</b> | MTH 311 – Functions of a Real Variable <i>or</i> |           |           |
|                                                |              |              | MTH 331 – Introduction to Abstr. Algebra I       | 4         | 4         |
| <b>Third Semester</b>                          |              |              | MTH 391 – Senior Seminar                         | 1         | 1         |
| Distribution Requirements                      | 6            | 6            | MTH/CS Elective                                  | 0         | 3         |
| MTH 202 – Set Theory and Logic                 | 4            | 4            | <b>Total Credits</b>                             | <b>14</b> | <b>15</b> |
| MTH 211 – Introduction to Ord. Diff. Equations | 4            | 4            |                                                  |           |           |
| Science Elective                               | 3            | 3            | <b>Eighth Semester</b>                           |           |           |
| <b>Total Credits</b>                           | <b>17</b>    | <b>17</b>    | Free Electives                                   | 9         | 9         |
|                                                |              |              | MTH 392 – Senior Seminar                         | 2         | 2         |
| <b>Fourth Semester</b>                         |              |              | MTH/CS Elective                                  | 3         | 3         |
| Distribution Requirement                       | 0            | 3            | <b>Total Credits</b>                             | <b>14</b> | <b>14</b> |
| Free Elective                                  | 3            | 0            |                                                  |           |           |
| MTH 212 – Multivariable Calculus               | 4            | 4            |                                                  |           |           |
| MTH 214 – Linear Algebra                       | 3            | 3            |                                                  |           |           |
| Science Elective                               | 3            | 4            |                                                  |           |           |
| <b>Total Credits</b>                           | <b>13</b>    | <b>14</b>    |                                                  |           |           |

**MATHEMATICS MAJOR – COMPUTATIONAL MATHEMATICS TRACK**  
**REQUIRED COURSES AND RECOMMENDED COURSE SEQUENCE**

| First Semester                   | Credits      | Fifth Semester                                 | Credits      |
|----------------------------------|--------------|------------------------------------------------|--------------|
| CS 125 – Computer Science I      | 4            | Distribution Requirements                      | 6            |
| ENG 101 – Composition <i>or</i>  | 4            | MTH 311 – Real Analysis <i>or</i>              |              |
| Distribution Requirement         | 3            | MTH 361 – Applied Mathematics                  | 4/3          |
| FYF 101 – First-Year Foundations | 3            | MTH 351 – Probability and Statistics <i>or</i> |              |
| MTH 111 – Calculus I             | 4            | CS 328 – Algorithms                            | 3            |
| <b>Total Credits</b>             | <b>14-15</b> | Science Requirement                            | 4            |
|                                  |              | <b>Total Credits</b>                           | <b>16-17</b> |
| <b>Second Semester</b>           |              | <b>Sixth Semester</b>                          |              |
| CS 126 – Computer Science II     | 4            | Distribution Requirements                      | 3            |
| ENG 101 – Composition <i>or</i>  | 4            | MTH 231 – Discrete Mathematics                 | 3            |
| Distribution Requirement         | 3            | MTH 364 – Numerical Analysis <i>or</i>         |              |
| Distribution Requirement         | 3            | MTH 365 – Numerical Linear Algebra             | 3            |
| MTH 112 – Calculus II            | 4            | MTH Elective                                   | 3            |
| <b>Total Credits</b>             | <b>14-15</b> | Science Elective                               | 4            |
|                                  |              | <b>Total Credits</b>                           | <b>16</b>    |
| <b>Third Semester</b>            |              | <b>Seventh Semester</b>                        |              |
| CS 225 – Computer Science III    | 3            | Free Electives                                 | 6            |
| Distribution Requirement         | 3            | MTH 311 – Real Analysis <i>or</i>              |              |
| MTH 202 – Set Theory and Logic   | 4            | MTH 361 – Applied Mathematics                  | 4/3          |
| MTH 211 – Differential Equations | 4            | MTH 351 – Probability and Statistics <i>or</i> |              |
| <b>Total Credits</b>             | <b>14</b>    | CS 328 – Algorithms                            | 3            |
|                                  |              | MTH 391 – Senior Seminar I                     | 1            |
| <b>Fourth Semester</b>           |              | MTH Elective                                   | 3            |
| CS 226 – Computer Science IV     | 3            | <b>Total Credits</b>                           | <b>16-17</b> |
| MTH 212 – Multivariable Calculus | 4            |                                                |              |
| MTH 214 – Linear Algebra         | 3            | <b>Eighth Semester</b>                         |              |
| Science Requirement              | 4            | Free Electives                                 | 6            |
| <b>Total Credits</b>             | <b>14</b>    | MTH 364 – Numerical Analysis <i>or</i>         |              |
|                                  |              | MTH 365 – Numerical Linear Algebra             | 3            |
|                                  |              | MTH 392 – 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**

| First Semester                                              | Credits      |              | Fifth Semester                                                                             | Credits      |              |
|-------------------------------------------------------------|--------------|--------------|--------------------------------------------------------------------------------------------|--------------|--------------|
|                                                             | BA           | BS           |                                                                                            | BA           | BS           |
| CS 125 – Computer Science I                                 | 4            | 4            | Distribution Requirement                                                                   | 0            | 3            |
| ENG 101 – Composition <i>or</i><br>Distribution Requirement | 4            | 4            | EDSP 210 – Teaching Sts. with Spec. Needs                                                  | 3            | 3            |
| FYF 101 – First-Year Foundations                            | 3            | 3            | MTH 311 – Functions of a Real Var. <i>or</i><br>MTH 331 – Introduction to Abstract Algebra | 4            | 4            |
| MTH 111 – Calculus I                                        | 3            | 3            | MTH 343 – Introduction to Geometry <i>or</i><br>MTH 303 – Teaching Math in Sec. Schools    | 3            | 3            |
| <b>Total Credits</b>                                        | <b>14-15</b> | <b>14-15</b> | Free Elective                                                                              | 4            | 4            |
| <b>Second Semester</b>                                      |              |              | <b>Total Credits</b>                                                                       | <b>13-14</b> | <b>13-14</b> |
| Distribution Requirements                                   | 6            | 3            | <b>Sixth Semester</b>                                                                      |              |              |
| ENG 101 – Composition <i>or</i><br>Distribution Requirement | 4            | 4            | ED 220 – Teaching ... Diverse Learners                                                     | 3            | 3            |
| Lab Science Sequence I                                      | 3            | 3            | ED 380 – Content Area Literacy                                                             | 3            | 3            |
| MTH 112 – Calculus II                                       | 0            | 4            | EDSP 225 – Spec. Ed. Methodology                                                           | 3            | 3            |
| PSY 101 – General Psychology                                | 4            | 4            | Free Elective                                                                              | 3            | 0            |
| <b>Third Semester</b>                                       |              |              | MTH/CS Elective(s)                                                                         | 3            | 9            |
| Distribution Requirements                                   | 6            | 6            | <b>Total Credits</b>                                                                       | <b>15</b>    | <b>18</b>    |
| ED 190 – Effective Teaching                                 | 3            | 3            | <b>Seventh Semester</b>                                                                    |              |              |
| Lab Science Sequence II                                     | 3            | 4            | ED 191 – Int. Technology into the Class.                                                   | 3            | 3            |
| MTH 202 – Set Theory and Logic                              | 4            | 4            | MTH 343 – Introduction to Geometry <i>or</i><br>MTH 303 – Teaching Math in Sec. Schools    | 3            | 3            |
| <b>Total Credits</b>                                        | <b>16</b>    | <b>17</b>    | MTH 311 – Functions of a Real Var. <i>or</i><br>MTH 331 – Introduction to Abstr. Algebra I | 4            | 4            |
| <b>Fourth Semester</b>                                      |              |              | MTH 351 – Prob. & Mathematical Stats.                                                      | 3            | 3            |
| ED 180 – Educational Psychology                             | 3            | 3            | MTH 391 – Senior Seminar                                                                   | 1            | 1            |
| Free Elective                                               | 3            | 0            | <b>Total Credits</b>                                                                       | <b>14-15</b> | <b>14-15</b> |
| MTH 212 – Multivariable Calculus                            | 4            | 4            | <b>Eighth Semester</b>                                                                     |              |              |
| MTH 214 – Linear Algebra                                    | 3            | 3            | ED 390 – Intern Teaching                                                                   | 12           | 12           |
| Science Elective                                            | 3            | 4            | EDSP 388 – Inclusionary Practices                                                          | 3            | 3            |
| <b>Total Credits</b>                                        | <b>16</b>    | <b>14</b>    | <b>Total Credits</b>                                                                       | <b>15</b>    | <b>15</b>    |

Science Electives for Mathematics 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 & 115; CHM 114 & 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 115, CHM 114 and 116 are also acceptable in fulfilling 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 course: MTH 231, or any MTH or CS course numbered above 300, excluding MTH 303

**TEACHER CERTIFICATION TRACK**

Any one 3-credit MTH course numbered above 300; and for B.S. candidates, two of the following courses:

MTH 211, MTH 231, CS 227, or any MTH or CS course numbered above 300

**SUMMARY OF THE MINIMUM CREDIT DISTRIBUTION FOR THE MAJOR IN MATHEMATICS  
STANDARD MATHEMATICS TRACK**

|                                                                       | Credits    |            |
|-----------------------------------------------------------------------|------------|------------|
|                                                                       | B.A.       | B.S.       |
| CS 125 – Computer Science I                                           | 4          | 4          |
| MTH 111 – Calculus I                                                  | 4          | 4          |
| MTH 112 – Calculus II                                                 | 4          | 4          |
| MTH 202 – Set Theory and Logic                                        | 4          | 4          |
| MTH 211 – Introduction to Ordinary Differential Equations             | 4          | 4          |
| MTH 212 – Multivariable Calculus                                      | 4          | 4          |
| MTH 214 – Linear Algebra                                              | 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         |
| <u>Free Electives</u>                                                 | <u>39</u>  | <u>30</u>  |
| <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 328 – Algorithms                                                   | 3                           |   |
| MTH 111 – Calculus I                                                  | 4                           |   |
| MTH 112 – Calculus II                                                 | 4                           |   |
| MTH 202 – Set Theory and Logic                                        | 4                           |   |
| MTH 211 – Introduction to Ordinary Differential Equations             | 4                           |   |
| MTH 212 – Multivariable Calculus                                      | 4                           |   |
| MTH 214 – Linear Algebra                                              | 3                           |   |
| MTH 231 – Discrete Mathematics                                        | 3                           |   |
| MTH 311 – Real Analysis                                               | 4                           |   |
| MTH 351 – Probability and Statistics I                                | 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                          |   |
| <b>Total minimum number of credits required for degree completion</b> | <b>120</b>                  |   |

**SUMMARY OF THE MINIMUM CREDIT DISTRIBUTION FOR THE MAJOR IN MATHEMATICS  
TEACHER CERTIFICATION TRACK**

|                                                                       | <b>Credits</b> |            |
|-----------------------------------------------------------------------|----------------|------------|
|                                                                       | B.A.           | B.S.       |
| CS 125 – Computer Science I                                           | 4              | 4          |
| MTH 111 – Calculus I                                                  | 4              | 4          |
| MTH 112 – Calculus II                                                 | 4              | 4          |
| MTH 202 – Set Theory and Logic                                        | 4              | 4          |
| MTH 212 – Multivariable Calculus                                      | 4              | 4          |
| MTH 214 – Linear Algebra                                              | 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                                                        | 9              | 0          |
| <b>Total minimum number of credits required for degree completion</b> | <b>120</b>     | <b>123</b> |

**MATHEMATICS MINOR**

A minor in Mathematics requires the completion of a minimum of 21 credits, consisting of the following courses:

|                                                                                        | <b>Credits</b> |
|----------------------------------------------------------------------------------------|----------------|
| MTH 111 – Calculus I                                                                   | 4              |
| MTH 112 – Calculus II                                                                  | 4              |
| Any two MTH courses numbered 300 or higher,<br>excluding MTH 303, MTH 391, and MTH 392 | 6-8            |
| and                                                                                    |                |
| two of the following courses (electives):                                              | 7-8            |
| MTH 202                                                                                |                |
| MTH 211                                                                                |                |
| MTH 21                                                                                 |                |
| MTH 214                                                                                |                |
| MTH 231                                                                                |                |
| <b>Minimum total credits required for a minor in Mathematics</b>                       | <b>21-24</b>   |

**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.

|                                                                 | <b>Credits</b> |
|-----------------------------------------------------------------|----------------|
| 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              |
| <b>Minimum total credits required for a minor in Statistics</b> | <b>21</b>      |

# THE JAY S. SIDHU SCHOOL OF BUSINESS AND LEADERSHIP

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Department of Accounting and Business Administration  
Department of Entrepreneurship and Leadership Studies

# The Jay S. Sidhu School of Business and Leadership

Dean: Dr. Jeffrey R. Alves

## Faculty

Professors: Alves, Batory, Liuzzo, Rexer, Taylor

Associate Professors: Chisarick, Edmonds, Engel, Frear, Matus

Assistant Professors: Gordon, Hao, Sowcik, Xiao

Instructors: Clevenger, Houlihan

Adjunct Faculty: Albany, Alessi, Castelline, Copley, Gorman, Hockenberry, Hughes, Kosicki, Moser, Newhart, Raspen, Sabatini, Savitski, Swantek, Turel, Udomsak

Faculty Emeriti: Broadt, Capin, Gera, Raspen

Director of Assessment and Accreditation: Dr. Justin Matus

Director of Leadership Programs: Dr. Matthew Sowcik

Director of the MBA Program: Dr. Anthony Liuzzo

Coordinators of Personal and Professional Development Programs: Bridget Turel, Dina Udomsak

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 Sidhu School offers six undergraduate majors: the Bachelor of Business Administration degree includes majors in entrepreneurship, finance, management, and marketing plus an accelerated degree completion option for adult learners and the Bachelor of Science degree in Accounting. 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 undergraduate and the graduate Business Administration programs 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).

Closely linked to the Sidhu School of Business and Leadership are the Allan P. Kirby Center for Free Enterprise and Entrepreneurship and the Small Business Development Center. Both 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. The university has over 65 recognized student clubs and organizations. In addition, campus chapters of Delta Epsilon Chi and the Society for Advancement of Management (SAM) provide students with opportunities for professional development, social interaction, and national exposure. The Wilkes University Students in Free Enterprise (SIFE) 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 the regional and national levels with shareholder-style presentations on their projects. These organizations are open to all students, regardless of major or career interests. SIFE students also have access to some of the best management training programs in the country through the organization's sponsors.

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.

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

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

Accounting (B.S.)

Entrepreneurship (B.B.A.)

Finance (B.B.A.)

Management (B.B.A.)

Marketing (B.B.A.)

The Accounting, Entrepreneurship, Finance, Management, and Marketing majors within the Sidhu School each contain six tiers.

1. 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.
2. The *second 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 PPD 101 and PPD 401.

- 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
3. The *third 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 (or BA 153. Management Foundations + ENT 252)
  - EC 101. Principles of Economics I
  - EC 102. Principles of Economics II
  - MTH 107. Business Mathematics
4. The *fourth 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 321. Marketing
  - FIN 340. Introduction to Finance
  - MGT 351. 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 361. Capstone (ENT 361 for entrepreneurship majors)
5. The *fifth tier* requires completion of at least 27 credits which are specific to each of the majors (Accounting, Entrepreneurship, Finance, Management and Marketing). Most majors require 15 credits; the remaining credits are satisfied with major elective courses.
6. The *sixth 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.
- Internship (ACC 362 for accounting majors, BA362 for finance, management and marketing majors, ENT362 for entrepreneurship majors)
  - BA 363. Business Field or Research Experience
  - BA 364. International Business Experience

**Department of Business Administration and Accounting**  
**Chairperson: Dr. Theodore J. Engel**

**ACCOUNTING MAJOR**

**Coordinator: Dr. Marianne Rexer**

**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 four 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 educational experience provides a general background in statistical, financial, and managerial techniques. Subjects included in this area of study are finance, economics, management, and marketing, including a two-semester Integrated Management Experience, which serves as the School's foundation course in the study of accounting, business, and entrepreneurship. This tier also includes a sequence of four one-credit courses called the "Professional and Personal Development" series, designed to engage all business students in an in-depth exploration and assessment of their personal strengths, goals, and career aspirations and provide a series of developmental activities and experiences to facilitate their transition into professional careers.

The *third 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 *fourth 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.

A *fifth 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 21<sup>st</sup> 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.

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 27 credits, including:**

| <b>Requirements for the Accounting Major (27 credits total)</b> | <b>Credits</b> |
|-----------------------------------------------------------------|----------------|
| 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              |

**ACCOUNTING MAJOR**  
**REQUIRED COURSES AND RECOMMENDED COURSE SEQUENCE**

| <b>First Semester</b>                              | <b>Credits</b> | <b>Fifth Semester</b>                             | <b>Credits</b> |
|----------------------------------------------------|----------------|---------------------------------------------------|----------------|
| ACC 151 – Integrated Management Exp. I             | 3              | ACC 201 – Intermediate Accounting I               | 3              |
| CS 115 – Computers and Applications                | 3              | ACC 321 – Taxes                                   | 3              |
| ENG 101 – Composition                              | 4              | BA 319 – Business Statistics                      | 3              |
| FYF 101 – First-Year Foundations                   | 3              | BA 335 – Law & Business                           | 3              |
| HST 101 – Historical Fnds. of the Modern World     | 3              | FIN 340 – Introduction to Finance                 | 3              |
| PPD 101 – Personal & Professional Development I    | 1              | PPD 301 – Personal & Professional Development V   | 1              |
| <b>Total Credits</b>                               | <b>17</b>      | <b>Total Credits</b>                              | <b>16</b>      |
| <b>Second Semester</b>                             |                | <b>Sixth Semester</b>                             |                |
| ACC 152 – Integrated Management Exp. II            | 3              | ACC 202 – Intermediate Accounting II              | 3              |
| Arts Distribution Requirement (Area IV)            | 3              | ACC 322 – Advanced Taxes                          | 3              |
| COM 101 – Fundamentals of Public Speaking          | 3              | BA 336 – Advanced Topics in Business Law          | 3              |
| Humanities Distribution Requirement (Area I)       | 3              | BA 352 – Production & Operations Management       | 3              |
| MTH 107 – Business Mathematics                     | 3              | BA 354 – Organizational Behavior                  | 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              | ACC 301 – Advanced Financial Accounting           | 3              |
| EC 101 – Principles of Economics                   | 3              | ACC 331 – Auditing                                | 3              |
| Humanities Distribution Requirement (Area I)       | 3              | BA 361 – Capstone                                 | 3              |
| MGT 351 – Management of Organizations & People     | 3              | Free Elective                                     | 3              |
| Science Distribution Requirement (Area II)         | 3              | MGT 358 – International Business                  | 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              | ACC 311 – Advanced Managerial Accounting          | 3              |
| EC 102 – Principles of Economics II                | 3              | ACC 341 – Accounting Information Systems          | 3              |
| Free Elective                                      | 3              | ACC 362 – Accounting Internship                   | 3              |
| MKT 321 – Marketing                                | 3              | Free Elective                                     | 3              |
| Social Science Distribution Requirement (Area III) | 3              | <b>Total Credits</b>                              | <b>12</b>      |
| <b>Total Credits</b>                               | <b>15</b>      |                                                   |                |

**ACCOUNTING MINOR**

**Total minimum 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:

| <b>Requirements for the Accounting Minor</b>        | <b>Credits</b> |
|-----------------------------------------------------|----------------|
| 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              |
| <i>plus 6 credits of ACC courses</i>                | 6              |

**BUSINESS ADMINISTRATION – MAJORS IN FINANCE, MANAGEMENT, AND MARKETING**

**Coordinator: Prof. Theodore J. Engel**

**Total minimum number of credits required for the Bachelor of Business Administration degree – 122**

**Total minimum number of credits required for a minor in one of the Business Administration areas – 18**

**FINANCE MAJOR**

The Finance Major at Wilkes is constructed upon the Sidhu School's common foundation courses and the General Education requirements of the University. Finance Majors begin their studies with Fin 340-341. These two semester courses cover all the relevant topics associated with financial management and planning. Subsequent courses cover other topics such as investment management, long-term strategic financial planning, risk management and insurance, and money and banking.

The most common career path for graduates in this major is in the financial division of a multiline business that may move up the corporate ladder to the CFO position. Other paths are to be found in the banking, insurance, and securities industries. For those considering an academic career, the major may lead to an MBA and/or doctoral program. Finally, a Finance Major has the flexibility to choose a skill path that emphasizes such areas marketing, quantitative analysis or systems design.

**The Finance major requires an additional 27 credits, including**



**Requirements for the Finance Major (27 credits total) Credits**

*Each student with a major in Finance must complete the following 15 credits:*

|                                                |   |
|------------------------------------------------|---|
| FIN 230 – Money and Banking                    | 3 |
| FIN 341 – Managerial Finance                   | 3 |
| FIN 343 – Investments and Portfolio Management | 3 |
| FIN 345 – Long-Range Financial Planning        | 3 |
| MGT 257 – Management Information Systems       | 3 |

*Each student with a major in Finance must complete 12 of the following credits:*

|                                          |   |
|------------------------------------------|---|
| ACC 201 – Intermediate Accounting I      | 3 |
| ACC 202 – Intermediate Accounting II     | 3 |
| ACC 321 – Taxes                          | 3 |
| ACC 322 – Advanced Taxes                 | 3 |
| EC 340 – International Trade and Finance | 3 |
| ENT 342 – Entrepreneurial Finance        | 3 |
| ENT 384 – Small Business Consultancy     | 3 |
| FIN 342 – Property and Life Insurance    | 3 |

**FINANCE 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         | EC 101 – Principles of Economics                  | 3         |
| FYF 101 – First-Year Foundations                   | 3         | FIN 230 – Money & Banking                         | 3         |
| HST 101 – Historical Fnds. of the Modern World     | 3         | MKT 321 – Marketing                               | 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> |
| <br>                                               |           | <br>                                              |           |
| Second Semester                                    |           | Sixth Semester                                    |           |
| Arts Distribution Requirement (Area IV)            | 3         | EC 102 – Principles of Economics II               | 3         |
| BA 152 – Integrated Management Exp. II             | 3         | Free Elective                                     | 3         |
| COM 101 – Fundamentals of Public Speaking          | 3         | Humanities Distribution Requirement (Area I)      | 3         |
| Humanities Distribution Requirement (Area I)       | 3         | Major Elective                                    | 3         |
| MTH 107 – Business Mathematics                     | 3         | Major Elective                                    | 3         |
| <b>Total Credits</b>                               | <b>15</b> | <b>Total Credits</b>                              | <b>15</b> |
| <br>                                               |           | <br>                                              |           |
| Third Semester                                     |           | Seventh Semester                                  |           |
| ACC 161 – Financial Acctg & Decision Making        | 3         | BA 358 – International Business                   | 3         |
| FIN 340 – Introduction to Finance                  | 3         | FIN 343 – Investments & Portfolio Management      | 3         |
| MGT 351 – Management of Organizations & People     | 3         | FIN 345 – Long Range Financial Planning           | 3         |
| Science Distribution Requirement (Area II)         | 3         | Major Elective                                    | 3         |
| Social Science Distribution Requirement (Area III) | 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> |
| <br>                                               |           | <br>                                              |           |
| Fourth Semester                                    |           | Eighth Semester                                   |           |
| ACC 162 – Managerial Acctg & Decision Making       | 3         | BA 361 – Capstone                                 | 3         |
| BA 257 – Management Information Systems            | 3         | BA 362 – Finance Internship (or 363 or 364)       | 3         |
| FIN 341 – Managerial Finance                       | 3         | Free Elective                                     | 3         |
| Free Elective                                      | 3         | Major Elective                                    | 3         |
| MGT 354 – Organizational Behavior                  | 3         | <b>Total Credits</b>                              | <b>12</b> |
| <b>Total Credits</b>                               | <b>15</b> |                                                   |           |

**FINANCE MINOR**

**Total minimum 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:

| <b>Requirements for the Finance Minor</b>        | <b>Credits</b> |
|--------------------------------------------------|----------------|
| ACC 161 – Financial Accounting & Decision Making | 3              |
| FIN 340 – Introduction to Finance                | 3              |
| FIN 341 – Managerial Finance                     | 3              |
| <i>plus 9 credits of FIN courses</i>             | 9              |

## MANAGEMENT MAJOR

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, retail, health care, 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.

**The Management major requires an additional 27 credits, including:**

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

*Each student with a major in Management must complete the following 18 credits:*

|                                                   |   |
|---------------------------------------------------|---|
| LDR 202 – Advanced Leadership Theory and Practice | 3 |
| MGT 257 – Management Information Systems          | 3 |
| MGT 309 – Business Correspondence and Reports     | 3 |
| MGT 352 – Production and Operations Management    | 3 |
| MGT 353 – Human Resources                         | 3 |
| MGT 356 – The Social Responsibility of Business   | 3 |

*Each student with a major in Management must complete 9 of the following credits:*

|                                                                               |   |
|-------------------------------------------------------------------------------|---|
| ENT 201 – Nature and Essence of Entrepreneurship                              | 3 |
| ENT 203 – Opportunity Identification: Innovation and Creativity               | 3 |
| ENT 252 – The Entrepreneurial Leader                                          | 3 |
| ENT 342 – Entrepreneurial Finance                                             | 3 |
| ENT 384 – Small Business Consultancy                                          | 3 |
| ENT 385 – Opportunity Assessment: Technical, Economic, and Market Feasibility | 3 |
| FIN 230 – Money and Banking                                                   | 3 |
| FIN 342 – Property and Life Insurance                                         | 3 |
| FIN 343 – Investments and Portfolio Management                                | 3 |
| FIN 345 – Long-Range Financial Planning                                       | 3 |
| MGT 198/298/398 – Topics in Management                                        | 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 |

### MANAGEMENT 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         | BA 353 – Human Resource Management                | 3         |
| FYF 101 – First-Year Foundations                   | 3         | EC 101 – Principles of Economics                  | 3         |
| HST 101 – Historical Fnds. of the Modern World     | 3         | Free Elective                                     | 3         |
| PPD 101 – Personal & Professional Development I    | 1         | PPD 301 – Personal & Professional Development V   | 1         |
| <b>Total Credits</b>                               | <b>17</b> | <b>Total Credits</b>                              | <b>16</b> |
| <b>Second Semester</b>                             |           | <b>Sixth Semester</b>                             |           |
| Arts Distribution Requirement (Area IV)            | 3         | EC 102 – Principles of Economics II               | 3         |
| BA 152 – Integrated Management Exp. II             | 3         | FIN 340 – Introduction to Finance                 | 3         |
| COM 101 – Fundamentals of Public Speaking          | 3         | Humanities Distribution Requirement (Area I)      | 3         |
| Humanities Distribution Requirement (Area I)       | 3         | Major Elective                                    | 3         |
| Social Science Distribution Requirement (Area III) | 3         | MGT 352 – Production & Operations Management      | 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         | BA 358 – International Business                   | 3         |
| MGT 351 – Management of Organizations & People     | 3         | Major Elective                                    | 3         |
| MKT 321 – Marketing                                | 3         | Major Elective                                    | 3         |
| MTH 107 – Business Mathematics                     | 3         | MGT 356 – Social Responsibility of Business       | 3         |
| Science Distribution Requirement (Area II)         | 3         | Science Distribution Requirement (Area II)        | 3         |
| PPD 201 – Personal & Professional Development III  | 1         | PPD 401 – Personal & Professional Development VII | 1         |
| <b>Total Credits</b>                               | <b>16</b> | <b>Total Credits</b>                              | <b>16</b> |
| <b>Fourth Semester</b>                             |           | <b>Eighth Semester</b>                            |           |
| ACC 162 – Managerial Acctg & Decision Making       | 3         | BA 361 – Capstone                                 | 3         |
| BA 257 – Management Information Systems            | 3         | BA 362 – Finance Internship (or 363 or 364)       | 3         |
| Free Elective                                      | 3         | LDR 202 – Advanced Leadership Theory & Practice   | 3         |
| MGT 309 – Business Correspondence and Reports      | 3         | Free Elective                                     | 3         |
| MGT 354 – Organizational Behavior                  | 3         | <b>Total Credits</b>                              | <b>12</b> |
| <b>Total Credits</b>                               | <b>15</b> |                                                   |           |

## MANAGEMENT MINOR

### Total minimum number of credits required for a minor in Management – 18

For majors in other 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** of the Sidhu School:

| <b>Requirements for the Management Minor (18 credits total)</b> | <b>Credits</b> |
|-----------------------------------------------------------------|----------------|
| ACC 161 – Financial Accounting & Decision Making                | 3              |
| BA 151 – Integrated Management Experience I                     | 3              |
| BA 152 – Integrated Management Experience II                    | 3              |
| <i>plus 9 credits of BA or MGT courses</i>                      |                |

The following Minor requirements are applicable to students with majors **outside** of the Sidhu School:

| <b>Requirements for the Management Minor (18 credits total)</b> | <b>Credits</b> |
|-----------------------------------------------------------------|----------------|
| ACC 161 – Financial Accounting & Decision Making                | 3              |
| BA 151 – Integrated Management Experience I                     | 3              |
| BA 152 – Integrated Management Experience II                    | 3              |
| BA 335 – Law & Business                                         | 3              |
| FIN 340 – Introduction to Finance                               | 3              |
| MGT 351 – Management of Organizations & People                  | 3              |
| MKT 321 – Marketing                                             | 3              |

## MARKETING MAJOR

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:**

| <b>Requirements for the Marketing Major (27 credits total)</b>                           | <b>Credits</b> |
|------------------------------------------------------------------------------------------|----------------|
| <i>Each student with a major in Marketing must complete 21 of the following credits:</i> |                |
| COM 302 – Public Relations (*prerequisite COM 260)                                       | 3              |
| MGT 257 – Management Information Systems                                                 | 3              |
| MGT 309 – Business Correspondence and Reports                                            | 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              |

|                                                                                                   |   |
|---------------------------------------------------------------------------------------------------|---|
| <i>Each student with a major in Marketing may also complete up to 6 of the following credits:</i> |   |
| 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 |
| MKT 198/298/398 – Topics                                                                          | 3 |

**MARKETING MAJOR**  
**REQUIRED COURSES AND RECOMMENDED COURSE SEQUENCE**

| <b>First Semester</b>                              | <b>Credits</b> | <b>Fifth Semester</b>                             | <b>Credits</b> |
|----------------------------------------------------|----------------|---------------------------------------------------|----------------|
| 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              | EC 101 – Principles of Economics                  | 3              |
| FYF 101 – First-Year Foundations                   | 3              | Free Elective                                     | 3              |
| HST 101 – Historical Fnds. of the Modern World     | 3              | MKT ____ Marketing Major Required Course          | 3              |
| PPD 101 – Personal & Professional Development I    | 1              | PPD 301 – Personal & Professional Development V   | 1              |
| <b>Total Credits</b>                               | <b>17</b>      | <b>Total Credits</b>                              | <b>16</b>      |
| <b>Second Semester</b>                             |                | <b>Sixth Semester</b>                             |                |
| Arts Distribution Requirement (Area IV)            | 3              | EC 102 – Principles of Economics II               | 3              |
| BA 152 – Integrated Management Exp. II             | 3              | FIN 340 – Introduction to Finance                 | 3              |
| COM 101 – Fundamentals of Public Speaking          | 3              | Major Elective                                    | 3              |
| Humanities Distribution Requirement (Area I)       | 3              | MKT ____ Marketing Major Required Course          | 3              |
| Social Science Distribution Requirement (Area III) | 3              | MKT ____ Marketing Major Required Course          | 3              |
| <b>Total Credits</b>                               | <b>15</b>      | <b>Total Credits</b>                              | <b>15</b>      |
| <b>Third Semester</b>                              |                | <b>Seventh Semester</b>                           |                |
| ACC 161 – Financial Acctg & Decision Making        | 3              | BA 358 – International Business                   | 3              |
| MGT 351 – Management of Organizations & People     | 3              | Major Elective                                    | 3              |
| MKT 321 – Marketing                                | 3              | MKT ____ Marketing Major Required Course          | 3              |
| MTH 107 – Business Mathematics                     | 3              | MKT ____ Marketing Major Required Course          | 3              |
| Science Distribution Requirement (Area II)         | 3              | Science Distribution Requirement (Area II)        | 3              |
| PPD 201 – Personal & Professional Development III  | 1              | PPD 401 – Personal & Professional Development VII | 1              |
| <b>Total Credits</b>                               | <b>16</b>      | <b>Total Credits</b>                              | <b>16</b>      |
| <b>Fourth Semester</b>                             |                | <b>Eighth Semester</b>                            |                |
| ACC 162 – Managerial Acctg & Decision Making       | 3              | BA 361 – Capstone                                 | 3              |
| BA 257 – Management Information Systems            | 3              | BA 362 – Finance Internship (or 363 or 364)       | 3              |
| Humanities Distribution Requirement (Area I)       | 3              | Free Elective                                     | 3              |
| MGT 309 – Business Correspondence and Reports      | 3              | Major Elective                                    | 3              |
| MGT 354 – Organizational Behavior                  | 3              | <b>Total Credits</b>                              | <b>12</b>      |
| <b>Total Credits</b>                               | <b>15</b>      |                                                   |                |

**MARKETING MINOR**

**Total minimum number of credits required for a minor in Marketing – 18**

For majors in other disciplines, The Jay S. Sidhu School of Business and Leadership offers an 18 credit minor in Marketing. Students considering careers in or involving aspects of the marketing profession will find the Minor in Marketing an excellent complement to their primary academic and career interests. All students seeking the Minor in Marketing will be required to complete a minimum of eighteen (18) credits from the following list of courses:

|                                                                                |    |
|--------------------------------------------------------------------------------|----|
| MKT 321 - Marketing                                                            | 3  |
| plus 15 credits of MKT or MKT related courses approved by the Department Chair | 15 |

**ACCELERATED BBA PROGRAM**

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 60 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 regular BBA in Business Administration. It consists of 60 credits earned through twelve core courses and three concentration electives, each of which is worth four 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 will take two courses each term, including fall, summer, and spring, leading to the completion of the program in seven and one-half terms, over two and one-half years.

**BUSINESS ADMINISTRATION MAJOR  
(ACCELERATED BBA PROGRAM)  
REQUIRED COURSES AND COURSE SEQUENCE**

| Term               | Session 1 (7 weeks)                             | Session 2 (7 weeks)                                          |
|--------------------|-------------------------------------------------|--------------------------------------------------------------|
| <u>First Year</u>  |                                                 |                                                              |
| 1 <sup>st</sup>    | ABA 153 – Integrated Management                 | ABA 110 – Leadership & Organizational Management             |
| 2 <sup>nd</sup>    | ABA 161 – Financial Accounting                  | ABA 102 – Integrated Economics for Business                  |
| 3 <sup>rd</sup>    | ABA 321 – Marketing and Retailing               | ABA 150 – The Legal Environment of Business and Business Law |
| <u>Second Year</u> |                                                 |                                                              |
| 4 <sup>th</sup>    | ABA 319 – Integrated Business Math & Statistics | ABA 309 – Effective Communication for Business               |
| 5 <sup>th</sup>    | ABA 162 – Managerial Accounting                 | ABA 353 – Human Resources & Customer Relationship Management |
| 6 <sup>th</sup>    | ABA 341 – Financial Management                  | ABA 198/298/398 – Topics Course                              |
| <u>Third Year</u>  |                                                 |                                                              |
| 7 <sup>th</sup>    | ABA 198/298/398 – Topics Course                 | ABA 361 – Business Strategy & Decision Making                |
| 8 <sup>th</sup>    | ABA 362 – Professional Business Experience      |                                                              |

# Department of Entrepreneurship and Leadership Studies

Interim Chair: Dr. Anne Heineman Batory

## THE PERSONAL AND PROFESSIONAL DEVELOPMENT SERIES (PPD)

Director: Dr. Matthew Sowcik

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.

## ENTREPRENEURSHIP MAJOR

Chair: Dr. Anne Heineman Batory

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

**Total minimum number of credits required for a minor in Entrepreneurship – 18**

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:**

| <b>Requirements for the Entrepreneurship Major</b>                            | <b>18 Credits</b> |
|-------------------------------------------------------------------------------|-------------------|
| 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 309 – Business Correspondence & Reports                                   | 3                 |
| MGT 356 – Social Responsibility of Business                                   | 3                 |

| <b>Electives for the Entrepreneurship Major</b> | <b>6 Credits</b> |
|-------------------------------------------------|------------------|
| 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

The following course sequence is recommended for students pursuing the Bachelor of Business Administration in Entrepreneurship degree. By following this recommendation, all University General Education and Entrepreneurship core requirements will be completed in their proper order. Students transferring into the Bachelor of Business Administration in Entrepreneurship degree program at Wilkes University may use this semester-by-semester outline as a guide for completing required course work.

**ENTREPRENEURSHIP MAJOR**  
**REQUIRED COURSES AND RECOMMENDED COURSE SEQUENCE**

| <b>First Semester</b>                             | <b>Credits</b> | <b>Fifth Semester</b>                              | <b>Credits</b> |
|---------------------------------------------------|----------------|----------------------------------------------------|----------------|
| 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 340 – 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>      |
| <b>Second Semester</b>                            |                | <b>Sixth Semester</b>                              |                |
| 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 107 – Business 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              | BA 361 – Capstone in 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 Acctg & Decision Making      | 3              | BA 362 – Finance Internship (or 363 or 364)        | 3              |
| EC 102 – Principles of Economics II               | 3              | Free Elective                                      | 3              |
| ENT 252 – The Entrepreneurial Leader              | 3              | Humanities Distribution Requirement (Area I)       | 3              |
| MGT 309 – Business Correspondence and Reports     | 3              | Major Elective                                     | 3              |
| MKT - Marketing                                   | 3              | <b>Total Credits</b>                               | <b>12</b>      |
| <b>Total Credits</b>                              | <b>15</b>      |                                                    |                |

**ENTREPRENEURSHIP MINOR**

**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

|                                                           |   |
|-----------------------------------------------------------|---|
| BA 321 - 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 361 – Practicing Entrepreneurship                     | 3 |
| AND ONE OF THE FOLLOWING:                                 |   |
| ENT 384 – Small Business Consultancy <i>or</i>            | 3 |
| ENT 362 – Entrepreneurship Internship                     | 3 |

**LEADERSHIP STUDIES MINOR**

**Director: Dr. Matthew Sowcik**

**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 compliment 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 361. Leadership Capstone

Each student with a minor in Leadership Studies must complete one course from each of the following content area, 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 309. 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. Peoples And Cultures Of The World  
ENT 252. The Entrepreneurial Leader  
MGT 358. International Business  
MGT 351. Management Of Organizations And People  
PS 260. Introduction To Political Thinking  
SOC 221. Social Problems  
Or 3 Credits of Personal and Professional Development courses pertaining to leadership in context



# THE NESBITT COLLEGE OF PHARMACY AND NURSING

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The School of Pharmacy

The School of Nursing

The Nesbitt College of Pharmacy and Nursing  
Dean: Dr. Bernard W. Graham, Ph.D.

The Nesbitt College of Pharmacy and Nursing combines the two clinically based academic programs of Wilkes University. These programs, administered by the School of Pharmacy and the School of Nursing, have themes centered on the development of skills needed to care for patients in a 21<sup>st</sup>-century health care system.

The 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 Nursing houses a multitude of accredited undergraduate and graduate nursing programs. Students of nursing may matriculate directly into the Bachelor of Science 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-MS 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.

## **School of Pharmacy**

### **Dean: Dr. Bernard W. Graham**

Assistant Deans: Dr. Harvey A. Jacobs, Dr. Rhonda A. Waskiewicz  
Chairperson, Department of Pharmaceutical Sciences: Dr. Arthur H. Kibbe  
Chairperson, Department of Pharmacy Practice: Dr. Adam Welch

#### **Faculty**

Professors: Foote, Graham, Kibbe, Witzak

Associate Professors: Bohan, Bolesta, J. Ference, Jacobs, Kristeller, Longyhore, Malinowski, McCune, McManus, Olenak, Roke-Thomas, Trombetta, Welch, Wright

Assistant Professors: Bommareddy, K. Ference, Manning, Metka, Russell, VanWert

Instructors: Boyle, Holt-Macey, Musheno, Nanstiel

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

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

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

#### **OUR MISSION**

Our mission is to educate and develop highly qualified professionals and notably contribute to the ever-changing science and practice of pharmacy.

#### **OUR VISION**

We aspire to be recognized as a premiere School of Pharmacy through progressive education, cutting-edge practice, and significant contribution to the science of pharmacy.

#### **OUR VALUES**

##### *Personalized Education*

We are committed to educating future professional pharmacists. We demonstrate this through our emphasis on communication, team-building, personal mentoring, close inter-professional relationships, and interdisciplinary curriculum service-learning, and small class size.

##### *Cornerstone Scholarship*

Scholarly pursuits support our commitment to educational excellence, faculty development, quality patient care, and the advancement of the practice and science of pharmacy.

##### *Ultimate Service and Practice*

We regard progressive pharmacy care, committed professionalism, and civic engagement as essential to cultivating a dedication to the health and wellness of the community in which we live.

#### **ACCREDITATION**

The Accreditation Council for Pharmacy Education (ACPE) has granted the Doctor of Pharmacy (Pharm.D.) program at Wilkes University full accreditation.

#### **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

The two-year pre-pharmacy course sequence is intended to prepare the student for the challenges of Wilkes University's four-year Doctor of Pharmacy Curriculum. The pre-pharmacy program at Wilkes University is outlined below.

### ADMISSION TO THE PRE-PHARMACY GUARANTEED SEAT PROGRAM (ENROLLMENT LIMIT: UP TO 70)

Students may only enter the Pre-pharmacy Guaranteed Seat Program as freshmen from high school. Minimum criteria for consideration for admission are listed below.

*Applicants for the Pre-pharmacy Guaranteed Seat Program must first complete a Wilkes University Application, which may be obtained from the Office of Admissions. Applicants who meet the SAT and class rank criteria will be forwarded an application for the School of Pharmacy. 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 rank (or GPA if school does not rank), SAT scores, 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 set 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. There are typically many more applicants than seats in the entering Pre-pharmacy Guaranteed Seat Program. 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 which are available at*

<http://www.wilkes.edu/pages/390.asp>

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 candidate 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;
- attain a combined SAT score of 1000 (Math and Verbal);
- complete the School of Pharmacy Pre-pharmacy Application (this is separate from the Wilkes University Admissions Application);
- have worked in a pharmacy or have shadowed a pharmacist for at least eight hours;
- submit one recommendation letter from a pharmacist;
- submit two recommendation letters from teachers, employers, or other individuals who can provide an objective appraisal of the student's ability; 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   | Third Semester                                  | Credits   |
|--------------------------------------------|-----------|-------------------------------------------------|-----------|
| °BIO 121 – Principles of Modern Biology I  | 4         | °CHM 231 – Organic Chemistry I                  | 3         |
| °CHM 113 – Elements & Compounds Lab        | 1         | °CHM 233 – Organic Chemistry I Lab              | 1         |
| °CHM 115 – Elements & Compounds            | 3         | °COM 101 – Fundamentals of Public Speaking      | 3         |
| ENG 101 – Composition <i>or</i>            |           | Distribution Requirements                       | 6         |
| °MTH 111 – Calculus I                      | 4         | °EC 102 – Principles of Economics II            | 3         |
| FYF 101 – First-Year Foundations           | 3         | <b>Total Credits</b>                            | <b>16</b> |
| <b>Total Credits</b>                       | <b>15</b> |                                                 |           |
|                                            |           | Fourth Semester                                 |           |
| <b>Second Semester</b>                     |           | °CHM 232 – Organic Chemistry II                 | 3         |
| °BIO 122 – Principles of Modern Biology II | 4         | °CHM 234 – Organic Chemistry II Lab             | 1         |
| °CHM 114 – The Chemical Reaction Lab       | 1         | Distribution Requirements                       | 6         |
| °CHM 116 – The Chemical Reaction           | 3         | °MTH 150 – Elementary Statistics                | 3         |
| Distribution Requirements                  | 6         | °PHY 174 – Appls. of Classical & Modern Physics | 4         |
| ENG 101 – Composition <i>or</i>            |           | <b>Total Credits</b>                            | <b>17</b> |
| °MTH 111 – Calculus I                      | 4         |                                                 |           |
| <b>Total Credits</b>                       | <b>18</b> |                                                 |           |

° Denotes prerequisite course.

\*Some requirements may be satisfied by means of satisfactory achievement on advanced placement tests or Wilkes' challenge examinations.

## 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) and one year of experiential education.

### ADMISSION TO THE PROFESSIONAL PROGRAM (ENROLLMENT LIMIT: 70)

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:

- 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 by the spring of the fourth semester (sophomore year). **PREREQUISITE COURSES** are listed in the PRE-PHARMACY PROGRAM (previous page) marked with a (\*);
- 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;*
- maintain a cumulative GPA of 3.0 or better for all courses taken through the spring of the fourth semester (sophomore year). *Failure to maintain accumulative 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;*
- 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 of the fourth semester (sophomore year). *Earning a grade of less than 2.0 in a PREREQUISITE COURSE that cannot be repeated by the end of the spring of the fourth semester (sophomore year) 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. (Please see below, Admission through the Application Process.)*
- score at least in the 25<sup>th</sup> percentile on the composite Pharmacy College Admission Test (PCAT). *The School of Pharmacy will accept the highest PCAT scores of multiple attempts. Scoring less than the 25<sup>th</sup> percentile in the PCAT will result in forfeiture of the guaranteed seat;*
- maintain the highest levels of academic and personal honesty throughout the pre-pharmacy program. *Students caught in the act of cheating, collusion, plagiarism, or other and all acts in violation of the Wilkes University policy on Intellectual Responsibility and Plagiarism or the Student Code of Conduct may be subject to dismissal from the Pre-pharmacy Guaranteed Seat Program; and*
- receive a favorable recommendation from your Pre-Pharmacy advisor at the end of your Spring sophomore semester. *Failure to receive a favorable recommendation from your Pre-Pharmacy advisor at the end of your Spring sophomore semester will result in forfeiture of the guaranteed seat.*

In addition, 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.

A majority of General Education Curriculum requirements must be completed prior to entering the Professional Program in Pharmacy. 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 are invited for an interview, based upon a complete evaluation of all submitted application materials. Any missing documentation will compromise the application.

The number of seats in the professional program available through the application process is dependent on the number of Pre-pharmacy Guaranteed Seat students able to claim a seat. A portion of remaining seats is available on an academically competitive basis to Wilkes Students with overall and prerequisite GPAs above a 3.0, and a portion of seats is available to transfer students with overall and prerequisite GPAs above a 3.0 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*

<http://www.wilkes.edu/pages/390.asp>.

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.

## HOW TO APPLY

To obtain a School of Pharmacy application, call or write  
School of Pharmacy  
Wilkes University  
Wilkes-Barre, PA 18766

(570) 408-4280  
1-800-WILKESU, ext. 4280

or

download an application from [www.wilkes.edu/include/academics/pharmacy/apply.doc](http://www.wilkes.edu/include/academics/pharmacy/apply.doc)

PLEASE NOTE: The School of Pharmacy application is different from the Wilkes University application. All applicants must complete the application and return it before February 1 for the upcoming Fall semester.

## PHARMACY PROFESSIONAL PROGRAM – MINIMUM ADMISSION REQUIREMENTS

To be considered for admission to the Professional Program of the School of Pharmacy, the applicant

- should complete the Wilkes University General Education course requirements or have completed a baccalaureate degree;
- must 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 (Wilkes student). Preferential consideration will be given to Wilkes Students with GPAs of 3.0 or higher;
- must obtain a minimum overall GPA of 3.00 and a minimum GPA in the Pharmacy Prerequisite Courses listed below for preferential consideration (non-Wilkes, transfer, student);
- obtain a grade of C (2.0) or better in each of the Pharmacy Prerequisite Courses listed below. *Prerequisite grades of less than 2.0 may be repeated with the higher grade factoring into the GPA. However, applications will not be considered if more than 2 grades of less than 2.0 in prerequisite courses are recorded. In addition, 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. 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;*
- must provide three completed recommendation forms, one of which must be from a pharmacist;
- must successfully complete the interview process;
- must demonstrate acceptable written communication skills; and
- must submit scores on the Pharmacy College Admission Test (PCAT) by February 1.

## PHARMACY PROFESSIONAL PROGRAM – PREREQUISITE COURSES

- Two semesters (8 credits) of General Chemistry with labs
- Two semesters (8 credits) of Organic Chemistry with 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

## 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.

### 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 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 to all students in the School of Pharmacy. 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;
- possess professional liability insurance;
- have documentation of immunizations;
- pass a physical examination;
- be certified in Basic Cardiac Life Support (healthcare provider) and Basic First Aid; and
- have a criminal background check completed by an approved provider; and
- complete other site-specific requirements, such as FBI fingerprint check, PA child abuse background check, etc.

### **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, 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.

## **GRADUATION, DEGREE, AND LICENSURE REQUIREMENTS**

It is the student's responsibility to meet 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 completion of the Doctor of Pharmacy degree. Graduation is dependent upon successful completion of all required and elective course requirements in the School of Pharmacy (see Progression Requirements) and completion of all General Education Curriculum requirements mandated by Wilkes University.

A student entering the Professional Program with a bachelor's degree from a four-year accredited college or university is exempted from the University's General Education Requirements, but is not exempted from the prerequisite entry requirements prescribed by the School of Pharmacy for entry into the Professional Program.

All non-degreed students entering the Professional Program are encouraged to complete the General Education Curriculum requirements prior to beginning the Professional Program curriculum and especially before the completion of the second professional year (P-2).

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 Curriculum requirements will be awarded a generic Bachelor of Science degree. The pass-through B.S. degree does not meet eligibility requirements for licensure as a pharmacist. It is intended only 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 the 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**

|                                             |                |                                                                                                                                                                    |                |
|---------------------------------------------|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| <b>P-1 Fall Semester</b>                    | <b>Credits</b> | <b>P-3 Fall Semester</b>                                                                                                                                           | <b>Credits</b> |
| PHA 301 – Found. of Pharmacy Practice I     | 2              | PHA 501 – Pharmacy Care Lab III                                                                                                                                    | 1              |
| PHA 308 – Pharm. & Health Care Delivery     | 3              | PHA 503 – Longitudinal Care I                                                                                                                                      | 1              |
| PHA 311 – Pharmaceutics I                   | 4              | PHA 505 – Pharmacy Law                                                                                                                                             | 2              |
| PHA 313 – Pharmacy Calculations             | 1              | PHA 509 – Economic Evaluation of Phar                                                                                                                              | 3              |
| PHA 327 – Medical Microbiology              | 4              | PHA 521 – Pharmacotherapeutics VII**                                                                                                                               | 2              |
| PHA 331 – Anatomy & Physiology I            | 4              | PHA 523 – Pharmacotherapeutics VIII**                                                                                                                              | 4              |
| <b>Total Credits</b>                        | <b>18</b>      | PHA 525 – Pharmacotherapeutics IX**                                                                                                                                | 2              |
|                                             |                | Elective                                                                                                                                                           | 2-3            |
| <b>P-1 Spring Semester</b>                  |                | <b>Total Credits</b>                                                                                                                                               | <b>17-18</b>   |
| PHA 302 – Pharmacy Care Lab I               | 1              |                                                                                                                                                                    |                |
| PHA 304 – Found. of Pharmacy Practice II    | 2              | <b>P-3 Spring Semester</b>                                                                                                                                         |                |
| PHA 310 – Clinical Research Design          | 3              | PHA 502 – Pharmacy Care Lab IV                                                                                                                                     | 1              |
| PHA 312 – Pharmaceutics II                  | 4              | PHA 504 – Longitudinal Care II                                                                                                                                     | 1              |
| PHA 332 – Anatomy & Physiology II           | 4              | PHA 526 – Pharmacotherapeutics X**                                                                                                                                 | 2              |
| PHA 365 – Medical Biochemistry              | 4              | PHA 528 – Pharmacotherapeutics XI**                                                                                                                                | 2              |
| <b>Total Credits</b>                        | <b>18</b>      | PHA 530 – Pharmacotherapeutics XII**                                                                                                                               | 4              |
|                                             |                | PHA 532 – Alternative Med. & Nutrition                                                                                                                             | 3              |
| <b>P-1 Summer</b>                           |                | PHA 555 – IPPE IV*                                                                                                                                                 | 0.5            |
| PHA 335 – IPPE I*                           | 2              | PHA 560 – IPPE V*                                                                                                                                                  | 0.5            |
|                                             |                | Elective                                                                                                                                                           | 2-3            |
|                                             |                | <b>Total Credits</b>                                                                                                                                               | <b>16-17</b>   |
| <b>P-2 Fall Semester</b>                    |                |                                                                                                                                                                    |                |
| PHA 401 – Pharmacy Care Lab II              | 1              | *Introduction to Pharmacy Practice Experience                                                                                                                      |                |
| PHA 405 – Pharmaceutical Care Systems       | 2              | **Sequential courses                                                                                                                                               |                |
| PHA 411 – Biopharm. & Clinical Kinetics     | 4              |                                                                                                                                                                    |                |
| PHA 421 – Pharmacotherapeutics I**          | 2              | <b>P-4 Advanced Pharmacy Practice Experiential Year</b>                                                                                                            |                |
| PHA 423 – Pharmacotherapeutics II**         | 2              | Duration: 36 weeks Credits: 35                                                                                                                                     |                |
| PHA 425 – Pharmacotherapeutics III**        | 3              | <b>APPE Rotations</b>                                                                                                                                              |                |
| Elective                                    | 2-3            | 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.. |                |
| <b>Total Credits</b>                        | <b>16-17</b>   | <b>There are four required APPE rotations</b>                                                                                                                      |                |
|                                             |                | PHA 510 – Internal Medicine                                                                                                                                        |                |
| <b>P-2 Spring Semester</b>                  |                | PHA 511 – Ambulatory Care                                                                                                                                          |                |
| PHA 410 – Biotechnology & Immunology        | 3              | PHA 512 – Community Practice                                                                                                                                       |                |
| PHA 412 – Management of Pharmacy Operations | 3              | PHA 513 – Health System                                                                                                                                            |                |
| PHA 426 – Pharmacotherapeutics IV**         | 2              |                                                                                                                                                                    |                |
| PHA 428 – Pharmacotherapeutics V**          | 4              |                                                                                                                                                                    |                |
| PHA 430 – Pharmacotherapeutics VI**         | 2              |                                                                                                                                                                    |                |
| PHA 440 – IPPE II*                          | 1              |                                                                                                                                                                    |                |
| Elective                                    | 2-3            |                                                                                                                                                                    |                |
| <b>Total Credits</b>                        | <b>17-18</b>   |                                                                                                                                                                    |                |
|                                             |                |                                                                                                                                                                    |                |
| <b>P-2 Summer</b>                           |                |                                                                                                                                                                    |                |
| PHA 445 – IPPE III*                         | 2              |                                                                                                                                                                    |                |



## **School of Nursing**

### **Associate Dean: Dr. Mary Ann Merrigan**

#### ***Faculty***

Associate Professors: Malkemes, Merrigan, Soprano, Zbegner (Director, Graduate Programs), Zielinski (Director, Undergraduate Programs)  
Assistant Professors: Bilder, Daughtry, Grandinetti, Havrilla, Hirthler, McCormick, Miskovsky, Rosenquist, Ruppert, Stewart, Turner  
Adjunct Faculty: Babcock  
Faculty Emeriti: Castor, Druffner, Schreiber, Telban  
Director of Clinical Nursing Simulation Center: Chmil  
Clinical Associate: Dennis  
Simulation Specialist: Hauze  
Director of Experiential Learning: Drozdis

**Total minimum number of credits required for a major in Nursing leading to the B.S. degree – 127.**

#### **ACCREDITATION**

The baccalaureate program in Nursing is approved by the Pennsylvania State Board of Nurse Examiners and is accredited by the Commission on Collegiate Nursing Education (CCNE).

#### **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.

#### **ADVANCED PLACEMENT**

The School of Nursing provides advanced placement for applicants to enter the program at their level of competency. Previous education or practical experience or both, which involve repetitive learning, justify advancing the applicant to higher-level responsibilities.

All students are required to have a personal interview.

#### **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 Certified Background (CertifiedBackground.com) **by June 30<sup>th</sup> every year of enrollment in clinical nursing courses.** Failure to complete requirements by June 30<sup>th</sup> results in the assessment of a \$100 late fee. Students must contact Lori Drozdis, Experiential Director (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 Kaplan National Council Licensure Examination (NCLEX) Nursing Admission Exam from Kaplan and LWW Integrated Testing Program on Wilkes University's campus before May 1<sup>st</sup> of the year preceding the start of the entry level clinical nursing course (NSG 210). Candidates must have a composite score at the 55<sup>th</sup> percentile or better in each of the following areas—Essential Math Skills; Reading Comprehension; and Written Comprehension—in order to be considered for admission into the School of Nursing. The exam may only be repeated once and only those scores received for exams taken at Wilkes University will be considered for admission into the program.

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 2.0 or better in the required prerequisite sciences (BIO 113, 115-116) and in ENG 101. In order to remain in clinical courses and progress in the nursing curriculum, students must earn a 2.0 or better in the required co-requisite science (PHY 170 and EES 242). Students must also earn a 2.5 or better in ALL nursing courses and maintain a 2.5 or better cumulative GPA at all times. A nursing student who earns less than a 2.5 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.

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.

#### **TRADITIONAL UNDERGRADUATE NURSING PROGRAM**

Admission into the Wilkes University School of Nursing traditional undergraduate program is highly competitive. The maximum annual number of students accepted into this program is 72 students. Accepted Wilkes students who wish to enroll in the Traditional Undergraduate Nursing Program may qualify for the Pre-Nursing Guaranteed Seat (PNGS) program in their freshman year. The number of Pre-Nursing Guaranteed Seats

is limited to 40 students. Once this number has been met, qualified students will be placed on a wait list. Wait-listed students will be offered seats in the Pre-Nursing Guaranteed Seat Program as seats become available.

### LPN-BS PROGRAM

Licensed Practical Nurse (LPN) students have the opportunity to challenge three specific courses in Nursing by successfully completing examinations and the National League for Nursing (NLN) Mobility Examinations. These examinations are used to facilitate the LPN to RN transition.

For details and enrollment information, contact the Associate Dean of the School of Nursing.

### RN-BS PROGRAM

This program is designed for students who are already Registered Nurses (RNs) and have graduated from associate's degree or diploma programs in nursing. This practice is in compliance with the Pennsylvania Articulation Plan to promote education mobility of RNs based on a common core of knowledge that is recognized without special testing. Upon successful completion of NCLEX-RN and Nursing 299, the student is awarded 42 Wilkes Nursing credits. Registered Nurse students meet the same academic requirements as the traditional students, with the exception of the total number of credits required for degree completion. (The total number of credits required for RNs to complete the B.S. in Nursing is 120.)

#### NURSING MAJOR REQUIRED COURSES AND RECOMMENDED COURSE SEQUENCE

|                                                      | <b>Credits</b> |  | <b>Fifth Semester</b>                                           |           |
|------------------------------------------------------|----------------|--|-----------------------------------------------------------------|-----------|
| <b>First Semester</b>                                |                |  |                                                                 |           |
| BIO 115 – Human Anatomy & Physiology I               | 4              |  | Distribution Requirement                                        | 3         |
| ENG 101 – Composition* <i>or</i>                     | 4              |  | MTH 150 – Elementary Statistics**                               | 3         |
| Distribution Requirement                             | 3              |  | NSG 220 – Nursing Care of the                                   |           |
| FYF 101 – First-Year Foundations                     | 3              |  | Childbearing Family                                             | 4         |
| NSG 171 – Health Care Terminology                    | 1              |  | NSG 221 – Nursing Care of the Adult                             |           |
| PSY 101 – General Psychology* <i>or</i>              |                |  | Client II                                                       | 4         |
| SOC 101 – Introduction to Sociology* <i>or</i>       |                |  | PSY Elective                                                    | 3         |
| ANT 101 – Introduction to Anthropology*              | 3              |  | <b>Total Credits</b>                                            | <b>17</b> |
| <b>Total Credits</b>                                 | <b>14 – 15</b> |  |                                                                 |           |
| <b>Second Semester</b>                               |                |  | <b>Sixth Semester</b>                                           |           |
| ANT 102, 212, SOC 251, or 263 <i>or</i>              |                |  | Distribution Requirements                                       | 6         |
| Distribution Requirement                             | 3              |  | NSG 222 – Nursing Care of the                                   |           |
| BIO 113 – Microbiology                               | 4              |  | Childrearing Family                                             | 4         |
| BIO 116 – Human Anatomy & Physiology II              | 4              |  | NSG 223 – Nursing Care of the Older                             |           |
| ENG 101 – Composition* <i>or</i>                     | 4              |  | Adult Client                                                    | 4         |
| Distribution Requirement                             | 3              |  | NSG 224 – Pharmacotherapeutics and                              |           |
| PSY 101 – General Psychology* <i>or</i>              |                |  | Decision-Making in Nursing                                      | 3         |
| SOC 101 – Introduction to Sociology* <i>or</i>       |                |  | <b>Total Credits</b>                                            | <b>17</b> |
| ANT 101 – Introduction to Anthropology*              | 3              |  |                                                                 |           |
| <b>Total Credits</b>                                 | <b>17 - 18</b> |  | <b>Seventh Semester</b>                                         |           |
| <b>Third Semester</b>                                |                |  | Electives                                                       | 5         |
| NSG 200 – Principles of Normal Nutrition             | 3              |  | NSG 340 – Advanced Care Concepts                                | 8         |
| NSG 210 – Principles of Nursing                      | 6              |  | NSG 342– Introduction to Nursing Research                       | 3         |
| NSG 211 – Physical Assessment                        | 3              |  | <b>Total Credits</b>                                            | <b>16</b> |
| PHY 170 – Concepts in Physics & Chemistry            | 4              |  | <b>Eighth Semester</b>                                          |           |
| <b>Total Credits</b>                                 | <b>16</b>      |  | Electives                                                       | 3         |
| <b>Fourth Semester</b>                               |                |  | NSG 345 – Senior Practicum                                      | 8         |
| ANT 102, 212, SOC 251, or 263 <i>or</i>              |                |  | NSG 346 – Contemporary Issues and                               |           |
| Distribution Requirement                             | 3              |  | Trends in Nursing                                               | 3         |
| EES 242 – Environmental Health                       | 4              |  | <b>Total Credits</b>                                            | <b>14</b> |
| NSG 212 – Nursing Care of the Adult Client I         | 4              |  |                                                                 |           |
| NSG 213 – Nursing Care of the Psychiatric            |                |  | *Please note: Students must take ENG 101 and both PSY 101 and   |           |
| Mental Health Client                                 | 4              |  | SOC 101 or ANT 101 during their freshman year.                  |           |
| NSG 214 – Pathophysiology for the Professional Nurse | 3              |  | **Please note: MTH 150 is required and prerequisite to NSG 342. |           |
| <b>Total Credits</b>                                 | <b>18</b>      |  |                                                                 |           |

### ACCELERATED BACCALAUREATE PROGRAM FOR SECOND DEGREE STUDENTS

This program admits students with baccalaureate degrees, but no previous nursing education, and prepares them for entry into the nursing profession. Upon successful completion of the program, students are awarded a Bachelor's Degree with a Major in Nursing.

The program is designed for students who already hold a baccalaureate degree in a discipline other than nursing. 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 microbiology, with related laboratory experience
- A self-study Medical Terminology module must be completed (details and information provided by the School of Nursing).
- The Kaplan National Council Licensure Examination (NCLEX-RN) Nursing admission Exam from Kaplan and LWW Integrated Testing Program must be completed with a composite score in the 60<sup>th</sup> percentile or better in each of the following areas: Essential Math Skills; Reading Comprehension; and Written Comprehension.
- 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. A student who is unsuccessful in a nursing course is ineligible to continue it, or may not return to, the Accelerated Baccalaureate Program for Second Degree Students.

**ACCELERATED BACCALAUREATE PROGRAM FOR SECOND DEGREE STUDENTS\*  
REQUIRED COURSES AND RECOMMENDED COURSE SEQUENCE**

| <b>First Semester (Fall)</b>                                     | <b>Credits</b> |
|------------------------------------------------------------------|----------------|
| NSG 211 – Physical Assessment                                    | 3              |
| NSG 330 – Nursing Practice I                                     | 12             |
| <b>Total Credits</b>                                             | <b>15</b>      |
| (with Nutrition)                                                 | <b>18)</b>     |
| <br>                                                             |                |
| <b>Second Semester (Spring)</b>                                  |                |
| NSG 224 – Pharmacotherapeutics and<br>Decision-Making in Nursing | 3              |
| NSG 331 – Nursing Practice II                                    | 12             |
| NSG 346 – Contemporary Issues and Trends<br>in Nursing           | 3              |
| <b>Total Credits</b>                                             | <b>18</b>      |
| <br>                                                             |                |
| <b>Third Semester</b>                                            |                |
| NSG 332 – Nursing Practice III                                   | 12             |
| NSG 342 – Introduction to Nursing Research                       | 3              |
| <b>Total Credits</b>                                             | <b>15</b>      |

\*Clinical hours will be distributed among Acute, Chronic, and Community settings.

**ADDITIONAL NURSING EXPENSES AND FEES  
FOR TRADITIONAL BACCALAUREATE STUDENTS**

| <b>Item</b>                                     | <b>Freshman</b> | <b>Sophomore</b>   | <b>Junior</b>      | <b>Senior</b>      |
|-------------------------------------------------|-----------------|--------------------|--------------------|--------------------|
| National Student Nurses Association (NSNA)      | \$45            | \$45               | \$45               | \$45               |
| Uniform Shirt                                   |                 | \$30 - \$35        |                    |                    |
| Uniform Pants                                   |                 | \$25               |                    |                    |
| Uniform Shoes                                   |                 | \$40 and up        |                    |                    |
| Stethoscope, penlight, bandage scissors         |                 | \$55 - \$85        |                    |                    |
| Hemostats                                       |                 | \$6                |                    |                    |
| BP Cuff                                         |                 | \$40               |                    |                    |
| AHA CPR Certification for Health Care Providers |                 | \$35 and up        |                    | \$35 and up        |
| Certified Background Resources                  |                 | \$128 and up       | \$128 and up       | \$128 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        |
| School of Nursing Assessment Fee                |                 | \$225 per semester | \$225 per semester | \$225 per semester |

\*May be covered by the student’s medical insurance

\*\*Will be billed by the Financial Management Office.

**ADDITIONAL NURSING EXPENSES AND FEES  
FOR ACCELERATED BACCALAUREATE STUDENTS**

| <b>Item</b>                                     | <b>Semester One</b>                         | <b>Semester Two</b> | <b>Semester Three</b> |
|-------------------------------------------------|---------------------------------------------|---------------------|-----------------------|
| National Student Nurses Association (NSNA)      | \$45                                        |                     |                       |
| Uniform Shirt                                   | \$30 - \$35                                 |                     |                       |
| Uniform 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                                 |                     |                       |
| Certified Background Resources                  | \$128 and up                                |                     | \$128 and up          |
| Criminal Record Check                           | \$40 and up                                 |                     | \$40 and up           |
| PA Child-Abuse-History Clearance                | \$10                                        |                     |                       |
| Physical, Immunizations, and PPD                | \$100 and up*                               |                     | \$100 and up*         |
| Urine for Drug Screen                           | \$50 and up                                 |                     | \$50 and up           |
| School of Nursing Assessment Fee                | \$320 per semester<br>starting with NSG 330 | \$320 per semester  | \$320 per semester    |

*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).

**GRADUATE NURSING PROGRAM**

**RN-MS PROGRAM**

This program is designed for the experienced, practicing professional who plans to earn an advanced degree in nursing. Acceleration through the baccalaureate portion of the program allows this professional to enter into the advanced practice efficiently.

For details and enrollment information, contact the Associate Dean of the School of Nursing.

# SCHOOL OF EDUCATION

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Department of Education

## **School of Education**

### **Dean: Dr. Michael Speziale**

It is my pleasure, as the Dean of the College of Graduate and Professional Studies and School of Education, to share with you some of the highlights of our continuum of programs, core values, and external partnerships, which are the basis for an outstanding array of degree and certification-based offerings. For the most current information on our programs, visit us at the Wilkes Web site at [www.wilkes.edu](http://www.wilkes.edu)

The Wilkes University School of Education was formed in June of 2008. It brings together, for the first time, the undergraduate Teacher Education Program, masters programs, and the doctorate of education program, providing a continuum of study from freshman year through the terminal degree in education. The School of Education is housed in the College of Graduate and Professional Studies.

At the undergraduate level, Wilkes offers degrees and certifications in Elementary/Early Childhood Education, Middle Level Education, and Secondary Education (a minor) in several content areas. Dual certification in Special Education may be combined with any of the majors of the minor. The department also offers an endorsement in English as a Second Language.

Students entering the undergraduate program can be assured that they will be well prepared to meet the challenges of this rewarding profession through participation in a dynamic, comprehensive program. Prospective teachers learn and apply the most relevant and current educational research and gain valuable experience through varied field experiences in regional school classrooms.

Graduate study in Education is offered primarily to enable teachers to enhance their preparation to become educational leaders. Each program is designed to broaden knowledge in the foundations of education as well as focus on a specific area of advanced training. The master's degree program in Education is offered with 11 majors in a variety of areas.

Wilkes University's Doctorate of Education (Ed.D.) in Educational Leadership is a post-master's program with areas of focus in Educational Technology and K-12 and Higher Education Administration.

Faculty who teach in the undergraduate and graduate programs have strong backgrounds in the field and work to stay abreast of the every-changing landscape of education. They are committed to students through continuous mentoring and academic support. At Wilkes you will find faculty who share a belief that education is a critical foundation for life's journey. Faculty believe that each student, no matter what the level, has individual strengths that need to be tapped to provide opportunities for educational success. These beliefs are evident in their teaching. The core values shared by the faculty at both the undergraduate and graduate levels are reflected in the respective mission statements.

The Mission of the Undergraduate Teacher Education Program (TEP) 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. 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 students to meet the diverse needs of all students within the learning community.

The mission of the Graduate Education programs at Wilkes is to provide the educational community with opportunities to become leaders in classroom instruction and in the administration of schools. As such, the Graduate Education Program seeks to promote the highest levels of intellectual growth and career development through a collaborative environment that supports teaching in a diverse learning environment, while valuing commitment to the educational communities it serves.

Recognizing the excellent performance of the graduate programs in leadership, the Pennsylvania Department of Education selected Wilkes as one of seven regional Leadership Centers in 2007-2008. The purpose of the regional centers is to help redefine principal and superintendent preparation guidelines for Pennsylvania.

The School of Education is also committed to engaging in partnerships to provide unique opportunities to all of our students, including the following: National Institute for Professional Practice, which has partnered with Wilkes to develop and offer programs in 21<sup>st</sup> Century Teaching and Learning, Early Childhood Literacy, and a letter of endorsement in Teacher Leadership and Instructional Coaching; Performance Learning Systems, which has partnered with Wilkes to develop and offer a program in Educational Development and Strategies; and Discovery Education, which in the most recent and unique endeavor, has partnered with Wilkes University to develop and offer a nationally based program in Instructional Media. Collectively, these partnerships represent the entrepreneurial spirit and the expanding geographical sphere of influence of the School of Education and its overall commitment to be the regional leader in the preparation of highly qualified educators and educational leaders.

As the Dean of the School of Education, I am extremely proud of the accomplishments of our faculty, staff, and students. I look forward to continued successes and milestones as we collectively work to positively shape the future of education.

**Department of Education**  
**Chairperson: Dr. Caroline Maurer**

Faculty

Professor: Polachek

Associate Professors: Maurer, Morrison

Assistant Professors: Balester, Gardner, Garzella, Murray-Galella, Thomas

Faculty Emeriti: J. Bellucci, Fahmy, Johnson

**The Education Department Programs**

The Teacher Education Program (TEP) information in this *2012-13 Undergraduate Bulletin* addresses new certification programs mandated by the Pennsylvania Department of Education (PDE) that will be followed by all students starting in Fall 2010 or after. The new programs are

1. Pre-kindergarten through fourth grade (PK-4) certification that will replace the current Kindergarten through sixth grade (K-6) certification;
2. Special education concentrations that specify a grade band of Pre-kindergarten through eighth grades (PK-8) or seventh through twelfth grades (7-12) that will replace the current Pre-kindergarten through twelfth grad (PK-12) generalist certificate; and
3. Middle Level certification in grades four through eight (4-8) with five areas of specialization.

Students who have started Wilkes prior to Fall 2010 will continue in their current programs as listed on their current course requirements checklists for the following programs:

- Elementary Education (grades Kindergarten through 6)
- Special Education (pre-Kindergarten through grade 12)
- Secondary Education grades 7-12, with teacher certification in Biology, Chemistry, English, Earth & Space Science (with a major in Earth and Environmental Sciences), Spanish, and Social Studies (with a major in History of Political Science)

Current students must complete all required course work and appropriate PRAXIS II tests and apply for teaching certification by June 30, 2013. As of September 1, 2013, these programs will no longer be certified by the Pennsylvania Department of Education.

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

**TEACHER EDUCATION PROGRAM ADMISSION REQUIREMENTS**

Students preparing for teacher certification must be formally admitted to the *Teacher Education Program* at Wilkes University. Students are expected to review and comply with policy documents available in the Education Department office (Breiseth Hall, Rm. 204). Policies may change due to new or updated PDE regulations.

The criteria for formal admission to the Teacher Education Program are as follows:

1. complete 48 semester hour credits (including 6 credits of Mathematics and 6 credits of English as required by the PDE);
2. attain a minimum GPA of 2.5 to register for ED 190 (Effective Teaching with Field Experience) and ED 191 (Integrating Technology into the Classroom);
3. achieve final grades of 2.5 or higher in ED 180, ED 190, and ED 191;
4. achieve an overall GPA of 2.85 in order to proceed from 100-level ED courses to 200-level ED courses;
5. achieve an overall GPA of 3.0 to be formally admitted into the *Teacher Education Program* and to continue in courses at the 300-level;
6. pass the Pre-service Academic Performance Assessment (PAPA) that is administered by Pearson to register. Before April 2012, the PRAXIS I, administered by Educational Testing Service, was the required test of basic skills;
7. maintain a cumulative 3.0 GPA in order to be retained in the program following formal admission (as required by PDE);
8. submit current and valid Act 34 State Police Criminal Record Check, ACT 151 Child Abuse History Clearance, Act 114 FBI Fingerprint Check, and Act 24 Arrest/Conviction Report and Certification Form; and
9. complete formal *Teacher Education Program* Application, Philosophy, Disposition Assessments, signed Code of Professionalism and Academic Honesty, and signed Agreement of Understanding of GPA and PAPA Policies (completed during ED 190).

**New Testing Information (<http://www.pa.nesinc.com/Home.aspx>):** Beginning in April 2012, the PECT Pre-service Academic Performance Assessment (PAPA) will be the means of assessing reading, mathematics, and writing skills for undergraduate candidates seeking a state-approved Pennsylvania educator preparation certificate. All undergraduate candidates for initial certification will be required to pass the PAPA as well as the test corresponding to the specific certification area. Post-baccalaureate candidates for initial certification are not required to take the PAPA. Post-baccalaureate candidates must take the specific certification area test(s). If you are already certified and adding another certificate, you only have to take the test(s) corresponding to the new certification area.

**Tests Required for Undergraduate Candidates for Initial Certification**

- Pre-service Academic Performance Assessment (PAPA) plus the appropriate certification area test(s)

**Tests Required for Specific Certification Areas**

- PreK-4
- Special Education PreK-8
- Special Education 7-12

**TEACHER EDUCATION PROGRAM STUDENT TEACHING REQUIREMENTS**

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 Student Teaching;
7. Registration form with advisor's signature; and
8. Approval of student teaching eligibility by the major department, the Education Department, and the Teacher Education Committee.

Students are assigned to schools in Wyoming, Luzerne, or Lackawanna counties for student teaching.

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. Achieve 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 (provided by the University Registrar);
6. Review the graduation audit with academic advisor;
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.

### **ELEMENTARY AND EARLY CHILDHOOD EDUCATION**

**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 – 134.**

#### **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 MAJOR**

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 Education. Elementary and Early Childhood Education majors take methods of teaching courses in mathematics, science, social studies, the arts, physical education and health, reading, and language arts, as well as courses in educational theory and practice. Students must fulfill all of the following requirements:

1. complete all course work, field experiences, clearances, appropriate basic skills and content mastery tests, and student teaching;
2. complete the following General Education Curriculum requirements:
  - Oral Communications – fulfilled by OPO courses in the Education major;
  - Computer Literacy – CS 115 (3 cr.)
  - English Composition and Literature – 7 credits, completed within the first 48 credit hours as required by the PDE:
    - ENG 101 – Composition
    - ENG 120 – Introduction to Literature and Culture
  - Foreign Language or Philosophy – 3 credits (Foreign Language is highly recommended)
  - First-Year Foundations – FYF 101 (3 cr.)
  - History – 6 credits:
    - HST 101 – Historical Foundations of the Modern World
    - HST 125 – American History I (highly recommended) *or* HST 126 – American History II
  - Mathematics – 6 credits, completed within the first 48 credit hours as required by the PDE:
    - MTH 103 – Mathematics for Elementary School Teachers I
    - MTH 104 – Mathematics for Elementary School Teachers II
    - *or* two higher numbered courses in mathematics
  - Psychology – 6 credits: PSY 101 – General Psychology; PSY 221 – Developmental Psychology
  - Science – 6 credits in two different areas and at least one course that includes a laboratory component
    - Biology – BIO 105 or higher
    - Chemistry – CHM 105 or higher
    - Earth and Environmental Sciences – EES 105 or higher
    - Physics – PHY 105 or higher
  - Social Sciences – 3 credits
    - Anthropology – ANT 101 – Introduction to Anthropology *or*
    - Economics – EC 102 – Principles of Economics II *or*
    - Political Science – PS 111 – Introduction to American Politics *or*
    - Sociology – SOC 101 – Introduction to Sociology
  - Visual and Performing Arts – 3 credits
    - ART 101 – Experiencing Art *or*
    - DAN 100 – Dance Appreciation: Comprehensive Dance Forms *or*



- MUS 101 – Introduction to Music I *or*
  - THE 100 – Approach to Theatre
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 190 – Effective Teaching with Field Experience (40 hours field experience).
    - Students must have a minimum GPA of 2.5, *Field Experience Placement Form* completed, and current Act 34 (State Police), Act 151 (Child Abuse), and Act 114 (FBI; Federal Criminal History), and Act 24 (Arrest/Conviction Report and Certification Form) clearances submitted to the Coordinator of Field Placements before established deadlines to enroll in ED 190.
    - Students must achieve a grade of 2.5 or higher in ED 190 to proceed to other Education courses.
  - ED 191 – Integrating Technology into the Classroom (C.I. course; formerly ED 215).
    - Students must have a minimum GPA of 2.5 to enroll in ED 191 and have completed or be enrolled in ED 190.
    - Students must achieve a final grade of 2.5 and a cumulative GPA of 2.85 or higher to proceed to 200-level Education courses.
  - EDSP 210 – Teaching Students with Special Needs (formerly ED 210)
  - 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 (15 hours of field experience)
  - ED 264 – Child Development and Cognition Classroom (30 hours of field experience)
    - Students must take and pass PAPA and have a 3.0 GPA prior to registering for 300-level Education courses and content methods courses.
  - 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 (Prerequisite: ED 321)
  - ED 323 – Differential Reading
  - ED 324 – Children’s Literature
  - ED 325 – Applied Reading Strategies (15 hours of field experience)
  - ED 330 – Mathematics in Early Childhood and Elementary Education
  - ED 341 – Language Arts (OPO course)
  - ED 344 – Assessment in Early Childhood and Elementary Education (this course will be replaced by 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
  - 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)

### **ELEMENTARY AND EARLY CHILDHOOD EDUCATION MAJOR WITH DUAL SPECIAL EDUCATION CERTIFICATION**

Students majoring in Elementary and Early Childhood Education with a concentration in Special Education PK-8 will complete the following courses in addition to the afore-cited Elementary and Early Childhood program requirements (no course substitutions permitted):

- ED 180 – Educational Psychology (a student must earn a final course grade of 2.5 in ED 180 and a cumulative GPA of 2.5 before proceeding to ED 190 and ED 191)
- 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 ED 344 – Assessment in Early Childhood and Elementary Education—course)
- EDSP 302 – Special Education Methods
- All EDSP courses, in combination, will substitute for the PK-4 ED 363—School, Family, and Community course)

*Special Education certification candidates will complete half their student teaching in a special education setting and half in a regular education setting.*

**ELEMENTARY AND EARLY CHILDHOOD EDUCATION WITH CERTIFICATION  
REQUIRED COURSES AND RECOMMENDED COURSE SEQUENCE**

**124 CREDITS**

(Elementary and Early Childhood Education majors will also complete a Reading Education minor within the major requirements)

|                                                    |                |                                                                                                          |                |
|----------------------------------------------------|----------------|----------------------------------------------------------------------------------------------------------|----------------|
| <b>First Semester</b>                              | <b>Credits</b> | <b>Fifth Semester</b>                                                                                    | <b>Credits</b> |
| CS 115 – Computers and Applications                | 3              | ART 101/DAN 100/MUS 101/THE 100                                                                          | 3              |
| ENG 101 – Composition                              | 4              | ED 321 – Literacy Foundations I (30)*                                                                    | 3              |
| FYF 101 – First-Year Foundations                   | 3              | ED 341 – Language Arts                                                                                   | 3              |
| HST 101 – Historical Foundations of the Mod. World | 3              | ED 344 – Assessment in EC & Elem. Ed.                                                                    | 3              |
| PSY 101 – General Psychology                       | 3              | ED 360 – Soc. Studies in EC & Elem. Ed                                                                   | 3              |
| <b>Total Credits</b>                               | <b>16</b>      | <b>Total Credits</b>                                                                                     | <b>15</b>      |
| <b>Second Semester</b>                             |                | <b>Sixth Semester</b>                                                                                    |                |
| ED 190 – Effective Teaching (40)*                  | 3              | ED 322 – Literacy Foundations II                                                                         | 3              |
| ED 191 – Integrating Technology into the Classroom | 3              | ED 324 – Children’s Literature                                                                           | 3              |
| FL Elective                                        | 3              | ED 330 – Mathematics in EC & Elem. Education                                                             | 3              |
| HST 125 – American History I <i>or</i>             |                | ED 345 – Assessment in Education                                                                         | 3              |
| HST 126 – American History II                      | 3              | ED 363 – School, Family, & Community                                                                     | 3              |
| Science Elective                                   | 3              | ED 370 – Science in EC & Elem. Education                                                                 | 3              |
| <b>Total Credits</b>                               | <b>15</b>      | <b>Total Credits</b>                                                                                     | <b>18</b>      |
| <b>Third Semester</b>                              |                | <b>Seventh Semester</b>                                                                                  |                |
| ED 263 – Child Development and Cognition (15)*     | 3              | ED 310 – Health, Physical Education, & Safety                                                            | 3              |
| EDSP 210 – Teaching Students with Spec. Needs      | 3              | ED 323 – Differentiated Reading                                                                          | 3              |
| ENG 120 – Introduction to Literature & Culture     | 3              | ED 325 – Applied Reading Strategies (15)*                                                                | 3              |
| MTH 103 – Mathematics for Elem. School Teachers I  | 3              | ED 350 – The Arts in EC & Elem. Educ.                                                                    | 3              |
| SOC 101 – Introduction to Sociology                | 3              | ED 385 – Classroom Management                                                                            | 3              |
| <b>Total Credits</b>                               | <b>15</b>      | <b>Total Credits</b>                                                                                     | <b>15</b>      |
| <b>Fourth Semester</b>                             |                | <b>Eighth Semester</b>                                                                                   |                |
| ED 220 – Teaching ... Diverse Learners             | 3              | ED 390 – Student Teaching (40)**                                                                         | 12             |
| ED 264 – Child Development & Cog.–Classroom (30)*  | 3              | EDSP 388 – Inclusionary Practices                                                                        | 3              |
| EDSP 225 – Spec. Ed. Methodology I (30)*           | 3              | <b>Total Credits</b>                                                                                     | <b>15</b>      |
| MTH 104 – Mathematics for Elem. School Teachers II | 3              |                                                                                                          |                |
| Science Elective                                   | 3              | <b>*Denotes field experience hours</b>                                                                   |                |
| <b>Total Credits</b>                               | <b>15</b>      | <b>**Denotes pre-student teaching hours completed during the first two weeks of the eighth semester.</b> |                |

**DUAL SPECIAL EDUCATION CERTIFICATION**

**MISSION**

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.

The Dual Special Education Certification program prepares candidates to work with special needs populations in pre-kindergarten through eighth grades (PD-8) *or* seventh through twelfth (7-12) grades. Students will follow the requirements for an initial certification program in Elementary and Early Childhood Education, Middle Level Education, *or* Secondary Education with a few course substitutions permitted as noted below in addition to completing the extra requirements for the Special Education program. Special Education is a concentration that students may add to their initial program in order to qualify for dual certification.

**ELEMENTARY AND EARLY CHILDHOOD EDUCATION WITH CERTIFICATION &  
DUAL SPECIAL EDUCATION CERTIFICATION  
REQUIRED COURSES AND RECOMMENDED COURSE SEQUENCE**

**134 CREDITS**

(Elementary and Early Childhood Education majors will also complete a Reading Education minor within the major requirements)

| <b>First Semester</b>                                | <b>Credits</b> | <b>Fifth Semester</b>                                                                                    | <b>Credits</b> |
|------------------------------------------------------|----------------|----------------------------------------------------------------------------------------------------------|----------------|
| CS 115 – Computers and Applications                  | 3              | ED 321 – Literacy Foundations I (30)*                                                                    | 3              |
| ED 180 – Educational Psychology                      | 3              | ED 330 – Mathematics in EC & Elem. Education                                                             | 3              |
| ENG 101 – Composition                                | 4              | ED 341 – Language Arts                                                                                   | 3              |
| FYF 101 – First-Year Foundations                     | 3              | ED 360 – Social Studies in EC & Elem. Ed                                                                 | 3              |
| HST 101 – Historical Foundations of the Modern World | 3              | ED 370 – Science in EC & Elem. Education                                                                 | 3              |
| <b>Total Credits</b>                                 | <b>16</b>      | EDSP 226 – Spec. Ed. Methodology II (20)*                                                                | 3              |
|                                                      |                | <b>Total Credits</b>                                                                                     | <b>18</b>      |
| <b>Second Semester</b>                               |                | <b>Sixth Semester</b>                                                                                    |                |
| ED 190 – Effective Teaching (40)*                    | 3              | ED 322 – Literacy Foundations II                                                                         | 3              |
| ED 191 – Integrating Technology into the Classroom   | 3              | ED 324 – Children’s Literature                                                                           | 3              |
| FL Elective                                          | 3              | ED 345 – Assessment in Education                                                                         | 3              |
| HST 125 – American History I <i>or</i>               |                | EDSP 227 – Behavior Management (20)*                                                                     | 3              |
| HST 126 – American History II                        | 3              | EDSP 302 – Special Ed. Methods                                                                           | 4              |
| PSY 101 – General Psychology                         | 3              | <b>Total Credits</b>                                                                                     | <b>16</b>      |
| Science Elective                                     | 3              |                                                                                                          |                |
| <b>Total Credits</b>                                 | <b>18</b>      | <b>Seventh Semester</b>                                                                                  |                |
|                                                      |                | ED 310 – Health, Physical Education, & Safety                                                            | 3              |
| <b>Third Semester</b>                                |                | ED 323 – Differentiated Reading                                                                          | 3              |
| ED 263 – Child Development and Cognition (15)*       | 3              | ED 325 – Applied Reading Strategies (15)*                                                                | 3              |
| EDSP 210 – Teaching Students with Spec. Needs        | 3              | ED 350 – The Arts in EC & Elem. Educ.                                                                    | 3              |
| ENG 120 – Introduction to Literature & Culture       | 3              | ED 385 – Classroom Management                                                                            | 3              |
| MTH 103 – Mathematics for Elem. School Teachers I    | 3              | EDSP 300 – Assessment in Special Educ.                                                                   | 3              |
| SOC 101 – Introduction to Sociology                  | 3              | <b>Total Credits</b>                                                                                     | <b>18</b>      |
| Science Elective                                     | 3              |                                                                                                          |                |
| <b>Total Credits</b>                                 | <b>18</b>      | <b>Eighth Semester</b>                                                                                   |                |
|                                                      |                | ED 390 – Student Teaching (40)**                                                                         | 12             |
| <b>Fourth Semester</b>                               |                | EDSP 388 – Inclusionary Practices                                                                        | 3              |
| ART 101/DAN 100/MUS 101/THE 100                      | 3              | <b>Total Credits</b>                                                                                     | <b>15</b>      |
| ED 220 – Teaching ... Diverse Learners               | 3              |                                                                                                          |                |
| ED 264 – Child Development & Cog.–Classroom (30)*    | 3              | <b>*Denotes field experience hours</b>                                                                   |                |
| EDSP 225 – Spec. Ed. Methodology I (30)*             | 3              | <b>**Denotes pre-student teaching hours completed during the first two weeks of the eighth semester.</b> |                |
| MTH 104 – Mathematics for Elem. School Teachers II   | 3              |                                                                                                          |                |
| <b>Total Credits</b>                                 | <b>15</b>      |                                                                                                          |                |

**MIDDLE LEVEL EDUCATION**

**Total minimum number of credits required for a major in Middle Level Education leading to the B.A. degree — 120.**

**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 specialization.**

**MISSION**

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 specialization 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 specializations. All Middle Level Education students must complete the following requirements:

1. complete all course work, field experiences, clearances, appropriate basic skills and content mastery tests, and student teaching;
2. complete the following General Education Curriculum requirements:
  - Oral Communications – fulfilled by OPO courses in the Education major;
  - Computer Literacy – CS 115 (3 cr.)
  - English Composition and Literature – 7 credits, completed within the first 48 credit hours as required by the PDE:
    - ENG 101 – Composition

- ENG 120 – Introduction to Literature and Culture
  - Foreign Language or Philosophy – 3 credits (Foreign Language is highly recommended)
  - First-Year Foundations – FYF 101 (3 cr.)
  - History – 3 credits:
    - HST 101 – Historical Foundations of the Modern World
  - Mathematics – 6 credits, completed within the first 48 credit hours as required by the PDE; refer to math requirement for each specialization area.
  - Psychology – 3 credits: PSY 101 – General Psychology
  - Science – 6 credits in two different areas and at least one course that includes a laboratory component; refer to science requirement for each specialization area.
  - Social Sciences – 3 credits; refer to Social Science requirement for each specialization area.
  - Visual and Performing Arts – 3 credits
    - ART 101 – Experiencing Art *or*
    - DAN 100 – Dance Appreciation: Comprehensive Dance Forms *or*
    - MUS 101 – Introduction to Music I *or*
    - THE 100 – Approach to Theatre
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 (formerly ED 200)
  - ED 190 – Effective Teaching with Field Experience (40 hours field experience).
    - Students must have a minimum GPA of 2.5, Field Experience Placement Form completed, and current Act 34 (State Police), Act 151 (Child Abuse), and Act 114 (FBI; Federal Criminal History) clearances submitted to the Coordinator of Field Placements before established deadlines to enroll in ED 190.
    - Students must achieve a grade of 2.5 or higher in ED 190 to proceed to other Education courses.
  - ED 191 – Integrating Technology into the Classroom (C.I. course; formerly ED 215).
    - Students must have a minimum GPA of 2.5 to enroll in ED 191 and have completed or be enrolled in ED 190.
    - Students must achieve a final grade of 2.5 and a cumulative GPA of 2.85 or higher to proceed to 200-level Education courses.
  - EDSP 210 – Teaching Students with Special Needs (formerly ED 210)
  - ED 220 – Teaching Culturally and Linguistically Diverse Learners
  - EDSP 225 – Special Education Methodology I with Field Experience (30 hours of field experience; OPO course)
    - Students must take and pass the PAPA test and have a 3.0 GPA prior to registering for 300-level Education courses and content methods courses.
  - ED 326 – Adolescent Literature
  - ED 345 – Assessment in Education
  - ED 375 – Middle School Methods (40 hours of field experience; this course will be replaced by EDSP 302—Special Education Methods—for students completing the dual certification in Middle Level and Special Education, 4-8)
  - ED 380 – Content Area Literacy (this course will be replaced by EDSP 302—Special Education Methods—for students completing the dual certification in Middle Level and Special Education, 4-8)
  - EDSP 388 – Inclusionary Practices (taken in conjunction with ED 390)
  - Methods courses as relevant to specialization (40 hours of field experience):
    - English specialization – ENG 393
    - Science specialization – ED 371
    - Social Science specialization – ED 381
    - Mathematics specialization – MTH 303
    - Mathematics and Science specialization – ED 371 and MTH 303
  - 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, 225, and three of the following English courses—ENG 233, 234, 281 (recommended), 282 (recommended), and ENG 324
    - MTH 101, 103, 104, and 150
    - HST 125
    - BIO 105, EES 105, CHM 105, and PHY 105
  - **Mathematics Concentration:** Candidates will complete all afore-cited General Education, Education, and Methods requirements in addition to the following content courses:
    - MTH 101, 103, 104, 111, 114, 150, 231, and 343
    - ENG 201 and 225
    - BIO 105, EES 105, CHM 105, PHY 105
    - HST 125
  - **Science Concentration:** Candidates will complete all afore-cited General Education, Education, and Methods requirements in addition to the following content courses:
    - BIO 121, 122, and 225
    - EES 211, 251, and 280
    - CHM 105
    - PHY 105
    - ENG 201 and 225
    - MTH 101, 103, 104, and MTH 150
    - HST 125

- ANT 101 *or* EC 102 *or* PS 111 *or* SOC 101
- **Social Studies Concentration:** Candidates will complete all afore-cited General Education, Education, and Methods requirements in addition to the following content courses:
  - HST 102, 125, 126, and 325 *or* 356 *or* other approved 300-level history course
  - EC 102
  - PS 111
  - PS 141 *or* 151
  - SOC 101 *or* ANT 101
  - ENG 201 and 225
  - MTH 101, 103, 104, and 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, 121, 122; CHM 105; PHY 105; and EES 105, EES 211
  - MTH 103, 104, 111, 114, and 150
  - ENG 201 and 225
  - HST 125
  - ANT 101 *or* EC 102 *or* PS 111 *or* SOC 101

### **MIDDLE LEVEL EDUCATION MAJOR WITH DUAL SPECIAL EDUCATION CERTIFICATION**

Students majoring in Middle Level Education with a concentration 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 375—Middle Level Methods—and ED 380—Content Area Literacy—courses)

*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 WITH CERTIFICATION  
WITH A CONCENTRATION IN ENGLISH, LANGUAGE ARTS, AND READING  
REQUIRED COURSES AND RECOMMENDED COURSE SEQUENCE**

**124 CREDITS**

| <b>First Semester</b>                                | <b>Credits</b> | <b>Fifth Semester</b>                         | <b>Credits</b> |
|------------------------------------------------------|----------------|-----------------------------------------------|----------------|
| CS 115 – Computers and Applications                  | 3              | BIO/CHM/EES/PHY 105                           | 3              |
| ED 180 – Educational Psychology                      | 3              | ED 380 – Content Area Literacy                | 3              |
| ENG 101 – Composition                                | 4              | ENG 233/234/281/282 – Literature Survey       | 3              |
| FYF 101 – First-Year Foundations                     | 3              | ENG 324 – History of the English Lang.        | 3              |
| HST 125 – American History I                         | 3              | ENG 393 – Teaching Eng. in Sec. Schools (40)* | 4              |
| <b>Total Credits</b>                                 | <b>16</b>      | <b>Total Credits</b>                          | <b>16</b>      |
| <br>                                                 |                | <br>                                          |                |
| <b>Second Semester</b>                               |                | <b>Sixth Semester</b>                         |                |
| ED 190 – Effective Teaching (40)*                    | 3              | ART 101/DAN 100/MUS 101/THE 100               | 3              |
| ED 191 – Integrating Technology into the Classroom   | 3              | BIO/CHM/EES/PHY 105                           | 3              |
| ENG 120 – Introduction to Literature & Culture       | 3              | ED 345 – Assessment in Education              | 3              |
| HST 101 – Historical Foundations of the Modern World | 3              | ED 375 – Middle School Methods (15)*          | 4              |
| MTH 101 – Solving Problems Using Math                | 3              | ENG 233/234/281/282                           | 3              |
| <b>Total Credits</b>                                 | <b>15</b>      | <b>Total Credits</b>                          | <b>16</b>      |
| <br>                                                 |                | <br>                                          |                |
| <b>Third Semester</b>                                |                | <b>Seventh Semester</b>                       |                |
| EDSP 210 – Teaching Students with Spec. Needs        | 3              | ANT 101/EC 102/PS 111/SOC 101                 | 3              |
| ENG 201 – Writing About Literature & Culture         | 4              | BIO/CHM/EES/PHY 105                           | 3              |
| FL or PHL 101                                        | 3              | ED 326 – Adolescent Literature                | 3              |
| MTH 103 – Mathematics for Elem. School Teachers I    | 3              | ENG 233/234/281/282                           | 3              |
| PSY 101 – General Psychology                         | 3              | MTH 150 – Elementary Statistics               | 3              |
| <b>Total Credits</b>                                 | <b>16</b>      | <b>Total Credits</b>                          | <b>15</b>      |
| <br>                                                 |                | <br>                                          |                |
| <b>Fourth Semester</b>                               |                | <b>Eighth Semester</b>                        |                |
| BIO/CHM/EES/PHY 105                                  | 3              | ED 390 – Student Teaching (40)**              | 12             |
| ED 220 – Teaching ... Diverse Learners               | 3              | EDSP 388 – Inclusionary Practices             | 3              |
| EDSP 225 – Spec. Ed. Methodology I (30)*             | 3              | <b>Total Credits</b>                          | <b>15</b>      |
| ENG 225 – Comparative Grammar                        | 3              |                                               |                |
| MTH 104 – Math for Elem. School Teachers II          | 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 WITH CERTIFICATION  
WITH A CONCENTRATION IN ENGLISH, LANGUAGE ARTS, AND READING AND  
SPECIAL EDUCATION CERTIFICATION (PK-8)  
REQUIRED COURSES AND RECOMMENDED COURSE SEQUENCE**

**133 CREDITS**

| <b>First Semester</b>                                     | <b>Credits</b> | <b>Fifth Semester</b>                                                                                    | <b>Credits</b> |
|-----------------------------------------------------------|----------------|----------------------------------------------------------------------------------------------------------|----------------|
| ED 180 – Educational Psychology                           | 3              | EDSP 226 – Spec. Ed. Method. II (20)*                                                                    | 3              |
| ENG 101 – Composition                                     | 4              | EDSP 300 – Spec. Ed. Assessment & Evaluation                                                             | 3              |
| FYF 101 – First-Year Foundations                          | 3              | ENG 233/234/281/282 – Literature Survey                                                                  | 3              |
| HST 101 – Historical Foundations of the Modern World      | 3              | ENG 324 – History of the English Lang.                                                                   | 3              |
| PSY 101 – General Psychology                              | 3              | ENG 393 – Teaching English in Sec. Schools (40)*                                                         | 4              |
| <b>Total Credits</b>                                      | <b>16</b>      | <b>Total Credits</b>                                                                                     | <b>16</b>      |
| <br>                                                      |                | <br>                                                                                                     |                |
| <b>Second Semester</b>                                    |                | <b>Sixth Semester</b>                                                                                    |                |
| CS 115 – Computers & Applications                         | 3              | ART 101/DAN 100/MUS 101/THE 100                                                                          | 3              |
| ED 190 – Effective Teaching (40)*                         | 3              | BIO/CHM/EES/PHY 105                                                                                      | 3              |
| ED 191 – Integrating Technology into the Classroom        | 3              | ED 345 – Assessment in Education                                                                         | 3              |
| ENG 120 – Introduction to Literature & Culture            | 3              | EDSP 302 – Special Education Methods                                                                     | 4              |
| HST 125 <i>or</i> 126 – American History I or II          | 3              | ENG 233/234/281/282                                                                                      | 3              |
| MTH 101 – Solving Problems Using Math                     | 3              | <b>Total Credits</b>                                                                                     | <b>16</b>      |
| <b>Total Credits</b>                                      | <b>18</b>      | <br>                                                                                                     |                |
| <br>                                                      |                | <br>                                                                                                     |                |
| <b>Third Semester</b>                                     |                | <b>Seventh Semester</b>                                                                                  |                |
| BIO/CHM/EES/PHY 105                                       | 3              | ANT 101/EC 102/PS 111/SOC 101                                                                            | 3              |
| EDSP 210 – Teaching Students with Spec. Needs             | 3              | BIO/CHM/EES/PHY 105                                                                                      | 3              |
| ENG 201 – Writing About Literature & Culture              | 4              | ED 326 – Adolescent Literature                                                                           | 3              |
| FL <i>or</i> PHL 101                                      | 3              | EDSP 227 – Behavior Management (20)*                                                                     |                |
| MTH 103 – Mathematics for Elem. School Teachers I         | 3              | ENG 233/234/281/282                                                                                      | 3              |
| <b>Total Credits</b>                                      | <b>16</b>      | MTH 150 – Elementary Statistics                                                                          | 3              |
| <br>                                                      |                | <b>Total Credits</b>                                                                                     | <b>18</b>      |
| <br>                                                      |                | <br>                                                                                                     |                |
| <b>Fourth Semester</b>                                    |                | <b>Eighth Semester</b>                                                                                   |                |
| BIO/CHM/EES/PHY 105                                       | 3              | ED 390 – Student Teaching (40)**                                                                         | 12             |
| ED 220 – Teaching ... Diverse Learners                    | 3              | EDSP 388 – Inclusionary Practices                                                                        | 3              |
| EDSP 225 – Spec. Ed. Methodology I (30)*                  | 3              | <b>Total Credits</b>                                                                                     | <b>15</b>      |
| EDSP 227 – Behavior Management in Special Education (20)* | 3              | <br>                                                                                                     |                |
| ENG 225 – Comparative Grammar                             | 3              | <b>*Denotes field experience hours</b>                                                                   |                |
| MTH 104 – Math for Elem. School Teachers II               | 3              | <b>**Denotes pre-student teaching hours completed during the first two weeks of the eighth semester.</b> |                |
| <b>Total Credits</b>                                      | <b>18</b>      |                                                                                                          |                |

**MIDDLE LEVEL EDUCATION MAJOR WITH CERTIFICATION  
WITH A CONCENTRATION IN MATHEMATICS  
REQUIRED COURSES AND RECOMMENDED COURSE SEQUENCE**

**127 CREDITS**

| <b>First Semester</b>                                | <b>Credits</b> | <b>Fifth Semester</b>                                                                                    | <b>Credits</b> |
|------------------------------------------------------|----------------|----------------------------------------------------------------------------------------------------------|----------------|
| CS 115 – Computers and Applications                  | 3              | BIO/CHM/EES/PHY 105                                                                                      | 3              |
| ED 180 – Educational Psychology                      | 3              | ED 380 – Content Area Literacy                                                                           | 3              |
| FYF 101 – First-Year Foundations                     | 3              | ENG 201 – Writing About Literature & Culture                                                             | 4              |
| HST 125 – American History I                         | 3              | MTH 111 – Calculus I                                                                                     | 4              |
| MTH 101 – Solving Problems Using Math                | 3              | MTH 303 – Teaching Math in Sec. Schools                                                                  | 4              |
| <b>Total Credits</b>                                 | <b>15</b>      | <b>Total Credits</b>                                                                                     | <b>18</b>      |
| <br>                                                 |                | <br>                                                                                                     |                |
| <b>Second Semester</b>                               |                | <b>Sixth Semester</b>                                                                                    |                |
| BIO/CHM/EES/PHY 105                                  | 3              | ED 345 – Assessment in Education                                                                         | 3              |
| ED 190 – Effective Teaching (40)*                    | 3              | ED 375 – Middle School Methods (15)*                                                                     | 4              |
| ED 191 – Integrating Technology into the Classroom   | 3              | ENG 225 – Comparative Grammar                                                                            | 3              |
| ENG 101 – Composition                                | 4              | FL or PHL 101                                                                                            | 3              |
| HST 101 – Historical Foundations of the Modern World | 3              | MTH 114 – Calculus and Modeling...                                                                       | 4              |
| <b>Total Credits</b>                                 | <b>16</b>      | <b>Total Credits</b>                                                                                     | <b>17</b>      |
| <br>                                                 |                | <br>                                                                                                     |                |
| <b>Third Semester</b>                                |                | <b>Seventh Semester</b>                                                                                  |                |
| BIO/CHM/EES/PHY 105                                  | 3              | ED 390 – Student Teaching (40)**                                                                         | 12             |
| EDSP 210 – Teaching Students with Spec. Needs        | 3              | EDSP 388 – Inclusionary Practices                                                                        | 3              |
| ENG 120 – Introduction to Literature & Culture       | 3              | <b>Total Credits</b>                                                                                     | <b>15</b>      |
| MTH 103 – Mathematics for Elem. School Teachers I    | 3              | <br>                                                                                                     |                |
| PSY 101 – General Psychology                         | 3              | <b>Eighth Semester</b>                                                                                   |                |
| <b>Total Credits</b>                                 | <b>15</b>      | ANT 101/EC 102/PS 111/SOC 101                                                                            | 3              |
| <br>                                                 |                | ART 101/DAN 100/MUS 101/THE 100                                                                          | 3              |
| <b>Fourth Semester</b>                               |                | Elective                                                                                                 | 4              |
| BIO/CHM/EES/PHY 105                                  | 3              | MTH 231 – Discrete Mathematics                                                                           | 3              |
| ED 220 – Teaching ... Diverse Learners               | 3              | MTH 343 – Introduction to Geometry                                                                       | 3              |
| EDSP 225 – Spec. Ed. Methodology I (30)*             | 3              | <b>Total Credits</b>                                                                                     | <b>16</b>      |
| MTH 104 – Math for Elem. School Teachers II          | 3              | <br>                                                                                                     |                |
| MTH 150 – Elementary Statistics                      | 3              | <b>*Denotes field experience hours</b>                                                                   |                |
| <b>Total Credits</b>                                 | <b>15</b>      | <b>**Denotes pre-student teaching hours completed during the first two weeks of the eighth semester.</b> |                |



**MIDDLE LEVEL EDUCATION MAJOR WITH CERTIFICATION  
WITH A CONCENTRATION IN MATHEMATICS AND  
SPECIAL EDUCATION CERTIFICATION (PK-8)  
REQUIRED COURSES AND RECOMMENDED COURSE SEQUENCE**

**133 CREDITS**

|                                                      |                |                                              |                |
|------------------------------------------------------|----------------|----------------------------------------------|----------------|
| <b>First Semester</b>                                | <b>Credits</b> | <b>Fifth Semester</b>                        | <b>Credits</b> |
| BIO/CHM/EES/PHY 105                                  | 3              | BIO/CHM/EES/PHY 105                          | 3              |
| ED 180 – Educational Psychology                      | 3              | EDSP 226 – Spec. Ed. Method. II (20)*        | 3              |
| FYF 101 – First-Year Foundations                     | 3              | EDSP 300 – Spec. Ed. Assessment & Evaluation | 3              |
| HST 101 – Historical Foundations of the Modern World | 3              | MTH 111 – Calculus I                         | 4              |
| MTH 101 – Solving Probs. Using Math                  | 3              | MTH 303 – Teaching Math in ML & SS (40)*     | 4              |
| PSY 101 – General Psychology                         | 3              | <b>Total Credits</b>                         | <b>17</b>      |
| <b>Total Credits</b>                                 | <b>18</b>      |                                              |                |
| <b>Second Semester</b>                               |                | <b>Sixth Semester</b>                        |                |
| CS 115 – Computers & Applications                    | 3              | ED 345 – Assessment in Education             | 3              |
| ED 190 – Effective Teaching (40)*                    | 3              | EDSP 302 – Special Education Methods         | 4              |
| ED 191 – Integrating Technology into the Classroom   | 3              | ENG 225 – Comparative Grammar                | 3              |
| ENG 101 – Composition                                | 4              | MTH 114 – Calculus and Modeling...           | 4              |
| HST 125 <i>or</i> 126 – American History I or II     | 3              | PHL 101 <i>or</i> FL                         | 3              |
| <b>Total Credits</b>                                 | <b>16</b>      | <b>Total Credits</b>                         | <b>17</b>      |
| <b>Third Semester</b>                                |                | <b>Seventh Semester</b>                      |                |
| BIO/CHM/EES/PHY 105                                  | 3              | ED 390 – Student Teaching (40)**             | 12             |
| EDSP 210 – Teaching Students with Spec. Needs        | 3              | EDSP 388 – Inclusionary Practices            | 3              |
| ENG 120 – Introduction to Literature & Culture       | 3              | <b>Total Credits</b>                         | <b>15</b>      |
| MTH 103 – Mathematics for Elem. School Teachers I    | 3              |                                              |                |
| MTH 150 – Elementary Statistics                      | 3              | <b>Eighth Semester</b>                       |                |
| <b>Total Credits</b>                                 | <b>15</b>      | ANT 101/EC 102/PS 111/SOC 101                | 3              |
| <b>Fourth Semester</b>                               |                | ART 101/DAN 100/MUS 101/THE 100              | 3              |
| BIO/CHM/EES/PHY 105                                  | 3              | Elective                                     | 4              |
| ED 220 – Teaching ... Diverse Learners               | 3              | MTH 231 – Discrete Mathematics               | 3              |
| EDSP 225 – Spec. Ed. Methodology I (30)*             | 3              | MTH 343 – Introduction to Geometry           | 3              |
| EDSP 227 – Behavior Management in Spec. Ed. (20)*    | 3              | <b>Total Credits</b>                         | <b>16</b>      |
| ENG 201 – Writing About Literature & Culture         | 4              |                                              |                |
| MTH 104 – Math for Elem. School Teachers II          | 3              |                                              |                |
| <b>Total Credits</b>                                 | <b>19</b>      |                                              |                |

\*Denotes field experience hours

\*\*Denotes pre-student teaching hours completed during the first two weeks of the eighth semester.

**MIDDLE LEVEL EDUCATION MAJOR WITH CERTIFICATION  
WITH A CONCENTRATION IN SOCIAL STUDIES  
REQUIRED COURSES AND RECOMMENDED COURSE SEQUENCE**

**124 CREDITS**

| <b>First Semester</b>                                | <b>Credits</b> | <b>Fifth Semester</b>                        | <b>Credits</b> |
|------------------------------------------------------|----------------|----------------------------------------------|----------------|
| CS 115 – Computers and Applications                  | 3              | BIO/CHM/EES/PHY 105                          | 3              |
| ED 180 – Educational Psychology                      | 3              | ED 380 – Content Area Literacy               | 3              |
| ENG 101 – Composition                                | 4              | ED 381 – Teaching Methods in Social Studies  | 4              |
| FYF 101 – First-Year Foundations                     | 3              | MTH 150 – Elementary Statistics              | 3              |
| HST 101 – Historical Foundations of the Modern World | 3              | PS 111 – Introduction to American Politics   | 3              |
| <b>Total Credits</b>                                 | <b>16</b>      | <b>Total Credits</b>                         | <b>16</b>      |
| <br>                                                 |                |                                              |                |
| <b>Second Semester</b>                               |                | <b>Sixth Semester</b>                        |                |
| BIO/CHM/EES/PHY 105                                  | 3              | BIO/CHM/EES/PHY 105                          | 3              |
| ED 190 – Effective Teaching (40)*                    | 3              | ED 345 – Assessment in Education             | 3              |
| ED 191 – Integrating Technology into the Classroom   | 3              | ED 375 – Middle School Methods (15)*         | 4              |
| HST 102 – Europe Before 1600                         | 3              | ENG 201 – Writing about Literature & Culture | 4              |
| MTH 101 – Solving Problems Using Math                | 3              | SOC 101 <i>or</i> ANT 101                    | 3              |
| <b>Total Credits</b>                                 | <b>15</b>      | <b>Total Credits</b>                         | <b>17</b>      |
| <br>                                                 |                |                                              |                |
| <b>Third Semester</b>                                |                | <b>Seventh Semester</b>                      |                |
| BIO/CHM/EES/PHY 105                                  | 3              | ART 101/DAN 100/MUS 101/THE 100              | 3              |
| EDSP 210 – Teaching Students with Spec. Needs        | 3              | ENG 225 – Comparative Grammar                | 3              |
| ENG 120 – Introduction to Literature & Culture       | 3              | FL <i>or</i> PHL 101                         | 3              |
| MTH 103 – Mathematics for Elem. School Teachers I    | 3              | HST 325/HST 356                              | 3              |
| PSY 101 – General Psychology                         | 3              | PS 141/PS 151                                | 3              |
| <b>Total Credits</b>                                 | <b>15</b>      | <b>Total Credits</b>                         | <b>15</b>      |
| <br>                                                 |                |                                              |                |
| <b>Fourth Semester</b>                               |                | <b>Eighth Semester</b>                       |                |
| EC 102 – Principles of Economics II                  | 3              | ED 390 – Student Teaching (40)**             | 12             |
| ED 220 – Teaching ... Diverse Learners               | 3              | EDSP 388 – Inclusionary Practices            | 3              |
| EDSP 225 – Spec. Ed. Methodology I (30)*             | 3              | <b>Total Credits</b>                         | <b>15</b>      |
| HST 126 – American History II                        | 3              |                                              |                |
| MTH 104 – Math for Elem. School Teachers II          | 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 WITH CERTIFICATION  
WITH A CONCENTRATION IN SOCIAL STUDIES AND  
SPECIAL EDUCATION CERTIFICATION (PK-8)  
REQUIRED COURSES AND RECOMMENDED COURSE SEQUENCE**

**133 CREDITS**

| <b>First Semester</b>                                | <b>Credits</b> | <b>Fifth Semester</b>                        | <b>Credits</b> |
|------------------------------------------------------|----------------|----------------------------------------------|----------------|
| ED 180 – Educational Psychology                      | 3              | BIO/CHM/EES/PHY 105                          | 3              |
| ENG 101 – Composition                                | 4              | ED 381 – Teaching Meth. in Social Studies    | 4              |
| FYF 101 – First-Year Foundations                     | 3              | EDSP 226 – Special Ed. Methodology (20)*     | 3              |
| HST 101 – Historical Foundations of the Modern World | 3              | EDSP 300 – Spec. Ed. Assessment & Evaluation | 3              |
| PSY 101 – General Psychology                         | 3              | MTH 150 – Elementary Statistics              | 3              |
| <b>Total Credits</b>                                 | <b>16</b>      | <b>Total Credits</b>                         | <b>16</b>      |
| <br>                                                 |                |                                              |                |
| <b>Second Semester</b>                               |                | <b>Sixth Semester</b>                        |                |
| BIO/CHM/EES/PHY 105                                  | 3              | BIO/CHM/EES/PHY 105                          | 3              |
| CS 115 – Computers and Applications                  | 3              | ED 345 – Assessment in Education             | 3              |
| ED 190 – Effective Teaching (40)*                    | 3              | EDSP 302 – Special Ed. Methods               | 4              |
| ED 191 – Integrating Technology into the Classroom   | 3              | ENG 201 – Writing about Literature & Culture | 4              |
| HST 102 – Europe Before 1600                         | 3              | SOC 101 <i>or</i> ANT 101                    | 3              |
| MTH 101 – Solving Problems Using Math                | 3              | <b>Total Credits</b>                         | <b>17</b>      |
| <b>Total Credits</b>                                 | <b>18</b>      |                                              |                |
| <br>                                                 |                |                                              |                |
| <b>Third Semester</b>                                |                | <b>Seventh Semester</b>                      |                |
| BIO/CHM/EES/PHY 105                                  | 3              | ART 101/DAN 100/MUS 101/THE 100              | 3              |
| EDSP 210 – Teaching Students with Spec. Needs        | 3              | ENG 225 – Comparative Grammar                | 3              |
| EC 102 – Principles of Economics II                  | 3              | FL <i>or</i> PHL 101                         | 3              |
| ENG 120 – Introduction to Literature & Culture       | 3              | HST 325/HST 356                              | 3              |
| HST 125 – American History I                         | 3              | PS 141/PS 151                                | 3              |
| MTH 103 – Mathematics for Elem. School Teachers I    | 3              | <b>Total Credits</b>                         | <b>15</b>      |
| <b>Total Credits</b>                                 | <b>18</b>      |                                              |                |
| <br>                                                 |                |                                              |                |
| <b>Fourth Semester</b>                               |                | <b>Eighth Semester</b>                       |                |
| ED 220 – Teaching ... Diverse Learners               | 3              | ED 390 – Student Teaching (40)**             | 12             |
| EDSP 225 – Spec. Ed. Methodology I (30)*             | 3              | EDSP 388 – Inclusionary Practices            | 3              |
| EDSP 227 – Behavior Management in Special Ed. (20)*  | 3              | <b>Total Credits</b>                         | <b>15</b>      |
| 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>      |                                              |                |

\*Denotes field experience hours

\*\*Denotes pre-student teaching hours completed during the first two weeks of the eighth semester.

**MIDDLE LEVEL EDUCATION MAJOR WITH CERTIFICATION  
WITH A CONCENTRATION IN SCIENCE  
REQUIRED COURSES AND RECOMMENDED COURSE SEQUENCE**

**130 CREDITS**

| <b>First Semester</b>                                | <b>Credits</b> | <b>Fifth Semester</b>                        | <b>Credits</b> |
|------------------------------------------------------|----------------|----------------------------------------------|----------------|
| CS 115 – Computers and Applications                  | 3              | ART 101/DAN 100/MUS 101/THE 100              | 3              |
| ED 180 – Educational Psychology                      | 3              | BIO 121 – Principles of Modern Biology I     | 4              |
| ENG 101 – Composition                                | 4              | ED 375 – Middle School Methods (15)*         | 4              |
| FYF 101 – First-Year Foundations                     | 3              | ED 380 – Content Area Literacy               | 3              |
| HST 125 – American History I                         | 3              | MTH 150 – Elementary Statistics              | 3              |
| <b>Total Credits</b>                                 | <b>16</b>      | <b>Total Credits</b>                         | <b>17</b>      |
| <br>                                                 |                | <br>                                         |                |
| <b>Second Semester</b>                               |                | <b>Sixth Semester</b>                        |                |
| CHM 105 – Chemistry & Modern Society                 | 3              | BIO 122 – Principles of Modern Biology II    | 4              |
| ED 190 – Effective Teaching (40)*                    | 3              | ED 345 – Assessment in Education             | 3              |
| ED 191 – Integrating Technology into the Classroom   | 3              | ED 371 – Teaching Methods in Science         | 4              |
| HST 101 – Historical Foundations of the Modern World | 3              | ENG 201 – Writing about Literature & Culture | 4              |
| MTH 101 – Solving Problems Using Math                | 3              | PHY 105 – Concepts in Physics                | 3              |
| <b>Total Credits</b>                                 | <b>15</b>      | <b>Total Credits</b>                         | <b>18</b>      |
| <br>                                                 |                | <br>                                         |                |
| <b>Third Semester</b>                                |                | <b>Seventh Semester</b>                      |                |
| EES 211 – Physical Geology                           | 4              | ANT 101/EC 102/PS 111/SOC 101                | 3              |
| EDSP 210 – Teaching Students with Spec. Needs        | 3              | BIO 225 – Population & Evolutionary Bio.     | 4              |
| FL <i>or</i> PHL 101                                 | 3              | EES 280 – Principles of Astronomy            | 4              |
| MTH 103 – Mathematics for Elem. School Teachers I    | 3              | ENG 225 – Comparative Grammar                | 3              |
| PSY 101 – General Psychology                         | 3              | Elective                                     | 3              |
| <b>Total Credits</b>                                 | <b>16</b>      | <b>Total Credits</b>                         | <b>17</b>      |
| <br>                                                 |                | <br>                                         |                |
| <b>Fourth Semester</b>                               |                | <b>Eighth Semester</b>                       |                |
| EES 251 – Synoptic Meteorology                       | 4              | ED 390 – Student Teaching (40)**             | 12             |
| ED 220 – Teaching ... Diverse Learners               | 3              | EDSP 388 – Inclusionary Practices            | 3              |
| EDSP 225 – Spec. Ed. Methodology I (30)*             | 3              | <b>Total Credits</b>                         | <b>15</b>      |
| ENG 120 – Introduction to Literature & Culture       | 3              |                                              |                |
| MTH 104 – Math for Elem. School Teachers II          | 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 WITH CERTIFICATION  
WITH A CONCENTRATION IN SCIENCE AND  
SPECIAL EDUCATION CERTIFICATION (PK-8)  
REQUIRED COURSES AND RECOMMENDED COURSE SEQUENCE**

**133 CREDITS**

| <b>First Semester</b>                                | <b>Credits</b> | <b>Fifth Semester</b>                        | <b>Credits</b> |
|------------------------------------------------------|----------------|----------------------------------------------|----------------|
| ED 180 – Educational Psychology                      | 3              | BIO 121 – Principles of Modern Biology I     | 4              |
| ENG 101 – Composition                                | 4              | ED 371 – Teaching Meth. in Science (40)*     | 4              |
| FYF 101 – First-Year Foundations                     | 3              | EDSP 226 – Special Ed. Methodology (20)*     | 3              |
| HST 101 – Historical Foundations of the Modern World | 3              | EDSP 300 – Spec. Ed. Assessment & Evaluation | 3              |
| PSY 101 – General Psychology                         | 3              | MTH 150 – Elementary Statistics              | 3              |
| <b>Total Credits</b>                                 | <b>16</b>      | <b>Total Credits</b>                         | <b>17</b>      |
| <br>                                                 |                |                                              |                |
| <b>Second Semester</b>                               |                | <b>Sixth Semester</b>                        |                |
| CHM 105                                              | 3              | BIO 122 – Principles of Modern Biology II    | 4              |
| CS 115 – Computers and Applications                  | 3              | ED 345 – Assessment in Education             | 3              |
| ED 190 – Effective Teaching (40)*                    | 3              | EDSP 302 – Special Ed. Methods               | 4              |
| ED 191 – Integrating Technology into the Classroom   | 3              | ENG 201 – Writing about Literature & Culture | 4              |
| HST 125 – American History I                         | 3              | PHY 105 – Concepts in Physics                | 3              |
| MTH 101 – Solving Problems Using Math                | 3              | <b>Total Credits</b>                         | <b>18</b>      |
| <b>Total Credits</b>                                 | <b>18</b>      |                                              |                |
| <br>                                                 |                |                                              |                |
| <b>Third Semester</b>                                |                | <b>Seventh Semester</b>                      |                |
| EDSP 210 – Teaching Students with Spec. Needs        | 3              | ANT 101/EC 102/PS 11/SOC 101                 | 3              |
| EES 211 – Physical Geology                           | 4              | ART 101/DAN 100/MUS 101/THE 100              | 3              |
| ENG 120 – Introduction to Literature & Culture       | 3              | BIO 225 – Population & Evolutionary Bio.     | 4              |
| FL <i>or</i> PHL 101                                 | 3              | EES 280 – Principles of Astronomy            | 4              |
| MTH 103 – Mathematics for Elem. School Teachers I    | 3              | ENG 225 – Comparative Grammar                | 3              |
| <b>Total Credits</b>                                 | <b>16</b>      | <b>Total Credits</b>                         | <b>17</b>      |
| <br>                                                 |                |                                              |                |
| <b>Fourth Semester</b>                               |                | <b>Eighth Semester</b>                       |                |
| ED 220 – Teaching ... Diverse Learners               | 3              | ED 390 – Student Teaching (40)**             | 12             |
| EDSP 225 – Spec. Ed. Methodology I (30)*             | 3              | EDSP 388 – Inclusionary Practices            | 3              |
| EDSP 227 – Behavior Management in Special Ed. (20)*  | 3              | <b>Total Credits</b>                         | <b>15</b>      |
| EES 251 – Synoptic Meteorology                       | 4              |                                              |                |
| MTH 104 – Math for Elem. School Teachers II          | 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 WITH CERTIFICATION  
WITH A CONCENTRATION IN MATHEMATICS AND SCIENCE  
REQUIRED COURSES AND RECOMMENDED COURSE SEQUENCE**

**130 CREDITS**

| <b>First Semester</b>                                | <b>Credits</b> | <b>Fifth Semester</b>                        | <b>Credits</b> |
|------------------------------------------------------|----------------|----------------------------------------------|----------------|
| CS 115 – Computers and Applications                  | 3              | BIO 121 – Principles of Modern Biology I     | 4              |
| ED 180 – Educational Psychology                      | 3              | ENG 201 – Writing About Literature & Culture | 4              |
| ENG 101 – Composition                                | 4              | MTH 111 – Calculus I                         | 4              |
| FYF 101 – First-Year Foundations                     | 3              | MTH 303 – Teaching Math in ML & SS (40)*     | 4              |
| MTH 103 – Mathematics for Elem. School Teachers I    | 3              | <b>Total Credits</b>                         | <b>16</b>      |
| <b>Total Credits</b>                                 | <b>16</b>      |                                              |                |
|                                                      |                | <b>Sixth Semester</b>                        |                |
| <b>Second Semester</b>                               |                | BIO 122 – Principles of Modern Biology II    | 4              |
| EES 105 – Planet Earth                               | 3              | ED 375 – Middle School Methods (15)*         | 4              |
| ED 190 – Effective Teaching (40)*                    | 3              | ED 380 – Content Area Literacy               | 3              |
| ED 191 – Integrating Technology into the Classroom   | 3              | MTH 114 – Calculus and Modeling...a          | 4              |
| HST 101 – Historical Foundations of the Modern World | 3              | PHY 105 – Concepts in Physics                | 3              |
| MTH 104 – Math for Elem. School Teachers II          | 3              | <b>Total Credits</b>                         | <b>18</b>      |
| <b>Total Credits</b>                                 | <b>15</b>      |                                              |                |
|                                                      |                | <b>Seventh Semester</b>                      |                |
| <b>Third Semester</b>                                |                | ANT 101/EC 102/PS 111/SOC 101                | 3              |
| ART 101/DAN 100/MUS 101/THE 100                      | 3              | ED 345 – Assessment in Education             | 3              |
| BIO 105 – The Biological World                       | 3              | ED 371 – Teaching Methods in Science         | 4              |
| EDSP 210 – Teaching Students with Spec. Needs        | 3              | ENG 225 – Comparative Grammar                | 3              |
| ENG 120 – Introduction to Literature & Culture       | 3              | FL <i>or</i> PHL 101                         | 3              |
| HST 125 – American History I                         | 3              | <b>Total Credits</b>                         | <b>18</b>      |
| PSY 101 – General Psychology                         | 3              |                                              |                |
| <b>Total Credits</b>                                 | <b>18</b>      | <b>Eighth Semester</b>                       |                |
|                                                      |                | ED 390 – Student Teaching (40)**             | 12             |
| <b>Fourth Semester</b>                               |                | EDSP 388 – Inclusionary Practices            | 3              |
| CHM 105 – Chemistry & Modern Society                 | 3              | <b>Total Credits</b>                         | <b>15</b>      |
| 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>      |                                              |                |

\*Denotes field experience hours

\*\*Denotes pre-student teaching hours completed during the first two weeks of the eighth semester.

**MIDDLE LEVEL EDUCATION MAJOR WITH CERTIFICATION  
WITH A CONCENTRATION IN MATHEMATICS AND SCIENCE AND  
SPECIAL EDUCATION CERTIFICATION (PK-8)  
REQUIRED COURSES AND RECOMMENDED COURSE SEQUENCE**

**136 CREDITS**

| <b>First Semester</b>                                 | <b>Credits</b> | <b>Fifth Semester</b>                                                                                    | <b>Credits</b> |
|-------------------------------------------------------|----------------|----------------------------------------------------------------------------------------------------------|----------------|
| ED 180 – Educational Psychology                       | 3              | BIO 121 – Principles of Modern Biology I                                                                 | 4              |
| ENG 101 – Composition                                 | 4              | EDSP 300 – Spec. Ed. Assessment & Evaluation                                                             | 3              |
| FYF 101 – First-Year Foundations                      | 3              | PHY 105 – Concepts in Physics                                                                            | 3              |
| MTH 103 – Mathematics for Elem. School Teachers I     | 3              | MTH 111 – Calculus I                                                                                     | 4              |
| PSY 101 – General Psychology                          | 3              | MTH 303 – Teaching Mathematics in ML & SS (40)*                                                          | 4              |
| <b>Total Credits</b>                                  | <b>16</b>      | <b>Total Credits</b>                                                                                     | <b>18</b>      |
| <br>                                                  |                | <br>                                                                                                     |                |
| <b>Second Semester</b>                                |                | <b>Sixth Semester</b>                                                                                    |                |
| CS 115 – Computers & Applications                     | 3              | BIO 122 – Principles of Modern Biology II                                                                | 4              |
| EES 105 – Planet Earth                                | 3              | EDSP 302 – Special Ed. Methods                                                                           | 4              |
| ED 190 – Effective Teaching (40)*                     | 3              | ENG 201 – Writing About Literature & Culture                                                             | 4              |
| ED 191 – Integrating Technology into the Classroom    | 3              | MTH 114 – Calculus and Modeling...                                                                       | 4              |
| HST 125/126 – American History I or II                | 3              | <b>Total Credits</b>                                                                                     | <b>16</b>      |
| MTH 104 – Math for Elem. School Teachers II           | 3              | <br>                                                                                                     |                |
| <b>Total Credits</b>                                  | <b>18</b>      | <b>Seventh Semester</b>                                                                                  |                |
| <br>                                                  |                | ED 345 – Assessment in Education                                                                         | 3              |
| <b>Third Semester</b>                                 |                | ED 371 – Teaching Methods in Science                                                                     | 4              |
| ART 101/DAN 100/MUS 101/THE 100                       | 3              | EDSP 226 – Special Ed. Methodology (20)*                                                                 | 3              |
| BIO 105 – The Biological World                        | 3              | ENG 225 – Comparative Grammar                                                                            | 3              |
| EDSP 210 – Teaching Students with Spec. Needs         | 3              | FL or PHL 101                                                                                            | 3              |
| ENG 120 – Introduction to Literature & Culture        | 3              | <b>Total Credits</b>                                                                                     | <b>16</b>      |
| HST 101 – Historical Foundations. of the Modern World | 3              | <br>                                                                                                     |                |
| MTH 150 – Elementary Statistics                       | 3              | <b>Eighth Semester</b>                                                                                   |                |
| <b>Total Credits</b>                                  | <b>18</b>      | ANT 101/EC 102/PS 111/SOC 101                                                                            | 3              |
| <br>                                                  |                | ED 390 – Student Teaching (40)**                                                                         | 12             |
| <b>Fourth Semester</b>                                |                | EDSP 388 – Inclusionary Practices                                                                        | 3              |
| CHM 105 – Chemistry & Modern Society                  | 3              | <b>Total Credits</b>                                                                                     | <b>18</b>      |
| ED 220 – Teaching ... Diverse Learners                | 3              | <br>                                                                                                     |                |
| EDSP 225 – Spec. Ed. Methodology I (30)*              | 3              | <b>*Denotes field experience hours</b>                                                                   |                |
| EDSP 227 – Behavior Management in Special Ed. (20)*   | 3              | <b>**Denotes pre-student teaching hours completed during the first two weeks of the eighth semester.</b> |                |
| EES 211/251/280                                       | 4              |                                                                                                          |                |
| <b>Total Credits</b>                                  | <b>16</b>      |                                                                                                          |                |

## SECONDARY EDUCATION PROGRAMS OF STUDY AND CERTIFICATION REQUIREMENTS

### SECONDARY EDUCATION PROGRAM – THE MINOR IN EDUCATION

The Wilkes University Department of Education offers programs leading Pennsylvania Department of Education (PDE) secondary (grades 7-12) certification in the following areas: Biology; Chemistry; Earth and Space Science; English; General Science; Mathematics; 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.

#### DIRECTIVES FOR GAINING ADMISSION TO THE TEACHER EDUCATION PROGRAM TO PURSUE SECONDARY CERTIFICATION

- **Schedule a meeting with the 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 the major and minor that will lead to certification.
- **Study major and declare the minor:** Students should begin their studies in an academic major related to certification and declare Secondary Education as a 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:** A *Field Experience Placement Form* must be completed when registering for any course with a field experience. Act 34 (State Police), Act 151 (Child Abuse), Act 114 (Federal Criminal History), and Act 24 (Arrest/Conviction Report and Certification Form) clearances must be applied for and submitted to the Coordinator of Field Placements. These clearances must be clear (no record) and current. These clearances remain valid while the student is continuously enrolled at Wilkes University.
- **Apply for admission to the Teacher Education Program:** During ED 190, students must begin the application process for admission to the Teacher Education Program. To be admitted to the TEP, students must achieve an overall GPA of 3.0 and pass all three PAPA exams.
- **Take the Pre-Professional Academic Performance Assessment (PAPA) that is administered by Pearson:** Complete information is available at: <http://www.panesinc.com>. Students must pass the three exams to register for any 300-level course related to the minor in Secondary Education.
- **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 courses. Then, to enter 300-level courses, students must achieve a 3.0 GPA.
- **Register for and pass PRAXIS II:** Preferably prior to student teaching or at the conclusion of formal studies in the chosen major field, or prior to student teaching and at the conclusion of formal studies in the chosen major, students should take the appropriate PRAXIS II examination. This is required for certification in Pennsylvania. Complete information about registration, test dates, and 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 PAPA tests are not passed before enrolling in 300-level courses.

#### THE EDUCATION MINOR

The Education minor consists of the following courses:

- ED 180 – Educational Psychology (formerly ED 200)
- ED 190 – Effective Teaching with Field Experience (40 hours of field experience)
  - Students must have a minimum GPA of 2.5, Field Experience Placement Form submitted, and current Act 34, 151, and FBI clearances submitted to the Coordinator of Field Placements before established deadlines to enroll in ED 190.
  - Students must achieve a final grade of 2.5 or higher in ED 190 to proceed to other Education courses.
- ED 191 – Integrating Technology into the Classroom (C.I. course; formerly ED 215)
  - Students must have a minimum GPA of 2.5 to enroll in ED 191 and have completed or be enrolled in ED 190.
  - Students must achieve a final grade of 2.5 or higher and a cumulative GPA of 2.85 or higher to proceed to 200-level Education courses.
  - Students must have a cumulative GPA of 2.85 or higher to enroll in 200-level Education courses.
- EDSP 210 – Teaching Students with Special Needs (formerly ED 210)
- ED 220 – Teaching Culturally and Linguistically Diverse Learners (OPO course)
- EDSP 225 – Special Education Methodology I with Field Experience (30 hours of field experience; OPO course)
  - Students must be admitted to the TEP prior to enrolling in a 300-level course.
- ED 380 – Content Area Literacy (not required for English majors)
- ED 3XX – Secondary Methods course in the area of the major degree.

These methods courses are offered in the fall semester, *except* MTH 303, which is offered *in 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 in 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)
- ED 390 – Student Teaching with Seminar (12 credits; OPO course)
- EDSP 388 – Inclusionary Practices (co-requisite: ED 390)

Other *recommended* courses for Secondary Education are



- ED 345 – Assessment in Education
- ED 385 – Classroom Management
- 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.

### CERTIFICATION REQUIREMENTS

- **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:
  - 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 and Modeling for the Biological and Health Sciences
  - 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:
  - 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 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 (two credits total required; each may be take for one or two credits)
  - 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 114 – Calculus and Modeling for the Biological and Health Sciences
  - MTH 212 – Multivariable Calculus
  - PHY 201 – General Physics I
  - PHY 202 – 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:

- 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 PSY 101 (General Psychology) and 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:
  - 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 PSY 101 (General Psychology), the required Education courses (with the exception of ED 380 – Content Area Literacy), and the special methods course (ENG 393) followed by student teaching as listed under Secondary Education requirements.

- **Mathematics:** Students seeking Mathematics certification should follow the Teacher Certification Track and elect to pursue a Bachelor of Arts (B.A.) or Bachelor of Science (B.S.) degree. The curriculum for either offers flexibility so that students seeking secondary certification can include the professional semester of student teaching in the seventh or eighth semester. The requirements for each degree are found in this bulletin under the section for the Department of Mathematics and Computer Science. Students seeking certification in Mathematics must take the following courses:
  - CS 125 – Computer Science I
  - MTH 111 – Calculus I
  - MTH 112 – Calculus II
  - MTH 202 – Set Theory and Logic
  - MTH 212 – Multivariable Calculus
  - MTH 214 – Linear Algebra
  - 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.

- **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:
  - 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
- HST 125 – American History I
- HST 126 – American History II
- PSY 101 – General Psychology
- PSY 221 – Developmental Psychology *or* PSY 222 – Adolescent 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:

- 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
- PS 111 – Introduction to American Politics
- PS 141 – Introduction to International Politics
- PSY 101 – General Psychology
- PSY 221 – Developmental Psychology *or* PSY 222 – Adolescent 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 K-12 certification can include the professional semester of student teaching in the seventh or eighth semester. Students seeking K-12 certification in Spanish must take the following courses:
  - 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
  - ANT 102 – Cultural Anthropology
  - PSY 221 – Developmental Psychology

In addition, students must take PSY 101 (General Psychology) and the required Education courses and special methods course (ED 300) followed by student teaching as listed under Secondary Education Requirements.

**SECONDARY EDUCATION CERTIFICATION  
REQUIRED COURSES AND RECOMMENDED COURSE SEQUENCE**

**131 CREDITS**

| <b>First Semester</b>                                | <b>Credits</b> | <b>Fifth Semester</b>                                                                                     | <b>Credits</b> |
|------------------------------------------------------|----------------|-----------------------------------------------------------------------------------------------------------|----------------|
| CS 115 – Computers and Applications                  | 3              | EDSP 225 – Sp. Educ. Methodology I (30)*                                                                  | 3              |
| ED 180 – Educational Psychology                      | 3              | FL <i>or</i> PHL 101                                                                                      | 3              |
| ENG 101 – Composition                                | 4              | Major Electives                                                                                           | 12             |
| FYF 101 – First-Year Foundations                     | 3              | <b>Total Credits</b>                                                                                      | <b>18</b>      |
| PSY 101 – General Psychology                         | 3              |                                                                                                           |                |
| <b>Total Credits</b>                                 | <b>16</b>      | <b>Sixth Semester</b>                                                                                     |                |
|                                                      |                | Major Electives                                                                                           | 15             |
| <b>Second Semester</b>                               |                | ED 380 – Content Area Literacy**                                                                          | 3              |
| ED 190 – Effective Teaching (40)*                    | 3              | <b>Total Credits</b>                                                                                      | <b>18</b>      |
| ED 191 – Integrating Technology into the Classroom   | 3              |                                                                                                           |                |
| MTH 101 – Solving Problems Using Math                | 3              | <b>Seventh Semester</b>                                                                                   |                |
| Social Science Elective (Distribution Req.)          | 3              | EDXXX – Specialization Methods (40)*                                                                      | 4              |
| Major Elective                                       | 3              | Major Electives                                                                                           | 12             |
| <b>Total Credits</b>                                 | <b>15</b>      | <b>Total Credits</b>                                                                                      | <b>16</b>      |
|                                                      |                |                                                                                                           |                |
| <b>Third Semester</b>                                |                | <b>Eighth Semester</b>                                                                                    |                |
| EDSP 210 – Teaching Students with Spec. Needs        | 3              | ED 390 – Student Teaching (40)***                                                                         | 12             |
| ENG 120 – Introduction to Literature & Culture       | 3              | EDSP 388 – Inclusionary Practices                                                                         | 3              |
| HST 101 – Historical Foundations of the Modern World | 3              | <b>Total Credits</b>                                                                                      | <b>15</b>      |
| Math Elective (2 <sup>nd</sup> MTH required by PDE)  | 3              |                                                                                                           |                |
| Science Elective (Distribution Req.)                 | 3              | <b>*Denotes field experience hours</b>                                                                    |                |
| Major Elective                                       | 3              | <b>**Not required for English majors</b>                                                                  |                |
| <b>Total Credits</b>                                 | <b>18</b>      | <b>***Denotes pre-student teaching hours completed during the first two weeks of the eighth semester.</b> |                |
|                                                      |                |                                                                                                           |                |
| <b>Fourth Semester</b>                               |                |                                                                                                           |                |
| 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>      |                                                                                                           |                |

NOTE: Since the Education Minor may be pursued in combination with eight different majors (Biology, Chemistry, Earth & Environmental Sciences, English, History, Mathematics, political Science, or Spanish), this sequence demonstrates on way all the required minor courses should be taken. The required 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 major and 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.**

**SECONDARY EDUCATION CERTIFICATION AND SPECIAL EDUCATION CERTIFICATION  
REQUIRED COURSES AND RECOMMENDED COURSE SEQUENCE**

**137 CREDITS**

| <b>First Semester</b>                                | <b>Credits</b> | <b>Fifth Semester</b>                               | <b>Credits</b> |
|------------------------------------------------------|----------------|-----------------------------------------------------|----------------|
| CS 115 – Computers and Applications                  | 3              | EDSP 226 – Spec. Ed. Methodology II (20)*           | 3              |
| ED 180 – Educational Psychology                      | 3              | Math Elective (2 <sup>nd</sup> MTH required by PDE) | 3              |
| FYF 101 – First-Year Foundations                     | 3              | Major Electives                                     | 9              |
| HST 101 – Historical Foundations of the Modern World | 3              | Social Science Elective                             | 3              |
| MTH 101 – Solving Problems Using Math                | 3              | <b>Total Credits</b>                                | <b>18</b>      |
| <b>Total Credits</b>                                 | <b>15</b>      |                                                     |                |
|                                                      |                | <b>Sixth Semester</b>                               |                |
| <b>Second Semester</b>                               |                | EDSP 227 – Behavior Management in Spec. Ed. (20)*   | 3              |
| ED 190 – Effective Teaching (40)*                    | 3              | EDSP 302 – Special Ed. Methods                      | 4              |
| ED 191 – Integrating Technology into the Classroom   | 3              | Major Electives                                     | 9-12           |
| ENG 101 – Composition                                | 4              | <b>Total Credits</b>                                | <b>16-19</b>   |
| PSY 101 – General Psychology                         | 3              |                                                     |                |
| Science Elective (Distribution Req.)                 | 3              | <b>Seventh Semester</b>                             |                |
| <b>Total Credits</b>                                 | <b>16</b>      | EDXXX – Specialization Methods (40)*                | 4              |
|                                                      |                | ED 380 – Content Area Literacy                      | 3              |
| <b>Third Semester</b>                                |                | EDSP 300 – Assessment in Spec. Ed.                  | 3              |
| EDSP 210 – Teaching Students with Spec. Needs        | 3              | Major Electives                                     | 6              |
| ENG 120 – Introduction to Literature & Culture       | 3              | <b>Total Credits</b>                                | <b>16</b>      |
| Major Electives                                      | 6              |                                                     |                |
| Science Elective (Distribution Req.)                 | 3              | <b>Eighth Semester</b>                              |                |
| Visual & Perform. Arts Elective (Dist. Req.)         | 3              | ED 390 – Student Teaching (40)**                    | 12             |
| <b>Total Credits</b>                                 | <b>18</b>      | EDSP 388 – Inclusionary Practices                   | 3              |
|                                                      |                | <b>Total Credits</b>                                | <b>15</b>      |
| <b>Fourth Semester</b>                               |                |                                                     |                |
| 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>      |                                                     |                |

\*Denotes field experience hours

\*\*Denotes pre-student teaching hours completed during the first two weeks of the eighth semester.

**ENGLISH AS A SECOND LANGUAGE**

The English as a Second Language (ESL) specialist program is a concentration that will prepares elementary or secondary teachers as ESL specialists capable of working with students who second language is English.

Upon completion of the ESL specialist program, a Teacher Education candidate will be issued a Letter of Eligibility from Wilkes University, which must be retained by the candidate for future application to the PDE. ESL specialist is an “add-on” designation to an existing instructional certificate rather than a “stand-alone” certification.

A student may elect to become an ESL specialist with additional course work added to their program of study. Elementary Education majors must complete the elementary program of study and their minor requirements as well as the courses listed below. Secondary Education candidates must complete their academic major and education program requirements in addition to the following courses listed below. All course are 3 credits unless otherwise noted.

**ESL SPECIALIST PROGRAM REQUIREMENTS**

- 9 credit hours in basic Teacher Education courses (or existing teaching certificate):
  - ED 180 – Educational Psychology
  - ED 190 – Effective Teaching with Field Experience (40 hours)
  - EDSP 210 – Teaching Students with Special Needs
- 3 credit hours in intensive English language courses:
  - ENG 222 - Linguistics
  - ENG 225 – Comparative Grammar
  - ENG 324 – History of the English Language
- 9 credit hours in ESL instruction, language acquisition, and cultural awareness:
  - ED 220 – Teaching Culturally and Linguistically Diverse Learners (OPO course)
  - ED 338 – Teaching EST: Materials and Methodologies (15 hours of field experience in ESL)
  - ED 341 – Language Arts (OPO course)
- 3 (or more) additional credit hours in language and literacy acquisition:
  - ED 321 – Literacy Foundations I (30 hours of field experience)
  - ED 322 – Literacy Foundations II
  - ED 380 – Content Area Literacy
  - ENG 393 – The Teaching of English (30 hours of field experience; OPO course)
- 3 (or more) credit hours of a second language (or demonstrated basic language fluency)

# INTERDISCIPLINARY MAJORS, INTERDISCIPLINARY MINORS, AND SPECIAL PROGRAMS

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## **INTERDISCIPLINARY MAJORS**

Individualized Studies

## **INTERDISCIPLINARY MINORS**

Women's and Gender Studies

## **SPECIAL PROGRAMS**

Army ROTC (Military Science)

Cooperative Education

Pre-Law Studies

Pre-M.B.A. Studies

Study Tour Experience

## **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**

### **WOMEN'S AND GENDER STUDIES**

**Director: Dr. Jennifer Thomas**

Women's and Gender Studies Coordinating Committee:

Dr. Mischelle Anthony, English; Mrs. Naomi Baker, Theatre; Dr. Anne Batory, Business; Dr. Robert Bohlander, Psychology; Dr. Barbara Bracken, Mathematics; Dr. Jane Elmes-Crahall, Communication Studies; Dr. Helen Davis, English; Mrs. Maria Grandinetti, Nursing; Dr. Thomas Hamill, English; Dr. Sean Kelly, English; Dr. James Merryman, Anthropology; Dr. Gina Morrison, Education; Dr. Meridith Selden, Psychology; Dr. Chad Stanley, English; Dr. Wagiha Taylor, Business; Dr. Jennifer Thomas, Psychology; Dr. Deborah Tindell, Psychology; Dr. Robert Tuttle, Sociology; Dr. Diane Wenger, History

#### **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 101 and an additional 15 hours of designated Women's and Gender Studies eligible courses. Students are additionally required to complete a major research project in their senior year that addresses gender as a category of analysis; ideally, the project will be integrated with the Capstone experience in the student's major area of study. Students who intend to pursue a minor in Women's and Gender Studies should take WS 101 before taking more than two other courses offered in the minor.

Students who wish to declare the minor in Women's and Gender Studies should contact the Director of Women's and Gender Studies Program, who will aid in the selection of courses and assist in the development of the senior-year research project.

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

### ARMY ROTC (MILITARY SCIENCE) Chairperson: Lieutenant Colonel Haines

#### ***Faculty***

Professor: Major Ramsey

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 given in Benaglia Hall at 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 wither 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 starts as \$300 per month during the freshman year, increases to \$350 per month during the sophomore year, \$450 during the junior year, and \$500 during the senior 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 and 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 MS 211, MS 212, MA 221, and MS 222, and 2) the Advanced Course, normally taken during the junior and senior years and comprising MS 231, MS 232, MS 241, MS 242, and MS 251.

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 \$40,000 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 ext. 5301 or 570-208-5900, ext. 5301.



## 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

| <b>First Semester</b>               | <b>Credits</b> |
|-------------------------------------|----------------|
| MIL 211 – Concepts of Leadership I  | 1              |
| MIL 251 – Leadership Laboratory     | 0              |
| <b>Total Credits</b>                | <b>1</b>       |
| <b>Second Semester</b>              |                |
| MIL 212 – Concepts of Leadership II | 1              |
| MIL 252 – Leadership Laboratory     | 0              |
| <b>Total Credits</b>                | <b>1</b>       |
| <b>Third Semester</b>               |                |
| MIL 221 – Dynamics of Leadership I  | 1              |
| MIL 251 – Leadership Laboratory     | 0              |
| <b>Total Credits</b>                | <b>2</b>       |
| <b>Fourth Semester</b>              |                |
| MIL 222 – Dynamics of Leadership II | 1              |
| MIL 252 – Leadership Laboratory     | 0              |
| <b>Total Credits</b>                | <b>2</b>       |

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

The 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

| <b>Fifth Semester</b>                    | <b>Credits</b> |
|------------------------------------------|----------------|
| MIL 100 – Physical Fitness Training      | 1              |
| MIL 231 – Military Leadership I          | 2              |
| MIL 251 – Leadership Laboratory          | 0              |
| <b>Total Credits</b>                     | <b>3</b>       |
| <b>Sixth Semester</b>                    |                |
| MIL 100 – Physical Fitness Training      | 1              |
| MIL 232 – Military Leadership II         | 1              |
| MIL 252 – Leadership Laboratory          | 0              |
| <b>Total Credits</b>                     | <b>2</b>       |
| <b>Seventh Semester</b>                  |                |
| MIL 100 – Physical Fitness Training      | 1              |
| MIL 241 – Advanced Military Leadership I | 2              |
| MIL 251 – Leadership Laboratory          | 0              |
| <b>Total Credits</b>                     | <b>3</b>       |

MIL 251 & 252 (Leadership Laboratory) and MIL 100 (Physical Fitness Training) are mandatory for all cadets enrolled in the Army ROTC Advanced Course as well as ROTC scholarship recipients and must be taken con-currently with each Military Leadership course.

## 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.

### PRE-LAW STUDIES

#### Coordinating Pre-Law Advisor: Dr. Kyle Kreider

Pre-Law Advisory Council: Professors Hepp, Kuhar, Liuzzo, 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.

### PRE-M.B.A. STUDIES

The Jay S. Sidhu School of Business and Leadership offers a nationally accredited Master of Business Administration program that expands business knowledge, management skills, and leadership capability of current and future professionals from many disciplines, functions, and jobs to enhance their success at work, adding value both for the student and for the organizations with which the student is associated. The program offers advanced training in the functional areas of business and also provides the opportunity for specialization in a selected field through additional training in Accounting, Entrepreneurship, Finance, Health Care Administration, Human Resources Management, International Business, Marketing, Operations Management, or Organizational Leadership and Development. A M.B.A. degree is appropriate for students of any academic discipline who would like to receive the analytical and strategic skills they need to step confidently into the business world.

Undergraduate students who are interested in pursuing a M.B.A. degree can register for the Pre-M.B.A. Program during any year of undergraduate study. This program is designed to prepare students with a variety of academic backgrounds for the M.B.A. program. Undergraduate students may use undergraduate required and elective courses to satisfy M.B.A. prerequisite Foundation Courses. These courses, each bearing one credit, represent fundamental business competencies. Up to twelve credits may be waived. This gives students the opportunity to earn an undergraduate degree and an M.B.A. within five and one-half years. Listed below are the Foundation Competencies and the undergraduate course(s) that satisfy each.

| <b>Foundation Competency</b>   | <b>Undergraduate Course Equivalent</b> |
|--------------------------------|----------------------------------------|
| Financial Accounting           | ACC 161                                |
| Managerial Accounting          | ACC 162                                |
| Finance                        | BA 341 or EGM 320                      |
| Management                     | BA 351, PHA 412, or ENT 201            |
| Marketing                      | BA 321                                 |
| Business Law                   | BA 233 or BA 234 or PHA 505            |
| Macroeconomics                 | EC 101 or PHA 509                      |
| Microeconomics                 | EC 102                                 |
| International Business         | BA 358                                 |
| Statistics                     | BA 319, PSY 200, MTH 150, or ENT 321   |
| Operations Management          | BA 352 or EGM 336                      |
| Management Information Systems | BA 257 or ACC 341 or EGM 321           |

Students who enter the Pre-M.B.A. program will be counseled by a graduate advisor. Advising sessions are used as an opportunity to prepare students for entrance into the M.B.A. program through communication of student career ambitions and strengths and identification of course scheduling options. It is recommended that entrance into the program occurs within the freshman or sophomore years in order to maximize the number of Foundation Courses that will be waived upon degree completion. Students interested in the Pre-M.B.A. program should contact the Office of Graduate Studies at (570) 408-4235 or [graduatestudies@wilkes.edu](mailto:graduatestudies@wilkes.edu) in order to arrange an appointment with a graduate advisor.

## **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 Coordinator. Students who wish to use financial aid to assist with the costs of study abroad 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 Coordinator. Students must complete the "Transfer Credit Request Form" (with all the appropriate signatures) and register for Study Abroad before conducting their study abroad.

## **STUDY TOUR EXPERIENCE**

Study Tour Experience Coordinating Committee: Professors Arora, Hamill, Merryman, Morrison, Starner

The Study Tour Experience is a unique learning experience recently developed for students who wish to travel but who cannot afford the time to spend an entire semester abroad. The Study Tour Experience is a three-credit course with a variety of sections designed to give students the opportunity to experience another culture through an intensive period of study and travel abroad under the guidance of a knowledgeable instructor. Offered during Summer Sessions or winter break Intercessions, current sections include tours to China, India, Africa, England, and Malaysia. New sections are being developed continuously.

The Study Tour Experience has four components: 1) a pre-travel orientation; 2) the concentrated group travel experience; 3) a writing emphasis; and 4) a post-travel follow-up session. The five- to ten-day period of on-campus pre-travel orientation includes an overview of the geography, ecology, history, language, art, and culture of the country or area of study. The group travel portion of the course consists of a ten- to fourteen-day study tour guided by a course instructor who is particularly well experienced in the culture. Students will be more than tourists; they will be afforded an up-close, interactive, hands-on experience that will be memorable, enjoyable, and educational. In addition, students will be expected to keep a detailed travel journal and, after the trip, write a paper or conduct a short project appropriate to the area of study. Finally, upon return to campus, a follow-up session will be held in which students will meet for a joint class debriefing to share insights and reflections.

One unique feature of this learning experience is that it is available for credit or without credit. Students may receive three elective credits for the Study Tour at the significantly reduced tuition of \$500, in addition to travel expenses. Those who elect to travel but receive no credit will pay only touring costs, generally not to exceed \$3,000. Travel fees are intended to include all costs, including air and overland travel, hotels, meals, transfers, visas, and inoculations, where required.

Credits earned for the Study Tour Experience may be used in a variety of ways, to be determined by each division of the University. Furthermore, the course is open to alumni and community members who might wish to accompany friends and family members abroad, or who might simply want to travel in the comfort and safety of a Wilkes University program.

Anyone who is interested in further details about the Study Tour Experience should contact the Center for Continued Learning or any member of the coordinating committee.

## COURSE DESCRIPTIONS

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## Course Descriptions

### ACCOUNTING

#### ACC 151. INTEGRATED MANAGEMENT EXPERIENCE I

THREE CREDITS

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. Same as ACC 151 and ENT 151.

#### ACC 152. INTEGRATED MANAGEMENT EXPERIENCE II

THREE CREDITS

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. Same as ACC 152 and ENT 152.

*Prerequisite: ACC/BA/ENT 151.*

#### ACC 161. FINANCIAL ACCOUNTING AND DECISION-MAKING

THREE CREDITS

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

THREE CREDITS

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.

*Prerequisite: ACC 161.*

#### ACC 201. INTERMEDIATE ACCOUNTING

THREE CREDITS

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.

*Prerequisite: ACC 161.*

#### ACC 202. INTERMEDIATE ACCOUNTING II

THREE CREDITS

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.

*Prerequisite: ACC 201.*

#### ACC 301. ADVANCED FINANCIAL ACCOUNTING

THREE CREDITS

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.

*Prerequisite: ACC 202.*

#### ACC 311. ADVANCED MANAGERIAL ACCOUNTING

THREE CREDITS

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.

*Prerequisite: ACC 162.*

#### ACC 321. TAXES

THREE CREDITS

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.

*Prerequisite: ACC 161.*

#### ACC 322. ADVANCED TAXES

THREE CREDITS

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.

*Prerequisite: ACC 321.*

**ACC 331. AUDITING****THREE CREDITS**

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.

*Prerequisite: ACC 202.*

**ACC 341. ACCOUNTING INFORMATION SYSTEMS****THREE CREDITS**

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.

*Prerequisite: ACC 162 and BA 351.*

**ACC 362. ACCOUNTING INTERNSHIP****THREE CREDITS**

This course provides job experience as an entry-level accountant through a minimum of 170 hours (3 credits) or 340 hours (6 credits) of working experience with either certified public accounting firms, governmental agencies, or private businesses. Internships are offered on a competitive basis following student interviews with interested employers. (All courses listed through the seventh semester should have been completed prior to taking ACC 362.)

*Prerequisite: ACC 202.*

**ACC 395-396. INDEPENDENT RESEARCH****ONE TO THREE CREDITS****ACC 397. SEMINAR****ONE TO THREE CREDITS****ACC 198/298/398. TOPICS****VARIABLE CREDIT**

Special offerings designed to introduce students to subjects of current interest in accounting that are not covered in other courses.

**AIR AND SPACE STUDIES – GENERAL MILITARY COURSE****AS 101-102. FOUNDATIONS OF THE USAF I & II****ONE CREDIT EACH**

This survey course briefly covers topics relating to the Air Force and defense. It focuses on the structure and missions of Air Force organizations, officership, and professionalism. It is also a good introduction into the use of communication skills.

**AS 103-104. LEADERSHIP LABORATORY****NO CREDIT**

This course, to be taken in conjunction with AS 101 and 102, is a weekly laboratory that touches on the topics of Air Force customs and courtesies, health and physical fitness, and drill and ceremonies.

**AS 201-202. EVOLUTION OF USAF AIR AND SPACE POWER I & II****ONE CREDIT EACH**

This survey course is concerned with the beginnings of manned flight and the development of aerospace power in the United States, including the employment of air power in WWI, WWII, Korea, Vietnam, the Gulf War, and the peaceful employment of U.S. air power in civic actions, scientific missions, and support of space exploration.

**AS 203-204. LEADERSHIP LABORATORY****NO CREDIT**

This course, to be taken in conjunction with AS 201 and 202, provides you with the opportunity to demonstrate fundamental management skills and prepares you for Field Training.

**AS 240. AFROTC FIELD TRAINING (4-WEEK SUMMER SESSION)****THREE CREDITS**

Intensive study of military education, experience in leadership and management at an active duty installation. Also training in marksmanship, survival, and athletics.

*Prerequisites: AS 101, 102, 201, and 202; successful completion of an interview with the Professor of Air and Space Studies; other military requirements.*

**AIR AND SPACE STUDIES – PROFESSIONAL OFFICER COURSES**

The Professional Officer Course (POC) constitute a four-semester program, normally taken during the junior and senior years, leading to commissioning as a U.S. Air Force officer. The POC concentrates on concepts and practices of management and leadership, national defense policy, and communications skills.

**AS 301-302. AIR FORCE LEADERSHIP STUDIES I & II****THREE CREDITS EACH**

This course is a study in the anatomy of leadership, the need for quality and management leadership, the role of discipline in leadership situations, and the variables affecting leadership. Case studies are used to examine Air Force leadership and management situations as a means of demonstrating and exercising practical application of the concepts. Students deal with actual problems and complete projects associated with planning and managing the Leadership Laboratory.

*Prerequisites: AFROTC approved membership in the POC or permission of the instructor.*

**AS 303-304. LEADERSHIP LABORATORY****NO CREDIT**

This course, taken in conjunction with AS 301 and 302, provides you with opportunity to develop your fundamental management skills while planning and conducting cadet activities.

**AS 401-402. NATIONAL SECURITY AFFAIRS AND PREPARATION FOR ACTIVE DUTY I & II** **THREE CREDITS EACH**

Learn about the role of the professional military leader in a democratic society, societal attitudes toward the armed forces, the requisites for maintaining adequate national defense structure, the impact of technological and international developments on strategic preparedness and the overall policy-making process, and military law. In addition, you will study topics that will prepare you for your first active-duty assignment as an officer in the Air Force.

*Prerequisites: AFROTC approved membership in the POC or permission of the instructor.*

**AS 403-404. LEADERSHIP LABORATORY** **NO CREDIT**

This course, taken in conjunction with AS 301 and 302, provides you with opportunity to use your leadership skills in planning and conducting cadet activities. It prepares you for commissioning and entry into the active-duty Air Force.

**ANTHROPOLOGY**

**ANT 101. INTRODUCTION TO ANTHROPOLOGY** **THREE CREDITS**

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 TO ANTHROPOLOGY** **THREE CREDITS**

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** **THREE CREDITS**

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** **THREE CREDITS**

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 395-396. INDEPENDENT RESEARCH** **ONE TO THREE CREDITS**

Independent study and research for advanced students in the field under the direction of a staff member. A research paper at a level significantly beyond a term paper is required.

*Prerequisite: By arrangement with an instructor and approval of the department chairperson.*

**ANT 399. COOPERATIVE EDUCATION** **ONE TO SIX CREDITS**

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.)

*Prerequisite: Sophomore standing, minimum 2.0 cumulative GPA, consent of academic advisor, and approval of placement by the department chairperson.*

**ANT 198/298/398/498. TOPICS** **THREE CREDITS**

A study of topics of special interest not extensively treated in regularly offered courses.

**ART**

**ART 101. EXPERIENCING ART** **THREE CREDITS**

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. Fee: \$50.

**ART 111. FUNDAMENTALS OF COLOR AND DESIGN** **THREE CREDITS**

A basic level design course involving the elements and principles of two-dimensional design and the study of color systems. Fee: \$50.

**ART 113. DRAWING AND COMPOSITION** **THREE CREDITS**

An introductory course exploring the organization and potential of line, space, and texture through a variety of media and subject matter. Fee: \$50.

**ART 120. PAINTING I** **THREE CREDITS**

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. Fee: \$50.

**ART 121. PRINTMAKING** **THREE CREDITS**

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. Fee: \$50.

**ART 122. SCULPTURE** **THREE CREDITS**

An introduction 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. Fee: \$50.

**ART 123. CERAMICS** **THREE CREDITS**

Exploration into the basic methods and techniques of hand building and wheel work. Experimentation in surfaces decoration, glazing, and kiln firing. Fee: \$50.

**ART 133. PHOTOGRAPHY****THREE CREDITS**

An introduction to the fundamentals of photography, camera usage, subject consideration, lighting, darkroom techniques, and the preparation of photographs for exhibit. Fee: \$50.

*NOTE: Each student must have access to an adjustable 35 mm camera and provide their own black and white film and photo paper.*

**ART 134. COMPUTER GRAPHICS I.****THREE CREDITS**

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. Fee: \$50.

**ART 138. DIGITAL PHOTOGRAPHY****THREE CREDITS**

This course will explore the fundamental components of photography with a spotlight on the digital environment. Students will produce photographic works from concept through digital enhancement and final output. Digital cameras are provided on loan to students for the duration of the course. Fee: \$50.

**ART 140. HISTORY OF ART I****THREE CREDITS**

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.

**ART 141. HISTORY OF ART II****THREE CREDITS**

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.

**ART 220. PAINTING II****THREE CREDITS**

Increased emphasis on development of style and experimentation in contemporary art methods and techniques. Fee: \$50.

*Prerequisite: ART 120 or permission instructor.*

**ART 234. COMPUTER GRAPHICS II****THREE CREDITS**

A continuation of Graphic Design 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. Fee: \$50.

*Prerequisite: ART 134 or permission instructor.*

**ART 395-396. INDEPENDENT RESEARCH****ONE TO THREE CREDITS**

Independent study and creative work for advanced students under the direction of a staff member.

*Prerequisite: Approval of department chairperson is required.*

**ART 399. COOPERATIVE EDUCATION****ONE TO SIX CREDITS**

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.)

*Prerequisite: Sophomore standing, minimum 2.0 cumulative GPA, consent of academic advisor, and approval of placement by the department chairperson.*

**ART 198/298/398. TOPICS****VARIABLE CREDIT**

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. Fee: \$50 (Fee applies to Studio Topics courses only.)

**BIOLOGY****BIO 105. THE BIOLOGICAL WORLD****THREE CREDITS**

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. Fee: \$120.

**BIO 113. MICROBIOLOGY****FOUR CREDITS**

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. Fee: \$120.

*Prerequisite: BIO 115 or permission of the instructor.*

**BIO 115-116. HUMAN ANATOMY AND PHYSIOLOGY****FOUR CREDITS EACH**

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. BIO 115 is offered every fall semester; BIO 116 is offered every spring semester. Fee: \$120 per course.

*Prerequisite for BIO 116: BIO 115 or permission of the instructor.*



**BIO 121. PRINCIPLES OF MODERN BIOLOGY I****FOUR CREDITS**

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 work per week. Offered every fall semester. Required of all Biology majors. Fee: \$120.

*Co-requisite: CHM 115.*

**BIO 122. PRINCIPLES OF MODERN BIOLOGY II****FOUR CREDITS**

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 plants, animals, and microbes, 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. Fee: \$120.

**BIO 225. POPULATION AND EVOLUTIONARY BIOLOGY****FOUR CREDITS**

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. Fee: \$120.

*Prerequisites: BIO 121 and BIO 122.*

**BIO 226. CELLULAR AND MOLECULAR BIOLOGY****FOUR CREDITS**

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. The cell in division and development. Four hours of lecture and three hours of laboratory per week. Offered every spring semester. Required of all Biology majors. Fee: \$120.

*Prerequisites: BIO 121 and BIO 122.*

**BIO 254. SUPERLAB****THREE CREDITS**

Superlab is a research-oriented course in which students carry out laboratory and field-based investigations into research areas such as ecotoxicology, plant physiology, 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, in which students design and implement experiments and carry out research discussed during the semester with the aid of their instructors. Offered each year.

*Prerequisites: BIO 225-226 or BIO 226 as co-requisite.*

**BIO 306. INVERTEBRATE BIOLOGY****FOUR CREDITS**

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. Fee: \$120.

*Prerequisites: BIO 121-122, BIO 225-226, or permission of the instructor.*

**BIO 311. COMPARATIVE PHYSIOLOGY****FOUR CREDITS**

Comparative Physiology encompasses the study of organ functions and organ system functions in different animal groups. Emphasis will be 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. Fee: \$120.

*Prerequisites: BIO 121-122, BIO 225-226, or permission of the instructor.*

**BIO 312. PARASITOLOGY****FOUR CREDITS**

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 man and other animals. Three hours of lecture and three hours of laboratory per week. Offered in alternate years. Fee: \$120.

*Prerequisites: BIO 121-122, BIO 225-226, or permission of the instructor.*

**BIO 314. COMPARATIVE VERTEBRATE ANATOMY****FOUR CREDITS**

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. Fee: \$120.

*Prerequisites: BIO 121-122, BIO 225.*

**BIO 321. MAMMALIAN PHYSIOLOGY****FOUR CREDITS**

This course examines the function of mammalian systems with regard to homeostasis, metabolism, growth and reproduction and reproduction. Normal physiological processes as well as some pathophysiological situations are covered. The emphasis is on human physiology; other mammalian systems, however, 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. Fee: \$120.

*Prerequisites: BIO 121-122, BIO 226, or permission of the instructor.*

**BIO 323. FUNCTIONAL HISTOLOGY****FOUR CREDITS**

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. Fee: \$120.

*Prerequisites: BIO 121-122, BIO 225-226, or permission of the instructor.*

**BIO 324. MOLECULAR BIOLOGY****FOUR CREDITS**

This course will introduce 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 will study a problem and see where it leads us. We will use the information given in lectures and reading assignments to solve research problems and, in the process, learn a lot of molecular biology. Offered in alternate years. Fee: \$120.

*Prerequisites: BIO 225-226, CHM 231-232.*

**BIO 325. ENDOCRINOLOGY****FOUR CREDITS**

This course will focus on the structure, biochemistry, and function of mammalian hormones and endocrine glands, avian, amphibian, and invertebrate hormones will also be discussed, where relevant. Clinical pathologies resulting from excess or insufficient hormones will be 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. Fee: \$120.

*Prerequisites: BIO 121-122, BIO 225-226, or permission of instructor.*

**BIO 326. IMMUNOLOGY AND IMMUNOCHEMISTRY****FOUR CREDITS**

This course is concerned with the biologic mechanisms and chemistry of reactants and mediators associated with natural and acquired states of immunity, tissue and blood serum responses to infection and immunization, and related pathophysiologic alternations of hypersensitivity phenomena in vertebrate animals and man. Three hours of lecture and three hours of laboratory per week. Offered in alternate years. Fee: \$120.

*Prerequisites: BIO 121-122, BIO 225-226, or permission of the instructor.*

**BIO 327. MEDICAL MICROBIOLOGY****FOUR CREDITS**

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. Fee: \$120.

*Prerequisites: BIO 121-122, CHM 231-232.*

**BIO 328. DEVELOPMENTAL BIOLOGY****FOUR CREDITS**

A course dealing with the principles of animal development from descriptive, experimental, and evolutionary perspectives. Laboratory work includes both descriptive and experimental embryology as well as more molecular techniques. Three hours of lecture and three hours of laboratory per week. Offered in alternate years. Fee: \$120.

*Prerequisites: BIO 121-122, BIO 225-226, or permission of the instructor.*

**BIO 329. VIROLOGY****THREE CREDITS**

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.

*Prerequisites: BIO 121-122, BIO 225-226, CHM 231-232, CHM 233-234.*

**BIO 330. INTRODUCTION TO BIOINFORMATICS****THREE CREDITS**

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 microarray data, DNA fingerprinting, rational drug design, metabolic simulation and artificial intelligence. *Offered online alternate spring semesters, with one assignment each week.*

*Prerequisites: BIO 225-226, CHM 231-232, MTH 150, or permission of the instructor.*

**BIO 338. BIOLOGY OF CANCER****THREE CREDITS**

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.

*Prerequisites: BIO 121-122, BIO 226, CHEM 231-232.*

**BIO 340. CONSERVATION BIOLOGY****THREE CREDITS**

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. Offered each year.

*Prerequisites: BIO 225-226 or permission of the instructor..*

**BIO 341. FRESHWATER ECOSYSTEMS****THREE CREDITS**

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. Fee: \$120.

*Prerequisites: EES 211 or 240 or BIO 121-122 or consent of the instructor.*

**BIO 342. THE ARCHOSAURS: BIRDS, DINOSAURS, AND CROCODILIANS****FOUR CREDITS**

This course will cover 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. Fee: \$120.

*Prerequisites: BIO 225-226 or permission of the instructor.*

**BIO 343. MARINE ECOLOGY****THREE CREDITS**

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 laboratory per week. Offered in alternate years. Cross-listed with EES 343. Fee: \$120.

*Prerequisites: EES 230 and BIO 121-122. 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****FOUR CREDITS**

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. Fee: \$120.

*Prerequisites: BIO 121-122 or permission of the instructor*

**BIO 345. GENETICS****FOUR CREDITS**

This course presents a detailed treatment of genetics beyond the introductory level in the areas of both transmission and molecular genetics. 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. Fee: \$120.

*Prerequisites: BIO 121-122, BIO 225-226, or permission of the instructor.*

**BIO 346. ANIMAL BEHAVIOR****FOUR CREDITS**

Animal Behavior is a course emphasizing behavior as the response of an organism to physical and social environmental change and covering 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. Fee: \$120.

*Prerequisites: BIO 121-122, BIO 225-226, or permission of the instructor.*

**BIO 347. BIostatISTICS AND EXPERIMENTAL DESIGN****FOUR CREDITS**

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. Fee: \$120.

*Prerequisites: BIO 225-226, MTH 150, or permission of the instructor.*

**BIO 348. FIELD ZOOLOGY****THREE CREDITS**

The goals of this summer course are to introduce field methods of zoology and increase familiarity with Pennsylvania animals. Taxa covered include turtles, snakes, birds, fish, insects, and mammals. Topics covered include conservation issues, population estimation, and sampling methods. Lecture: one hour per week. Laboratory: two hours per week. Offered annually.

*Prerequisites: BIO 225-226 or permission of the instructor.*

**BIO 352. PATHOPHYSIOLOGY****FOUR CREDITS**

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. Fee: \$120.

*Prerequisites: BIO 225-226 or permission of the instructor.*

**BIO 361. PLANT FORM AND FUNCTION****FOUR CREDITS**

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 fall semester. Fee: \$120.

*Prerequisites: BIO 121-122, BIO 225-226, or permission of the instructor.*

**BIO 362. PLANT DIVERSITY****FOUR CREDITS**

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 spring semester. Fee: \$120.

*Prerequisites: BIO 121-122, BIO 225-226, or permission of the instructor.*

**BIO 366. FIELD BOTANY****THREE CREDITS**

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. Fee: \$120.

*Prerequisites: BIO 121-122 or permission of the instructor.*

**BIO 368. MEDICAL BOTANY****THREE CREDITS**

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 treat human ailments, and psychoactive plants. Two hours of lecture per day for five weeks. Offered in alternate years.

*Prerequisites: BIO 121-122, BIO 225, CHM 231-232, or permission of the instructor.*

**BIO 369. PLANT PATHOLOGY****FOUR CREDITS**

This course introduces students to modern concepts and techniques in plant physiology through a genuine research experience in using the techniques of plant physiology to learn about a problem in plant biology. Rather than following a set series of lectures, we will study a problem

and see where it leads us. We will 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. Fee: \$120.

*Prerequisites: BIO 225-226, CHM 231-232, or permission of the instructor.*

**BIO 391-392. SENIOR RESEARCH PROJECTS**

**ONE TO TWO CREDITS**

The student will pursue independent research as a member of a team of senior biology majors. Each team will be 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, complete execution of the research project, a formal oral presentation, and a final manuscript prepared in standard journal format. Senior research is required of all biology majors seeking a four-year degree in Biology. BIO 391 – offered every fall semester. BIO 392 – offered every spring semester.

*Requirements: Open only to senior Biology majors.*

**BIO 394. BIOLOGICAL FIELD STUDY**

**ONE TO THREE CREDITS**

On-site study of biological problems or situations incorporating field documentation and investigation techniques. May be repeated for credit when no duplication of experience results. One hour of lecture per week plus field trip. Fee: \$120.

*Prerequisites: BIO 121-122 or permission of the instructor.*

**BIO 395-396. INDEPENDENT RESEARCH**

**ONE TO THREE CREDITS**

This course involves independent study and research for advanced students in the field of the major under the direction of a staff member. A research paper at a level significantly beyond a term paper is required; it must also be presented orally at an appropriate off-campus science meeting.

*Requirements: Written approval of the department chairperson is required. Candidates for Independent Research must have a minimum GPA of 3.00 and be of upper class standing.*

**BIO 397. PROFESSIONAL PREPARATION TECHNIQUES**

**TWO CREDITS**

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.

*Prerequisites: Junior-level standing.*

**BIO 399. COOPERATIVE EDUCATION**

**ONE TO SIX CREDITS**

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.*

**BIO 198/298/398. TOPICS**

**VARIABLE CREDIT**

A study of topics of special interest not extensively treated in regularly offered courses. Fee: \$120.

**BUSINESS ADMINISTRATION**

**ACCELERATED BACHELOR OF BUSINESS ADMINISTRATION (ABBA)**

**ABA 102. INTEGRATED ECONOMICS FOR BUSINESS**

**FOUR CREDITS**

This course introduces the student to both macroeconomic and microeconomic theories. Core issues in both disciplines such as supply and demand, fiscal policy, employment, and monetary policy are explored in a business environment context.

*Prerequisite: ABA 153.*

**ABA 153. INTEGRATED MANAGEMENT**

**FOUR CREDITS**

The first module 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. In the second module, you learn how business 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 and tracking information and performance using financial accounting principles.

**ABA 161. FINANCIAL ACCOUNTING**

**FOUR CREDITS**

This course will communicate an understanding of the nature, function, and environment of accounting and the accounting information system within an organization. Through analysis of both financial accounting information and supporting accounting principles, students will study decision-making and how those decisions affect the organization and its financial statements.

**ABA 162. MANAGERIAL ACCOUNTING**

**FOUR CREDITS**

Managerial accounting is 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.

*Prerequisite: ABA 161.*

**ABA 198/298/398 TOPICS**

**FOUR CREDITS**

Lectures on subjects of special current interest in business that are not covered in other courses.

**ABA 309. EFFECTIVE COMMUNICATIONS FOR BUSINESS****FOUR CREDITS**

An emphasis on written and oral communications. Students practice writing major business correspondence including letters, persuasive requests and refusals, inquiry, order, sales, application, credit, collection, and goodwill letters. Investigative techniques of research and analytical report writing. 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.

*Prerequisite: ABA 153.*

**ABA 319. INTEGRATED BUSINESS MATH AND STATISTICS****FOUR CREDITS**

This course serves as an introduction to the primary calculations and tools needed in business and economics. Topics include, but are not limited to, the following: algebraic functions; interest rates; defining and describing data; numerical and graphical summaries of data; hypothesis testing; and regression and correlation analysis. Emphasis on mathematical modeling in the business environment.

**ABA 321. MARKETING AND RETAILING****FOUR CREDITS**

Marketing and Retailing (BA 130) is 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 within the organization. You 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. We will identify marketing and retailing challenges, ethical thinking and action, and global dimensions of the practice of marketing and retailing.

*Prerequisite: AB 153.*

**ABA 335. THE LEGAL ENVIRONMENT AND BUSINESS LAW****FOUR CREDITS**

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 an in-depth study of contracts, commercial transactions, the Uniform Commercial Code, business organizations, property law, liability and accountants, and debtor-creditor relationships.

**ABA 341. FINANCIAL MANAGEMENT****FOUR CREDITS**

A study of the financial theories and decision-making models relating to the following: financial analysis and planning; working capital management; cash budgeting; capital asset acquisitions; capital asset financing; cost of capital; capital structuring; acquisitions; divestitures; and reorganizations.

*Prerequisites: ABA 153 and ABA 319.*

**ABA 351. LEADERSHIP AND ORGANIZATIONAL MANAGEMENT****FOUR CREDITS**

This course takes an interdisciplinary approach combining the major theories of management and organizational behavior. The theories and practices of planning, organizing, controlling, and leading the organization are incorporated into a behavioral approach including ethical decision-making. Understanding of 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 the global business environment.

*Prerequisite: ABA 153.*

**ABA 353. HUMAN RESOURCES AND CUSTOMER RELATIONSHIP MANAGEMENT****FOUR CREDITS**

This course deals with acquiring skills and understanding of the legal aspects, as well as the planning and technologies, involved with local, regional, national, and global human resource management. Topics such as global human resource management, selection and recruitment, and job analysis and design are explored. Also included are appraising and rewarding performance, compensation and benefits, and labor management relations. Along with these topics, customer relationship management is explored from a human resources perspective.

*Prerequisite: ABA 153.*

**ABA 361. BUSINESS STRATEGY AND DECISION MAKING****FOUR CREDITS**

This is a capstone course that 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.

*Prerequisites: ABA 153, ABA 321, and ABA 341.*

**ABA 362. PROFESSIONAL BUSINESS EXPERIENCE****FOUR CREDITS**

This course is part of a two-session 14-week professional business experiences 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 an experiential component. Components of the Personal and Professional Development Program will be explored during class time.

*Prerequisite: ABA 153, ABA 319, and ABA 341.*

**BUSINESS ADMINISTRATION****BA 151. INTEGRATED MANAGEMENT EXPERIENCE I****THREE CREDITS**

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. Same as ACC 151 and ENT 151.

**BA 152. INTEGRATED MANAGEMENT EXPERIENCE II****THREE CREDITS**

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. Same as ACC 152 and ENT 152.

*Prerequisite: ACC/BA/ENT 151.*

**BA 153. MANAGEMENT FOUNDATIONS****THREE CREDITS**

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****THREE CREDITS**

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.

**BA 335. LAW AND BUSINESS****THREE CREDITS**

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****THREE CREDITS**

This course provides students with an understanding of select advanced topics in law, specifically those that have the greatest impact on business and accounting. *Prerequisite: BA 335*

**BA 361. BUSINESS STRATEGY AND DECISION-MAKING****THREE CREDITS**

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.

*Prerequisites: MKT 321, FIN 340, and MGT 351.*

**BA 362. PROFESSIONAL BUSINESS EXPERIENCE****THREE CREDITS**

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 the students' academic objectives and career goals. 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.

*Prerequisite: MKT 321, FIN 340, and MGT 351.*

**BA 363. THE BUSINESS FIELD & RESEARCH EXPERIENCE****THREE CREDITS**

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. Prerequisite(s): Senior class standing.

**BA 364. INTERNATIONAL BUSINESS EXPERIENCE****THREE CREDITS**

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.

**CAREERS****CAR 101. LIFE/CAREER PLANNING****ONE CREDIT**

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.

**CHEMISTRY****CHM 95. PREPARATION FOR GENERAL CHEMISTRY****THREE CREDITS**

This course is designed to serve the remedial needs of students who require a "preparatory" course to General Chemistry (CHM 115-116). It provides an introduction to and practice with the principles and concepts essential for understanding chemistry. Key topics covered in this course include reviewing basic mathematical tools and improving problem-solving skills. In addition, a discussion of the fundamental chemical laws, the structure of matter, and the periodic table is presented. Finally, the use of chemical formulas to describe various chemical reactions and their stoichiometry is covered. NOTE: This course does not satisfy any chemistry requirements in any major and does not satisfy requirements for Area II of the General Education Curriculum.

- CHM 105. CHEMISTRY AND MODERN SOCIETY** **THREE CREDITS**  
 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, including food, drugs, agricultural chemicals, and chemicals used in pest control. Details are given separately.
- CHM 113. ELEMENTS AND COMPOUNDS LAB** **ONE CREDIT**  
 Three hours per week. Fee: \$110.  
*Co-requisite: CHM 115.*
- CHM 114. THE CHEMICAL REACTION LAB** **ONE CREDIT**  
 Three hours per week. Fee: \$110.  
*Co-requisite: CHM 116.*
- CHM 115. ELEMENTS AND COMPOUNDS** **THREE CREDITS**  
 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.  
*Co-requisite: CHM 113.*
- CHM 116. THE CHEMICAL REACTION** **THREE CREDITS**  
 A detailed study of chemical equilibria in aqueous solution. Three hours of class and a one-hour problem session per week.  
*Prerequisites: CHM 113 and CHM 115.*  
*Co-requisite: CHM 116.*
- CHM 231. ORGANIC CHEMISTRY I** **THREE CREDITS**  
 An introduction to the chemistry of carbon compounds, which develops the interconnected relationship between bonding, structure, and reactivity in organic compounds. Instrumental methods will be presented as a means to determine the structure of reaction products. Three hours of class and a one-hour pre-lab session per week.  
*Prerequisites: CHM 114 and CHM 116.*  
*Co-requisite: CHM 233.*
- CHM 232. ORGANIC CHEMISTRY II** **THREE CREDITS**  
 A continuation of CHM 231 with emphasis on organic synthesis. Three hours of class and a one-hour pre-lab session per week.  
*Prerequisites: CHM 231 and CHM 233.*  
*Co-requisite: CHM 234.*
- CHM 233. ORGANIC CHEMISTRY I LAB** **ONE CREDIT**  
 After an introduction to standard organic reaction, purification, physical characterization, and spectroscopic techniques, students will investigate concepts discussed in CHM 231. Three hours per week. Fee: \$110.  
*Co-requisite: CHM 231.*
- CHM 234. ORGANIC CHEMISTRY II LAB** **ONE CREDIT**  
 Weekly labs that parallel the lecture topics in CHM 232 and emphasize organic synthesis and characterization, including multistep synthesis. Three hours per week. Fee: \$110.  
*Co-requisite: CHM 232.*
- CHM 246. ANALYTICAL CHEMISTRY LAB** **ONE CREDIT**  
 Laboratory for CHM 248. One three-hour laboratory per week. Fee: \$110.  
*Co-requisite: CHM 248.*
- CHM 248. ANALYTICAL CHEMISTRY** **THREE CREDITS**  
 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 one-hour lecture sessions per week.  
*Prerequisites: CHM 114 and CHM 116.*  
*Co-requisite: CHM 246.*
- CHM 322. INORGANIC CHEMISTRY** **THREE CREDITS**  
 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.  
*Prerequisites: CHM 114 and CHM 116.*
- CHM 341. INSTRUMENTAL METHODS FOR CHEMICAL ANALYSIS** **THREE CREDITS**  
 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. Two one-hour lecture periods and one hour of on-line instruction.  
*Co-requisites: CHM 343 and CHM 351.*

- CHM 343. INSTRUMENTAL METHODS FOR CHEMICAL ANALYSIS LAB** **ONE CREDIT**  
 Laboratory for CHM 341. One three-hour laboratory per week. Fee: \$110.  
*Co-requisite: CHM 341.*
- CHM 351. PHYSICAL CHEMISTRY I** **THREE CREDITS**  
 This course emphasizes the molecular approach to physical chemistry. It begins discussing the principles of quantum mechanics and their application 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 one-hour lecture sessions per week.  
*Prerequisites: CHM 114 and 116; MTH 212; PHY 202.*
- CHM 352. PHYSICAL CHEMISTRY II** **THREE CREDITS**  
 Statistical mechanics is used to formulate thermodynamics in terms of atomic and molecular properties. A molecular interpretation of the laws of thermodynamics.  
*Prerequisites: CHM 351.*
- CHM 353. PHYSICAL CHEMISTRY I LAB** **ONE CREDIT**  
 Laboratory experiments are performed in order to reinforce concepts in CHM 351. Bench as well as computational experiments are carried out, including photoelectric effect, resonance states in the particle in a one-dimensional box system, molecular orbital theory applications, and molecular spectroscopy. Three hours per week. Fee: \$110.  
*Co-requisite: CHM 351.*
- CHM 354. PHYSICAL CHEMISTRY II LAB** **ONE CREDIT**  
 Laboratory experiments are performed in order to reinforce concepts in CHM 352. Bench as well as computational experiments are carried out, including calorimetry, phase equilibrium, colligative properties, kinetics, and applications of the Monte Carlo method to chemical kinetics. Fee: \$110.  
*Co-requisite: CHM 352.*
- CHM 355. PHYSICAL CHEMISTRY FOR LIFE SCIENCES** **THREE CREDITS**  
 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. Class, three hours per week.  
*Prerequisites: CHM 116, PHY 202, MTH 212.*  
*Co-requisite: CHM 357.*
- CHM 357. PHYSICAL CHEMISTRY FOR LIFE SCIENCES LAB** **ONE CREDIT**  
 Laboratory experiments emphasize concepts presented in CHM 355. Course includes experimental work, analysis of a research article, and computer simulations relevant to life sciences. Three hours per week. Fee: \$110.  
*Co-requisite: CHM 355.*
- CHM 361. BIOCHEMISTRY: STRUCTURE AND FUNCTION** **THREE CREDITS**  
 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.  
*Prerequisite: CHM 232.*
- CHM 362. BIOCHEMISTRY: METABOLISM** **THREE CREDITS**  
 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.  
*Prerequisites: CHM 232.*
- CHM 370-372. INTEGRATED LABORATORY I-III** **ONE TO TWO CREDITS 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. Fee: \$110 per course.  
*Prerequisites: CHM 232, CHM 341.*
- CHM 390. JUNIOR SEMINAR** **ONE CREDIT**  
 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.  
*Prerequisite: 45 hours of service to the Chemistry Department*  
*Requirements: Junior standing and declared major in Chemistry or Biochemistry*
- CHM 391. SENIOR RESEARCH I** **TWO CREDITS**  
 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 using modern computer methods. Students are required to attend weekly Department seminars and present at least one seminar. Fee: \$110.  
*Requirements: Senior standing in a Chemistry curriculum.*



**CHM 392. SENIOR RESEARCH II** **TWO CREDITS**  
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 seminar. Students are required to attend weekly Department seminars and present at least one seminar. Fee: \$110.

*Prerequisites: CHM 391.*

**CHM 395-396. INDEPENDENT RESEARCH** **ONE TO THREE CREDITS EACH**

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. Fee: \$110 per course.

*Requirements: permission of the instructor.*

**CHM 398. TOPICS** **ONE TO THREE CREDITS**

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.

*Prerequisites: will vary according to the specific topics course.*

**CHM 399. COOPERATIVE EDUCATION** **ONE TO SIX CREDITS**

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 GPS; 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 chairperson.*

## COMMUNICATION STUDIES

**COM 101. FUNDAMENTALS OF PUBLIC SPEAKING** **THREE CREDITS**

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** **THREE CREDITS**

A study of the theory and process of communication. Required of all department majors. Taught every spring semester.

**COM 124. MASS MEDIA LITERACY** **THREE CREDITS**

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** **ONE TO TWO CREDITS**

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** **THREE CREDITS**

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.

*Prerequisite: COM 101 or consent of the instructor.*

**COM 202. INTERPERSONAL COMMUNICATION** **THREE CREDITS**

The 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.

*Prerequisite: COM 101 or consent of the instructor.*

**COM 203. SMALL GROUP COMMUNICATION** **THREE CREDITS**

The course is designed to expand the student's knowledge of the theories and types of small group communication. Emphasis on the task, leadership, and interpersonal skills of participants.

*Prerequisite: COM 102.*

**COM 204. ARGUMENTATION AND DEBATE** **THREE CREDITS**

Training in the fundamentals of argumentation and debate, with practice in gathering and organizing evidence and support materials. Course taught every other fall semester.

*Prerequisite: COM 101 or consent of the instructor.*

**COM 206. BUSINESS AND PROFESSIONAL COMMUNICATION** **THREE CREDITS**

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 TELECOMMUNICATIONS** **THREE CREDITS**

Study of the radio, television, and cable industries. Emphasis on their development as public and commercial institutions. Consideration of economic and regulatory issues affecting programming.

- COM 221. DIGITAL AUDIO PRODUCTION** **THREE CREDITS**  
 A study of the principles and techniques of audio production. A special emphasis is placed on radio-related issues, skills, and projects. Consideration of the sound media as tools of artistic expression. Lecture and laboratory. Taught every fall semester. Fee: \$50.
- COM 222. BASIC VIDEO PRODUCTION** **THREE CREDITS**  
 A study of the principles and techniques of TV Studio Production. A special emphasis is placed on the utilization of these techniques in a broadcast setting. Included will be Camerawork, Switching, Studio Equipment, Set Design, Directing, and Producing. Taught every semester. Fee: \$50.
- COM 223. THE ART OF FILM** **THREE CREDITS**  
 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** **ONE TO SIX CREDITS**  
 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** **THREE CREDITS**  
 Fundamentals of newsgathering, newswriting, and news judgment for all media; study of news sources; fieldwork, research, and interview techniques.  
*Prerequisite: ENG 101.*
- COM 262. VISUAL RHETORIC** **ONE TO TWO CREDITS**  
 This course offers a rhetorical approach to visual design theory and application. Through readings, discussions, and assignments, students will learn the specialized language of visual design strategies and theories, to experiment with specific design software (PageMaker, Adobe Photoshop, QuarkXPress), to analyze rhetorical elements of visual and verbal design choices, to apply creative and ethical design strategies, to work with a real client, problem-solve and troubleshoot for design needs, and to understand the interdependency between visual and verbal persuasive appeals in all forms of print and Web communication.  
*Prerequisite: COM 260.*
- COM 300. COMMUNICATION CRITICISM** **THREE CREDITS**  
 Theories from classical to contemporary will be applied to the analysis of written, visual, and electronic messages. Emphasis on speech writing and criticism.  
*Prerequisite: COM 101.*
- COM 301. PERSUASION** **THREE CREDITS**  
 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.  
*Prerequisite: COM 101.*
- COM 302. FUNDAMENTALS OF PUBLIC RELATIONS** **THREE CREDITS**  
 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.  
*Prerequisite: COM 260.*
- COM 303. ORGANIZATIONAL COMMUNICATION** **THREE CREDITS**  
 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.  
*Prerequisite: COM 102 or consent of the instructor.*
- COM 304. INTERCULTURAL COMMUNICATION** **THREE CREDITS**  
 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.  
*Prerequisite: COM 102 or consent of the instructor.*
- COM 320. MEDIA MANAGEMENT** **THREE CREDITS**  
 This course will provide a framework for understanding the functions and methods of media managers in both print and non-print media.  
*Prerequisite: COM 220 or consent of the instructor.*
- COM 321. BROADCAST JOURNALISM** **THREE CREDITS**  
 A study of the principles and methods of broadcast journalism.  
*Prerequisite: COM 221 and COM 222.*
- COM 322. ADVANCED VIDEO PRODUCTION** **THREE CREDITS**  
 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. Fee: \$50.  
*Prerequisite: COM 102 or consent of the instructor.*

**COM 324. COMMUNICATION RESEARCH METHODS** **THREE CREDITS**

Study of research methods in various areas of communication. Emphasis on ability to research literature and critique a research design. Consideration of content analysis and empirical design. Required of all majors. Course taught every fall semester.

*Prerequisite: COM 102 and completion of departmental writing requirement.*

**COM 352. ADVANCED PUBLIC RELATIONS CAMPAIGNS** **THREE CREDITS**

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 news writing, interviewing, and fundamentals of public relations. Course taught in alternative spring semesters.

*Prerequisite: COM 302.*

**COM 354. INTERNATIONAL FIELD EXPERIENCE IN COMMUNICATION** **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** **THREE CREDITS**

A study of specialized reporting and an introduction to news editing. Fee: \$50.

*Prerequisite: COM 260.*

**COM 361. FEATURE WRITING** **THREE CREDITS**

A study of feature articles for newspapers, syndicates, magazines, and specialized publications. Practice in research, interviewing, and writing.

*Prerequisite: COM 260.*

**COM 362. MASS COMMUNICATION LAW** **THREE CREDITS**

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 370. WRITING FOR MAGAZINES AND E-ZINES** **THREE CREDITS**

This course will introduce students to writing and publishing processes, particularly as they pertain to trade, consumer, and electronic magazines. The course investigates various publishing avenues, including freelance submissions, research, writing, and editing roles on established publications, and ghost writing. Students will develop a variety of articles for both traditional print and electronic publications, as well as develop the necessary query letters and electronic inquiry messages. In addition, students will hone existing research, interview, and editing skills. Final projects will have students collaborate in writers' workshop settings to develop an original electronic publication as well as write and revise a publishable portfolio of freelance articles for consumer or trade publications.

*Prerequisite: COM 260.*

**COM 372. MANAGING A PUBLIC RELATIONS AGENCY** **THREE CREDITS**

Focus on difference between in-house public relations and agency operators. Students work with several clients.

*Prerequisite: COM 302.*

**COM 395-396. INDEPENDENT RESEARCH** **ONE TO THREE CREDITS**

Independent study and research for advanced students in the speech and communication programs under the direction of a staff member. A research paper at a level significantly beyond a term paper is required. Written permission of department is required.

**COM 397. SENIOR SEMINAR - COMMUNICATIONS** **THREE CREDITS**

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.

*Prerequisites: COM 324 and junior or senior standing.*

**COM 398. TOPICS** **ONE TO THREE CREDITS**

A study of topics of special interest not extensively treated in regularly offered courses.

**COM 399. COOPERATIVE EDUCATION** **ONE TO SIX CREDITS**

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.)

*Prerequisites: Completion of Sophomore year, 2.25 cumulative GPA, consent of academic advisor, and approval of placement by department chairperson.*

## COMPUTER SCIENCE

To see a tentative list regarding the timing of our 300-level course offerings in Computer Science, please refer to the following URL:  
<http://mathcs.wilkes.edu>.

**CS 115. COMPUTERS AND APPLICATIONS** **THREE CREDITS**

An introduction to computers and computing, with emphasis on personal computing in both the Windows and OS X operating systems. Extensive hands-on experience will involve the application of current commercial software (including word processing, database, and spreadsheet). *Not open to students who have received credit in any 200-level CS course. Students majoring in either Computer Science or Computer Information Systems will not receive credit for this course.*

**CS 125. COMPUTER SCIENCE I****FOUR CREDITS**

Introduction to information technology and programming (history of computing, UNIX, text editors, word processing, spreadsheets, introduction to programming), basic data types, functions, decision structures, loops, one-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, spring, and summer.

*Prerequisites: Secondary mathematics, including geometry and algebra II.*

**CS 126. COMPUTER SCIENCE II****FOUR CREDITS**

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.

*Prerequisite: CS 125 or equivalent programming experience.*

**CS 224. COBOL AND FILE MANAGEMENT****THREE CREDITS**

A study of file management techniques using ANS COBOL. Introductory and advanced programming techniques are presented using problems commonly found in a business environment. Topics include control break processing, tables and arrays, file processing, and interactive processing. Offered in the fall semester of even-numbered years when demand warrants.

*Prerequisites: CS 126 or equivalent programming experience.*

**CS 225. COMPUTER SCIENCE III****THREE CREDITS**

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.

*Prerequisites: CS 126.*

**CS 226. COMPUTER SCIENCE IV****THREE CREDITS**

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.

*Prerequisite: CS 225.*

**CS 265. MEDICAL INFORMATICS****THREE CREDITS**

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.

**CS 283. WEB DEVELOPMENT I****THREE CREDITS**

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, and Java Applets. Offered in the fall semester of odd-numbered years when demand warrants.

*Prerequisites: CS 126.*

**CS 317. SOFTWARE INTEGRATION****THREE CREDITS**

An introduction to the integration of application programs, including email clients, word processors, spreadsheets, and database systems using Microsoft Office and Visual Basic. Offered every fall.

*Prerequisite: CS 126.*

**CS 319. PRINCIPLES OF PROGRAMMING LANGUAGES****THREE CREDITS**

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.

*Prerequisites: CS 226.*

**CS 321. SIMULATION AND DATA ANALYSIS****THREE CREDITS**

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.

*Prerequisite: CS 125 and MTH 111.*

**CS 323. THEORY OF COMPUTATION****THREE CREDITS**

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.

*Prerequisite: CS 126 and MTH 231.*

**CS 324. SYSTEMS ANALYSIS****THREE CREDITS**

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.

*Prerequisites: CS 224, or CS 226.*

- CS 325. DATABASE MANAGEMENT** **THREE CREDITS**  
 Practical experience involving a large-scale computer problem, including determination of data requirements, appropriate data organization, data manipulation procedures, implementation, testing, and documentation.  
*Prerequisite: CS 126.*
- CS 326. OPERATING SYSTEM PRINCIPLES** **THREE CREDITS**  
 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.  
*Prerequisite: CS 226.*
- CS 327. COMPILER DESIGN** **THREE CREDITS**  
 A study of compiler design, including language definition, syntactic analysis, lexical analysis, storage allocation, error detection and recovery, code generation, and optimization problems.  
*Prerequisite: CS 226.*
- CS 328. ALGORITHMS** **THREE CREDITS**  
 Theoretical analysis of various algorithms. Topics are chosen from sorting, searching, selection, matrix multiplication of real numbers, and various combinatorial algorithms.  
*Prerequisites: CS 226 and MTH 202.*
- CS 330. COMPUTER ARCHITECTURE** **THREE CREDITS**  
 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.  
*Prerequisite: CS 226.*
- CS 334. SOFTWARE ENGINEERING** **THREE CREDITS**  
 A course in "programming in the large." Topics include software design, implementation, validation, maintenance, and documentation. There will be one or more team projects.  
*Prerequisite: CS 226.*
- CS 335. ADVANCED DATABASE CONCEPTS** **THREE CREDITS**  
 A continuation of CS 325. Concentration on the design of a large scale database system, current special hardware and software, and the role of DBMS in an organization.  
*Prerequisite: CS 325.*
- CS 340. ARTIFICIAL INTELLIGENCE** **THREE CREDITS**  
 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.  
*Prerequisites: CS 126.*
- CS 350. OBJECT-ORIENTED PROGRAMMING** **THREE CREDITS**  
 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.  
*Prerequisite: CS 226.*
- CS 355. COMPUTER NETWORKS** **THREE CREDITS**  
 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.  
*Prerequisite: Either CS 225 or CS 126 and CS 224.*
- CS 360. LINEAR PROGRAMMING** **THREE CREDITS**  
 Graphical linear programming, simplex algorithm sensitivity analysis. Special L.P. models such as the transportation problem, transshipment problem, and assignment problem. May include integer programming, branch and bound algorithm, geometric programming, and goal programming. Cross-listed with MTH 360.  
*Prerequisite: CS 125, and either MM or MTH 111.*
- CS 363. OPERATIONS RESEARCH** **THREE CREDITS**  
 A survey of operations research topics such as decision analysis, inventory models, queuing models, dynamic programming, network models, heuristic models, and non-linear programming. Cross-listed with MTH 363.  
*Prerequisites: CS 125, and MTH 111.*
- CS 364. NUMERICAL ANALYSIS** **THREE CREDITS**  
 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 when demand warrants.  
*Prerequisites: MTH 211 and CS 125 (or equivalent programming experience).*

**CS 366. 3-DIMENSIONAL ENVIRONMENTS AND ANIMATION****THREE CREDITS**

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. Fee: \$50.

*Prerequisite: CS 126 or IM 201.*

**CS 367. COMPUTER GRAPHICS****THREE CREDITS**

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.

*Prerequisites: CS 226.*

**CS 368. 3-DIMENSIONAL GAME DEVELOPMENT****THREE CREDITS**

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. Fee: \$50.

*Prerequisites: CS 366/IM 350 or CS 367.*

**CS 370. SPECIAL PROJECTS****VARIABLE CREDIT**

The definition, formulation, programming, solution, documentation, and testing of a sophisticated problem or project under close faculty supervision. The project will be drawn from industry, business, or governmental agency in the greater Wilkes-Barre area. The student will be expected to present a written report at the conclusion of the project. This course may be taken as part of the Cooperative Education Program. A student may apply at most six credits of CS 370 and a maximum of twelve credits in CS 370 and Cooperative Education 399 toward the graduation requirement in the computer science major.

*Requirements: Senior standing and approval of the department chairperson.*

**CS 383. WEB DEVELOPMENT II****THREE CREDITS**

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.

*Prerequisites: CS 283. CS 325.*

**CS 391. SENIOR PROJECTS I****ONE CREDIT**

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.

*Prerequisite: CS 334 or CS 324.*

**CS 392. SENIOR PROJECTS II****THREE CREDITS**

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.

*Prerequisites: CS 391.*

**CS 395-396. INDEPENDENT STUDY IN COMPUTER SCIENCE****VARIABLE CREDIT**

Individual study in a chosen area of computer science under the supervision of a faculty member. May be repeated for credit.

*Requirements: Approval of the department chairpersons.*

**CS 399. COOPERATIVE EDUCATION****ONE TO SIX CREDITS**

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.*

**CS 198/298/398. TOPICS IN COMPUTER SCIENCE****VARIABLE CREDIT**

Study of one or more special topics in computer science. May be repeated for credit if different topics are emphasized. Offered when demand warrants.

*Prerequisites: Vary with topics presented.*

**DANCE****DAN 100. DANCE APPRECIATION: COMPREHENSIVE DANCE FORMS****THREE CREDITS**

A general introduction to the various types of dance: classical ballet; modern; jazz; and theatrical. This course is appropriate for the person who has had absolutely no participatory experience in this art form. It is designed to cultivate especially an appreciation of the aesthetic dimensions of dance, perceived for the first time as an opportunity for personal physical engagement.

**DAN 120. TAP DANCE****THREE CREDITS**

An introduction to the fundamentals of tap dancing, with special reference to the techniques of great American artists.

**DAN 150. CLASSICAL DANCE FOR THE STAGE****TWO CREDITS**

An introductory course entailing lecture and demonstration and studio exercises designed to explore the movement dynamics appropriate to dramatic presentation. Special emphasis is given 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—valuable qualities for the acting

profession. Particular attention is given to pantomime and non-dance movement such as fencing and hand-to-hand combat in a stage-apace setting.

**DAN 153. POINTE I**

**TWO CREDITS**

Basic techniques of ballet on pointe; introduction to variations from the classical repertory. This course is designed to help the female dancer make the transition from demi-pointe dancing.

**DAN 157. PAS DE DEUX I**

**TWO CREDITS**

The basic techniques required for male and female dancers to perform as a unit. This course is intended to provide a gradual and individually paced introduction to the techniques as well as the psychology of classical ballet partnering.

*Prerequisite: Audition.*

**DAN 210. MODERN DANCE I**

**THREE CREDITS**

This course builds on the foundation provided the student in DAN 110, elaborating further on the fundamentals of modern dance according to the Graham method. 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 and ligament flexibility, and movement musicality.

**DAN 211. MODERN DANCE II**

**THREE CREDITS**

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 dance. It engages the student-dancer in highly individualized movements based on personalized, multi-faceted, and changing artistic standards.

*Prerequisite: DAN 210 or permission of instructor.*

**DAN 220. ADVANCED TAP**

**THREE CREDITS**

The acquisition and development of advanced tap dance technique through drills and exercises and the appreciation of the rich history of tap dance in America through lecture, video, demonstrations, and readings.

*Prerequisite: DAN 120 or permission of instructor.*

**DAN 230. JAZZ DANCE I**

**THREE CREDITS**

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**

**THREE CREDITS**

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.

*Prerequisite: DAN 230 or permission of instructor.*

**DAN 250. CLASSICAL BALLET I**

**THREE CREDITS**

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**

**THREE CREDITS**

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.

*Prerequisite: DAN 250 or permission of instructor.*

**DAN 261. DANCE IMPROVISATION I**

**TWO CREDITS**

Designed to develop creativity in dance by exercising the student in movement in free forms while training the body as a disciplined instrument. Exploration of the broad range of dance movement in a choreographical context is intended to introduce the student into the elementary aspects of dance perception and design.

**DAN 310. MODERN DANCE III**

**THREE CREDITS**

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.

*Prerequisite: DAN 211 or permission of instructor.*

**DAN 311. MODERN DANCE IV**

**THREE CREDITS**

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.

*Prerequisite: DAN 310 or permission of instructor.*

**DAN 320. DANCE COMPOSITION****THREE CREDITS**

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.

*Prerequisite: DAN 120 or permission of instructor.*

**DAN 330. JAZZ DANCE III****THREE CREDITS**

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.

*Prerequisite: DAN 231 or permission of instructor.*

**DAN 331. JAZZ DANCE IV****THREE CREDITS**

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.

*Prerequisite: DAN 330 or permission of instructor.*

**DAN 350. CLASSICAL BALLET III****THREE CREDITS**

This course is designed to build on the foundation laid in DAN 250-251. 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.

*Prerequisite: DAN 251 or permission of instructor.*

**DAN 351. CLASSICAL BALLET IV****THREE CREDITS**

This course is designed to continue to build on the foundation laid in DAN 250-251 and 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.

*Prerequisite: DAN 350 or permission of instructor.*

**DAN 198/298. TOPICS****VARIABLE CREDIT**

A study of topics of special interest not extensively treated in regularly offered courses.

**EARTH AND ENVIRONMENTAL SCIENCES****EES 105. PLANET EARTH****THREE CREDITS**

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 subtropical 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. Fee: \$105.

*Prerequisites: No previous background in science or college-level mathematics is required.*

**EES 202. BIOGEOCHEMISTRY****THREE CREDITS**

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. Fee: \$105.

*Prerequisite: CHM 115.*

**EES 210. GLOBAL CLIMATE CHANGE****THREE CREDITS**

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**

**FOUR CREDITS**

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. Fee: \$105.

*Requirements: For CS, Engineering, Math, and Science majors only.*

**EES 212. HISTORICAL GEOLOGY**

**THREE CREDITS**

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. Fee: \$105.

*Prerequisite: EES 211 or permission of the instructor.*

**EES 218. ENVIRONMENTAL ETHICS**

**THREE CREDITS**

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.

*Prerequisites: PHL 101 or EES 240 or permission of the instructor.*

**EES 230. OCEAN SCIENCE**

**FOUR CREDITS**

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. Fee: \$105.

*Requirements: For CS, Engineering, Math, and Science majors only.*

**EES 240. PRINCIPLES OF ENVIRONMENTAL ENGINEERING AND SCIENCE**

**FOUR CREDITS**

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. Fee: \$105.

*Prerequisite: MTH 105 or higher (NOTE: MTH 105 will not be offered after Fall 2011.)*

*Requirements: For CS, Engineering, Math, and Science majors only.*

**EES 242. ENVIRONMENTAL HEALTH**

**FOUR CREDITS**

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 and three hours of lab per week. Fee: \$105.

*Prerequisites: Introductory physics and chemistry. Students who have taken EES 240 will be admitted only with the consent of the instructor.*

**EES 251. SYNOPTIC METEOROLOGY**

**FOUR CREDITS**

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. Fee: \$105.

*Requirements: For CS, Engineering, Math, and Science majors only.*

**EES 261. REGIONAL GEOGRAPHY**

**THREE CREDITS**

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: THE GLOBAL POSITIONING SYSTEM**

**THREE CREDITS**

An introduction to the Global Positioning System (GPS) and environmental mapping concepts and applications. Topics include coordinate systems, reference ellipsoids, geodetic datums, and map projections. 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 a geographical information system. Two hours of lecture and two hours of lab per week. Fee: \$105.

**EES 272. ENVIRONMENTAL MAPPING II: GEOGRAPHIC INFORMATION SYSTEMS**

**THREE CREDITS**

An introduction to Geographic Information Systems (GIS). Topics include history of GIS, relational database management, data input and output, quality control, integration with CAD and remote sensing technologies, data analysis, and GIS as a decision support tool. Laboratory component emphasizes practical skills in GIS data management and analysis. Two hours of lecture and three hours of lab per week. Fee: \$105.

**EES 280. PRINCIPLES OF ASTRONOMY**

**FOUR CREDITS**

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. Fee: \$105.

*Requirements: For Science majors only.*

**EES 302. LITERATURE METHODS**

**ONE CREDIT**

The nature and use of important sources of information in earth and environmental sciences are developed through retrospective searching methods and current awareness techniques. The use of computer databases, the design of personal computer information files, information search strategies, and manual search procedures are included. Literature preparation for Senior Projects (EES 391-392).

*Prerequisite: Junior standing.*

**EES 304. ENVIRONMENTAL DATA ANALYSIS**

**TWO CREDITS**

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.

*Prerequisite: MTH 150 and Junior standing or permission of the instructor.*

**EES 341. FRESHWATER ECOSYSTEMS**

**THREE CREDITS**

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. Fee: \$120.

*Prerequisites: EES 211 or 240 or BIO 121-122 or permission of the instructor.*

**EES 343. MARINE ECOLOGY**

**THREE CREDITS**

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. Fee: \$120.

*Prerequisites: EES 230 and BIO 121-122 or permission of the instructor.*

**EES 344. ECOLOGY**

**FOUR CREDITS**

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. Fee: \$120.

*Prerequisites: BIO 121-122, 223-224, or permission of the instructor.*

**EES 366. FIELD BOTANY**

**THREE CREDITS**

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. Fee: \$120.

*Prerequisites: BIO 121-122, 223-224, or permission of the instructor.*

**EES 370. GEOMORPHOLOGY**

**THREE CREDITS**

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. Fee: \$105.

*Prerequisites: EES 211.*

**EES 381. MINERALOGY**

**THREE CREDITS**

Ionic structure of minerals; physical properties and external form as consequences of structure; determination of minerals by physical tests. Two hours of lecture and three hours of lab per week. Fee: \$105.

*Prerequisites: EES 211 and CHM 115.*

**EES 382. PETROLOGY**

**THREE CREDITS**

A study of the identification, classification, composition, genesis, and alteration of igneous, sedimentary, and metamorphic rocks and their relation to crustal processes and environments. Two hours of lecture and three hours of lab per week. Fee: \$105.

*Prerequisites: EES 381.*

**EES 391. SENIOR PROJECTS I**

**ONE CREDIT**

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.*

**EES 392. SENIOR PROJECTS II**

**TWO CREDITS**

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.

*Prerequisites: EES 391 or permission of the instructor.*

**EES 394. FIELD STUDY**

**ONE TO THREE CREDITS**

On-site study of an earth or environmental problem or situation incorporating field documentation and investigation techniques. May be repeated for credit when no duplication of experience results. One hour of lecture plus field trip(s). Fee: \$105.

*Prerequisites: EES 211 and EES 240.*

**EES 395-396. INDEPENDENT RESEARCH I & II**

**ONE TO THREE CREDITS EACH**

Independent study of research of a specific earth or environmental science topic at an advanced level under the direction of a departmental faculty member. For three credits, a defensible research paper is required.

*Requirements: Upper class standing and approval of the academic advisor, research advisor, and department chairperson.*

**EES 399. COOPERATIVE EDUCATION****ONE TO SIX CREDITS**

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.*

**EES 198/298/398. TOPICS IN EES****VARIABLE CREDIT**

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. Fee: \$105 for Topics courses that incorporate a lab component.

**Prerequisites:** *Vary with topic studied.*

**EES 498. ADVANCED TOPICS IN EES****VARIABLE CREDIT**

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. Fee: \$105 for Topics courses that incorporate a lab component.

**Requirements:** *Senior or graduate standing.*

**ECONOMICS****EC 101. PRINCIPLES OF ECONOMICS****THREE CREDITS**

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****THREE CREDITS**

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****THREE CREDITS**

A study of money, credit, and banking operations. Monetary standards, development of the American monetary and banking system. Recent developments in other financial institutions. Central banking and the Federal Reserve System; instruments of monetary control; international monetary relationships. (Cross-listed with BA 230.)

**EC 320. THE ECONOMICS OF CRIME****THREE CREDITS**

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.

**Prerequisite:** *EC 102.*

**EC 330. PUBLIC FINANCE****THREE CREDITS**

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 to finance to the economy.

**Prerequisites:** *EC 101 and 102.*

**EC 395-396. INDEPENDENT RESEARCH****ONE TO THREE CREDITS**

Independent study and research for advanced students in the field under the direction of a full-time faculty member. A research paper at a level significantly beyond a term paper is required.

**Prerequisites:** *EC 101 and 102.*

**EC 399. COOPERATIVE EDUCATION****ONE TO SIX CREDITS**

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.)

**Prerequisites:** *Sophomore standing, minimum 2.0 cumulative GPA, consent of academic advisor, approval of placement by department chairperson.*

**EDUCATION****ED 180. EDUCATIONAL PSYCHOLOGY (FORMERLY ED 200)****THREE CREDITS**

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 the effective classroom communication and interpersonal relationships.

**ED 190. EFFECTIVE TEACHING WITH FIELD EXPERIENCE****THREE CREDITS**

Education 190 emphasizes concepts and skills for effective teaching. These skills include instructional techniques, library research, writing, and field experience. Students will be involved in their first practicum experience.

**ED 191. INTEGRATING TECHNOLOGY INTO THE CLASSROOM (FORMERLY ED 215) THREE CREDITS**

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.

*Prerequisite or Co-requisite: ED 190.*

**ED 220. TEACHING CULTURALLY AND LINGUISTICALLY DIVERSE LEARNERS (OPO COURSE) THREE CREDITS**

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.

*Prerequisite: ED 190.*

**ED 263. CHILD DEVELOPMENT AND COGNITION THREE CREDITS**

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.*

*Prerequisite: ED 190.*

**ED 264. CHILD DEVELOPMENT AND COGNITION – CLASSROOM APPLICATION THREE CREDITS**

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.*

*Prerequisite: ED 190.*

**ED 300. TEACHING OF FOREIGN LANGUAGE WITH FIELD EXPERIENCE THREE CREDITS**

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.*

*Prerequisite: Admission to the Teacher Education Program.*

**ED 310. HEALTH, PHYSICAL EDUCATION, AND SAFETY THREE CREDITS**

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.

*Prerequisite: Admission to the Teacher Education Program.*

**ED 321. LITERACY FOUNDATIONS I THREE CREDITS**

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.*

*Prerequisite: Admission to the Teacher Education Program.*

**ED 322. LITERACY FOUNDATIONS II THREE CREDITS**

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.

*Prerequisite: Admission to the Teacher Education Program.*

**ED 323. DIFFERENTIATED READING THREE CREDITS**

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.

*Prerequisite: Admission to the Teacher Education Program and ED 321.*

**ED 324. CHILDREN'S LITERATURE THREE CREDITS**

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.

*Prerequisite: Admission to the Teacher Education Program.*

**ED 325. APPLIED READING STRATEGIES THREE CREDITS**

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.

*Prerequisite: Admission to the Teacher Education Program, ED 321, and permission of the instructor.*

**ED 326. ADOLESCENT LITERATURE****THREE CREDITS**

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.

*Prerequisite: Admission to the Teacher Education Program.*

**ED 330. MATHEMATICS IN EARLY CHILDHOOD AND ELEMENTARY EDUCATION****THREE CREDITS**

This course is designed to present a study of research, concepts and methodologies pertinent to the teaching of mathematics from the PK through 4<sup>th</sup> 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.

*Prerequisite: Admission to the Teacher Education Program.*

**ED 338. TEACHING ESL: MATERIALS AND METHODOLOGY****THREE CREDITS**

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.

*Prerequisite: Admission to the Teacher Education Program.*

**ED 341. LANGUAGE ARTS (OPO COURSE)****THREE CREDITS**

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.

*Prerequisite: Admission to the Teacher Education Program.*

**ED 344. ASSESSMENT IN EARLY CHILDHOOD AND ELEMENTARY EDUCATION****THREE CREDITS**

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.

*Prerequisite: Admission to the Teacher Education Program.*

**ED 345. ASSESSMENT IN EDUCATION****THREE CREDITS**

This course will address a number of different professional areas both of theoretical importance and practical significance. Assessment concepts will provide a framework to critically analyze any assessment, whether commercial or teacher-made. Practical skills will enable the pre-service teacher to assess a wide variety of learning goals and teaching experiences within cognitive, affective, and psychomotor domains. Finally, these assessment concepts and skills will be examined within the context of Pennsylvania Academic Standards and the Pennsylvania mandated assessment (PSSA).

*Prerequisite: Admission to the Teacher Education Program.*

**ED 350. THE ARTS IN EARLY CHILDHOOD AND ELEMENTARY EDUCATION****THREE CREDITS**

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.

*Prerequisite: Admission to the Teacher Education Program.*

**ED 360. SOCIAL STUDIES IN EARLY CHILDHOOD AND ELEMENTARY EDUCATION****THREE CREDITS**

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.

*Prerequisite: Admission to the Teacher Education Program.*

**ED 363. FAMILY SCHOOL, AND COMMUNITY****THREE CREDITS**

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.

*Prerequisite: Admission to the Teacher Education Program.*

**ED 370. SCIENCE IN EARLY CHILDHOOD AND ELEMENTARY EDUCATION****THREE CREDITS**

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.

*Prerequisite: Admission to the Teacher Education Program.*

**ED 371. TEACHING METHODS IN SCIENCE WITH FIELD EXPERIENCE****FOUR CREDITS**

The activities required for this course are aimed to meet the pedagogical needs of 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 secondary classroom teachers. *Department permission is required.*

**Prerequisite: Admission to the Teacher Education Program.**

**ED 375. MIDDLE SCHOOL METHODS WITH FIELD EXPERIENCE**

**FOUR CREDITS**

This course will address the educational perspectives that pertain to Middle School 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.*

**Prerequisite: Admission to the Teacher Education Program.**

**ED 380. CONTENT AREA LITERACY**

**THREE CREDITS**

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.

**Prerequisite: Admission to the Teacher Education Program.**

**ED 381. TEACHING METHODS IN SOCIAL STUDIES**

**FOUR CREDITS**

This course provides a study of instructional methodology in the concentration area of Social Studies at the secondary level with a 40-hour field practicum. *Departmental permission is required.*

**Prerequisite: Admission to the Teacher Education Program.**

**ED 385. CLASSROOM MANAGEMENT**

**THREE CREDITS**

This course is designed for students to establish and maintain a positive social context for learning in Pre-K through grade 4 education by applying developmentally appropriate motivational and management strategies. Researchers and theories will be identified, analyzed, evaluated, and demonstrated.

**Prerequisite: Admission to the Teacher Education Program.**

**ED 390. STUDENT TEACHING WITH SEMINAR (PK-4) (OPO COURSE)**

**TWELVE CREDITS**

**ED 390. STUDENT TEACHING WITH SEMINAR (4-8) (OPO COURSE)**

**TWELVE CREDITS**

**ED 390. STUDENT TEACHING WITH SEMINAR (7-12) (OPO COURSE)**

**TWELVE CREDITS**

**ED 390. STUDENT TEACHING WITH SEMINAR (K-12) (OPO COURSE)**

**TWELVE CREDITS**

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. Fee: \$70.*

**Prerequisite: Admission to the Teacher Education Program, and completion of all ED course requirements.**

**Co-requisite: will be completed in conjunction with EDSP 388.**

**ED 198/298/398. TOPICS IN EDUCATION**

**ONE TO THREE CREDITS**

A study of topics of special interest not extensively treated in regularly offered courses.

**SPECIAL EDUCATION**

**EDSP 210. TEACHING STUDENTS WITH SPECIAL NEEDS (FORMERLY ED 210)**

**THREE CREDITS**

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.

**Prerequisite: ED 190.**

**EDSP 225. SPECIAL EDUCATION METHODOLOGY I WITH FIELD EXPERIENCE**

**THREE CREDITS**

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.*

**Prerequisites: ED 190, EDSP 210.**

**EDSP 226. SPECIAL EDUCATION METHODOLOGY II WITH FIELD EXPERIENCE**

**THREE CREDITS**

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.*

**Prerequisite:** ED 190 and EDSP 210.

**EDSP 227. BEHAVIOR MANAGEMENT IN SPECIAL EDUCATION WITH FIELD EXPERIENCE**

**THREE CREDITS**

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.*

**Prerequisites:** ED 190, EDSP 210.

**EDSP 300. SPECIAL EDUCATION ASSESSMENT AND EVALUATION**

**THREE CREDITS**

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.*

**Prerequisite:** Admission to the Teacher Education Program.

**EDSP 302. SPECIAL EDUCATION METHODS**

**FOUR CREDITS**

This four-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.*

**Prerequisites:** Admission to the Teacher Education Program.

**EDSP 388. INCLUSIONARY PRACTICES**

**THREE CREDITS**

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.

**Prerequisite:** Admission to the Teacher Education Program.

**Co-requisite:** will be completed in conjunction with ED 390.

**EDSP 395-396. INDEPENDENT RESEARCH**

**THREE CREDITS**

Independent study of research for advanced students in the field of the major under the direction of a staff member. *Approval of the department chairperson is required.*

**ELECTRICAL ENGINEERING**

**EE 211. ELECTRICAL CIRCUITS AND DEVICES**

**THREE CREDITS**

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:** EE 283, MTH 112.

**EE 241. DIGITAL DESIGN**

**THREE CREDITS**

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. Fee: \$100.

**EE 251. ELECTRONICS I**

**THREE CREDITS**

Circuit concepts involving nonideal dependent and constant voltage and current sources. Operational amplifiers. Development of typical design applications and other considerations like conception, analysis, simulation, interference, small and large signal modeling, power, temperature, and frequency effects. Three hours of lecture per week.

**Prerequisite:** EE 211.

**EE 252. ELECTRONICS II**

**FOUR CREDITS**

Multi-transistor amplifiers. Building blocks of an operational amplifier. Frequency response and bandwidth of BJT, FET, and operational amplifiers. Filters. Power amplifiers. Feedback circuits. Three one-hour lectures and one three-hour lab per week. Fee: \$100.

**Prerequisite:** EE 251.

**EE 271. SEMICONDUCTOR DEVICES**

**THREE CREDITS**

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.

**Prerequisites:** CHM 115, PHY 202.

**EE 283. ELECTRICAL MEASUREMENTS LAB**

**ONE CREDIT**

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. Fee: \$100.

**Co-requisite:** EE 211.

- EE 298. TOPICS IN ELECTRICAL ENGINEERING** **ONE TO THREE CREDITS**  
 Selected topics in the field of electrical engineering.  
*Requirements: Sophomore standing and permission of the instructor.*
- EE 314. CONTROL SYSTEMS** **THREE CREDITS**  
 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.  
*Prerequisites: EE 211 and EGR 214.*
- EE 325. ENERGY CONVERSION DEVICES** **THREE CREDITS**  
 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.  
*Prerequisite: EE 251.*
- EE 337. ENGINEERING ELECTROMAGNETICS I** **FOUR CREDITS**  
 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. Three one-hour lectures and one two-hour lab per week. Fee: \$100.  
*Prerequisites: EE 214, PHY 202.*
- EE 339. ENGINEERING ELECTROMAGNETICS II** **FOUR CREDITS**  
 Maxwell's equation for time-varying fields; boundary conditions and boundary value problems; plane wave propagation; reflection, refraction, and wave guides; stripline; s-parameters and microwave devices; directional coupler, attenuator; radiation and antennas; satellite communication systems and radar sensors. Three hours of lecture and one three-hour lab per week. Fee: \$100.  
*Prerequisite: EE 337.*
- EE 342. MICROCOMPUTER OPERATION AND DESIGN** **THREE CREDITS**  
 Microprocessor architecture, microcomputer design, and peripheral interfacing. Microprogramming, software systems, and representative applications. Associated laboratory experiments consider topics such as bus structure, programming, data conversion, interfacing, data acquisition, and computer control. Two hours of lecture and one-two-hour lab per week. Fee: \$100.  
*Prerequisite: EE 241.*
- EE 345. COMPUTER ORGANIZATION** **THREE CREDITS**  
 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.  
*Prerequisite: EE 241.*
- EE 346. COMPUTER ARCHITECTURE** **THREE CREDITS**  
 A study of the design, organization, and architecture of computers, ranging from the microprocessors to the latest "supercomputers." Cross-listed with CS 330.  
*Prerequisites: CS 230 or EE 342.*
- EE 373. CAD FOR MICROFABRICATION** **ONE CREDIT**  
 Simulation tools in transistor process design and extraction of device parameters. Examples covered include the following technologies. Bipolar, NMOS, CMOS, and BICMOS. Process design project for a bipolar junction transistor. One two-hour lecture lab per week.  
*Requirement: Junior engineering standing.*  
*Co-requisite: EE 381.*
- EE 381. MICROFABRICATION LAB** **THREE CREDITS**  
 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, one four-hour lab per week. Fee: \$100.  
*Requirement: Junior engineering standing.*
- EE 382. MODERN COMMUNICATION SYSTEMS** **FOUR CREDITS**  
 Introduction to probability and statistics and their use in communication systems. Fundamental properties of signals, principles of signal processing, multiplexing, modulator-demodulator design, noise and its effects. Sampling theorem and Nyquist's criteria for pulse shaping; signal distortion over a channel; line coding; signal to noise ratios, and performance comparison of various communication systems. Fee: \$100.  
*Prerequisites: EE 252, EE 337, EGR 214.*
- EE 391. SENIOR PROJECTS I** **ONE CREDIT**  
 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.*



**EE 392. SENIOR PROJECTS II****TWO CREDITS**

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.

*Prerequisite: EE 391.*

**EE 395-396. INDEPENDENT RESEARCH****ONE TO THREE CREDITS EACH**

Independent study and research for advanced students in the field of the major under the direction of a staff member. A research paper at a level significantly beyond a term paper is required.

*Requirement: Approval of department chairperson is required.*

**EE 398. TOPICS IN ELECTRICAL ENGINEERING****THREE CREDITS**

Selected topics in the field of electrical engineering. These may include one or more of the following: control systems; information theory; signals and noise measurements; communication systems; network design and synthesis; magnetic and non-linear circuits; digital and analog systems; computer systems; medical engineering; power systems and generation. May be repeated for credit.

*Requirement: Junior standing in engineering.*

**ENGINEERING****EGR 140. COMPUTER UTILIZATION IN ENGINEERING****THREE CREDITS**

An introduction to computer techniques for engineering design and analysis of components. Mechanisms, systems, and processes. Utilization of computer software packages in problem solving, performance evaluations, demonstration, trouble shooting, and determination of the interrelationships among system components as well as processes. Two hours of lecture and one two-hour lab per week. Fee: \$100.

**EGR 200. INTRODUCTION TO MATERIALS SCIENCE AND ENGINEERING****THREE CREDITS**

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.

**EGR 201. PROFESSIONALISM AND ETHICS****ONE CREDIT**

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. LINEAR SYSTEMS****THREE CREDITS**

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. Two hours of lecture and one two-hour lab per week.

*Prerequisites: EE 211, MTH 112.*

**EGR 222. MECHATRONICS****THREE CREDITS**

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. Two one-hour lecture and one three-hour lab per week. Fee: \$100.

*Prerequisites: EE 211, EE 283.*

**EGR 327. THIN FILM PROCESSING****THREE CREDITS**

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. Two hours of lecture and two hours of lab per week. Fee: \$100.

*Prerequisites: EGR 200, PHY 203.*

**EGR 391. SENIOR PROJECTS I****ONE CREDIT**

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.

*Requirement: Senior standing in engineering.*

**EGR 392. SENIOR PROJECTS II****TWO CREDITS**

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.

*Requirement: Senior standing in engineering.*

**EGR 399. COOPERATIVE EDUCATION****ONE TO SIX CREDITS**

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.*

## ENGINEERING MANAGEMENT

### EGM 320. ENGINEERING PROJECT MANAGEMENT

THREE CREDITS

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.

*Requirement: Junior standing in engineering.*

### EGM 321. QUANTITATIVE ANALYSIS AND PROGRAMMING METHODS

THREE CREDITS

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.

*Requirement: Junior standing in engineering or consent of the instructor.*

### EGM 336. ENGINEERING AND MANAGEMENT MODELS

THREE CREDITS

Discussion of the techniques in and the art of modeling practical problems encountered by engineers and managers.

*Requirement: Junior standing in engineering or consent of the instructor.*

### EGM 391. SENIOR PROJECTS I

ONE CREDIT

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.

### EGM 392. SENIOR PROJECTS II

TWO CREDITS

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.

*Prerequisite: EE 391, EGM 319, or ME 391.*

## ENGLISH

### ENG 101. COMPOSITION

FOUR CREDITS

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

THREE CREDITS

An introduction to literature through critical reading, writing, and discussion of the major forms of literary and cultural expression. Students will explore works in Western and Non-Western literary traditions. Major subtopic areas for the course will include the following: Reading Classical Traditions; Reading Great Works; Reading Cultural Crossroads; and Reading American Experience.

#### *Reading Classical Traditions*

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*

Study of major works since the Renaissance, emphasizing the principal modes of literary expression (poetry, drama, fiction, and film).

#### *Reading Cultural Crossroads*

Study of works emphasizing a variety of cultural values, intercultural relationships, global perspectives, and aesthetic experiences.

#### *Reading American Experience*

Study of works from American Literature, emphasizing the multicultural heritage and nature of American writers and American Culture.

*Prerequisite: ENG 101.*

### ENG 190. PROJECTS IN WRITING AND EDITING

ONE TO THREE CREDITS

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

FOUR CREDITS

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.

*Prerequisite: ENG 101.*

### ENG 202. TECHNICAL AND PROFESSIONAL WRITING

THREE CREDITS

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.

*Prerequisite: ENG 101.*

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| <b>ENG 203. INTRODUCTION TO CREATIVE WRITING</b>                                                                                                                                                                                 | <b>THREE CREDITS</b> |
| Analysis and practice of various forms of creative writing. Study of the writer's tools and choices in creating poetry, short fiction, and dramatic scenes.                                                                      |                      |
| <i>Prerequisite: ENG 101.</i>                                                                                                                                                                                                    |                      |
| <b>ENG 218. WRITING PRACTICUM AND COMPOSITION</b>                                                                                                                                                                                | <b>THREE CREDITS</b> |
| An integration of writing and composition theory and practice for particular audiences.                                                                                                                                          |                      |
| <i>Prerequisite: ENG 101.</i>                                                                                                                                                                                                    |                      |
| <b>ENG 225. COMPARATIVE GRAMMAR</b>                                                                                                                                                                                              | <b>THREE CREDITS</b> |
| A comparative and critical study of traditional, structural, and transformational-generative grammar.                                                                                                                            |                      |
| <i>Prerequisite: ENG 101.</i>                                                                                                                                                                                                    |                      |
| <b>ENG 228. PROFESSIONAL AND WORKPLACE WRITING</b>                                                                                                                                                                               | <b>THREE CREDITS</b> |
| 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. |                      |
| <i>Prerequisite: ENG 101.</i>                                                                                                                                                                                                    |                      |
| <b>ENG 233. SURVEY OF ENGLISH LITERATURE I</b>                                                                                                                                                                                   | <b>THREE CREDITS</b> |
| A study of the major works and movements in English literature from the Anglo-Saxon period through the eighteenth century.                                                                                                       |                      |
| <i>Prerequisite: ENG 101.</i>                                                                                                                                                                                                    |                      |
| <b>ENG 234. SURVEY OF ENGLISH LITERATURE II</b>                                                                                                                                                                                  | <b>THREE CREDITS</b> |
| A study of the major works and movements in English literature from the Romantic movement to the present.                                                                                                                        |                      |
| <i>Prerequisite: ENG 101.</i>                                                                                                                                                                                                    |                      |
| <b>ENG 281. SURVEY OF AMERICAN LITERATURE I</b>                                                                                                                                                                                  | <b>THREE CREDITS</b> |
| Overview of writers, works, and movements represented in indigenous and European colonial writers in North and Central America from the 1490s to the Civil War.                                                                  |                      |
| <i>Prerequisite: ENG 101.</i>                                                                                                                                                                                                    |                      |
| <b>ENG 282. SURVEY OF AMERICAN LITERATURE II</b>                                                                                                                                                                                 | <b>THREE CREDITS</b> |
| Study of major writers, works, and movements from the Civil War to the present.                                                                                                                                                  |                      |
| <i>Prerequisite: ENG 101.</i>                                                                                                                                                                                                    |                      |
| <b>ENG 303. ADVANCED WORKSHOP IN CREATIVE WRITING</b>                                                                                                                                                                            | <b>THREE CREDITS</b> |
| Seminar experience in which students write and critique poetry, fiction, nonfiction, or scripts. Specific genre designated in each course.                                                                                       |                      |
| <i>Prerequisite: ENG 203 or permission of instructor.</i>                                                                                                                                                                        |                      |
| <b>ENG 308. RHETORICAL ANALYSIS AND NONFICTIONAL PROSE WRITING</b>                                                                                                                                                               | <b>THREE CREDITS</b> |
| The study and practice of strategies for producing responsibly written public information, including persuasive and argumentative propositions for particular audiences.                                                         |                      |
| <i>Prerequisite: ENG 101.</i>                                                                                                                                                                                                    |                      |
| <b>ENG 324. HISTORY OF THE ENGLISH LANGUAGE</b>                                                                                                                                                                                  | <b>THREE CREDITS</b> |
| 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.                                                                                 |                      |
| <i>Prerequisite: ENG 101.</i>                                                                                                                                                                                                    |                      |
| <b>ENG 331. STUDIES IN MEDIEVAL ENGLISH LITERATURE</b>                                                                                                                                                                           | <b>THREE CREDITS</b> |
| A study of English literature to 1500, exclusive of Chaucer.                                                                                                                                                                     |                      |
| <i>Prerequisite: ENG 101.</i>                                                                                                                                                                                                    |                      |
| <b>ENG 332. STUDIES IN SIXTEENTH-CENTURY LITERATURE</b>                                                                                                                                                                          | <b>THREE CREDITS</b> |
| The study of texts produced by the English Renaissance, focused on the evolution of literary, dramatic, and cultural works from about 1485 to 1603.                                                                              |                      |
| <i>Prerequisite: ENG 101.</i>                                                                                                                                                                                                    |                      |
| <b>ENG 333. STUDIES IN SEVENTEENTH-CENTURY LITERATURE</b>                                                                                                                                                                        | <b>THREE CREDITS</b> |
| The study of seventeenth-century texts, focused on literary, dramatic, and cultural works from about 1603 to 1660.                                                                                                               |                      |
| <i>Prerequisite: ENG 101.</i>                                                                                                                                                                                                    |                      |
| <b>ENG 334. STUDIES IN EIGHTEENTH-CENTURY LITERATURE</b>                                                                                                                                                                         | <b>THREE CREDITS</b> |
| Study of eighteenth-century authors and culture from about 1660-1820.                                                                                                                                                            |                      |
| <i>Prerequisite: ENG 101.</i>                                                                                                                                                                                                    |                      |
| <b>ENG 335. STUDIES IN ROMANTIC LITERATURE</b>                                                                                                                                                                                   | <b>THREE CREDITS</b> |
| Study of chief poets and prose writers of the Romantic Period.                                                                                                                                                                   |                      |
| <i>Prerequisite: ENG 101.</i>                                                                                                                                                                                                    |                      |

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| <b>ENG 336. STUDIES IN VICTORIAN LITERATURE</b>                                                                                                                                                                                                                                                              | <b>THREE CREDITS</b>        |
| Study of major writers, works, and topics of the Victorian Age.<br><i>Prerequisite: ENG 101.</i>                                                                                                                                                                                                             |                             |
| <b>ENG 340. STUDIES IN CHAUCER</b>                                                                                                                                                                                                                                                                           | <b>THREE CREDITS</b>        |
| A study of selected major and minor works by Chaucer.<br><i>Prerequisite: ENG 101.</i>                                                                                                                                                                                                                       |                             |
| <b>ENG 342. STUDIES IN SHAKESPEARE</b>                                                                                                                                                                                                                                                                       | <b>THREE CREDITS</b>        |
| A study of selected plays by Shakespeare.<br><i>Prerequisite: ENG 101.</i>                                                                                                                                                                                                                                   |                             |
| <b>ENG 350. STUDIES IN THE ENGLISH NOVEL</b>                                                                                                                                                                                                                                                                 | <b>THREE CREDITS</b>        |
| Study of the novel in English, excluding American writers.<br><i>Prerequisite: ENG 101.</i>                                                                                                                                                                                                                  |                             |
| <b>ENG 351. STUDIES IN POSTMODERNISM</b>                                                                                                                                                                                                                                                                     | <b>THREE CREDITS</b>        |
| A study of the major postmodern writers from the 1960s to the present.<br><i>Prerequisite: ENG 101.</i>                                                                                                                                                                                                      |                             |
| <b>ENG 352. STUDIES IN THE AMERICAN NOVEL</b>                                                                                                                                                                                                                                                                | <b>THREE CREDITS</b>        |
| Study of the American novel from its eighteenth-century beginnings to the present.<br><i>Prerequisite: ENG 101.</i>                                                                                                                                                                                          |                             |
| <b>ENG 353. STUDIES IN POSTCOLONIAL LITERATURE</b>                                                                                                                                                                                                                                                           | <b>THREE CREDITS</b>        |
| Study of colonial and postcolonial literature that examines the effects of British imperial pursuits and provides an overview of major issues within postcolonial studies.<br><i>Prerequisite: ENG 101.</i>                                                                                                  |                             |
| <b>ENG 355. STUDIES IN THE MODERN NOVEL</b>                                                                                                                                                                                                                                                                  | <b>THREE CREDITS</b>        |
| Study of twentieth-century texts focused on a particular theme or movement, as determined by the instructor.<br><i>Prerequisite: ENG 101.</i>                                                                                                                                                                |                             |
| <b>ENG 358. STUDIES IN CONTEMPORARY FICTION</b>                                                                                                                                                                                                                                                              | <b>THREE CREDITS</b>        |
| 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.<br><i>Prerequisite: ENG 101.</i> |                             |
| <b>ENG 361. STUDIES IN EARLY ENGLISH DRAMA</b>                                                                                                                                                                                                                                                               | <b>THREE CREDITS</b>        |
| Study of the drama from the tenth century to 1642; reading of plays by medieval and early modern dramatists exclusive of Shakespeare.<br><i>Prerequisite: ENG 101.</i>                                                                                                                                       |                             |
| <b>ENG 365. STUDIES IN MODERN DRAMA</b>                                                                                                                                                                                                                                                                      | <b>THREE CREDITS</b>        |
| Studies in major theatrical genres, themes, and playwrights of modern world drama through the mid-twentieth-century.<br><i>Prerequisite: ENG 101.</i>                                                                                                                                                        |                             |
| <b>ENG 366. STUDIES IN AMERICAN OR BRITISH DRAMA</b>                                                                                                                                                                                                                                                         | <b>THREE CREDITS</b>        |
| A study of major American or British playwrights and movements, focus to be determined by the instructor.<br><i>Prerequisite: ENG 101.</i>                                                                                                                                                                   |                             |
| <b>ENG 368. STUDIES IN CONTEMPORARY DRAMA</b>                                                                                                                                                                                                                                                                | <b>THREE CREDITS</b>        |
| A study of major playwrights and theatrical movements in contemporary world drama from the mid-twentieth-century to today.<br><i>Prerequisite: ENG 101.</i>                                                                                                                                                  |                             |
| <b>ENG 370. STUDIES IN MODERN BRITISH POETRY</b>                                                                                                                                                                                                                                                             | <b>THREE CREDITS</b>        |
| Study of major British poetry of the twentieth century.<br><i>Prerequisite: ENG 101.</i>                                                                                                                                                                                                                     |                             |
| <b>ENG 376. STUDIES IN AMERICAN POETRY</b>                                                                                                                                                                                                                                                                   | <b>THREE CREDITS</b>        |
| Study of major movements and representative figures in modern American poetry.<br><i>Prerequisite: ENG 101.</i>                                                                                                                                                                                              |                             |
| <b>ENG 390. PROJECTS IN WRITING</b>                                                                                                                                                                                                                                                                          | <b>ONE TO THREE CREDITS</b> |
| Independent projects in writing for advanced students.<br><i>Prerequisites: Six credits in advanced writing courses and permission of department chair.</i>                                                                                                                                                  |                             |

**ENG 391-392. SENIOR CAPSTONE PROJECTS** **THREE CREDITS**

An independent project in the area of the student's concentration culminating in a formal written and oral presentation. The project serves as a capstone experience demonstrating the student's learning in the major.

*Prerequisite: Open only to senior English majors.*

**ENG 393. THE TEACHING OF ENGLISH IN SECONDARY SCHOOLS** **FOUR CREDITS**

The course deals with the theory and practice of teaching composition, literature, and English language studies on the secondary school level (grades 7 through 12). Topics include planning, methodology, presentation, and assessment of lessons. The course includes 40 hours of field experiences.

*Prerequisites: Junior standing in English and admission to the Teacher Education Program.*

**ENG 395-396. INDEPENDENT RESEARCH** **ONE TO THREE CREDITS**

Independent study and research for advanced students in the field of the major under the direction of a staff member. A research paper at a level significantly beyond a term paper is required.

*Prerequisite: Approval of department chair is required.*

**ENG 397. Seminar** **THREE CREDITS**

Presentations and discussions of selected topics.

*Prerequisite: Approval of department chair is required.*

**ENG 399. COOPERATIVE EDUCATION** **ONE TO SIX CREDITS**

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.)

*Prerequisites: Sophomore standing, minimum 2.0 cumulative GPA, consent of academic advisor, and approval of placement by the department chairperson.*

**ENG 198/298/398. TOPICS** **VARIABLE CREDIT**

The study of a special topic in language, literature, or criticism.

*Prerequisite: ENG 101.*

## **ENTREPRENEURSHIP**

**ENT 151. INTEGRATED MANAGEMENT EXPERIENCE I** **THREE CREDITS**

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. Same as ACC 151 and ENT 151.

**ENT 152. INTEGRATED MANAGEMENT EXPERIENCE II** **THREE CREDITS**

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. Same as ACC 152 and ENT 152.

*Prerequisite: ACC/BA/ENT 151.*

**ENT 201. NATURE AND ESSENCE OF ENTREPRENEURSHIP** **THREE CREDITS**

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.

**ENT 203. OPPORTUNITY IDENTIFICATION: INNOVATION AND CREATIVITY** **THREE CREDITS**

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** **THREE CREDITS**

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** **THREE CREDITS**

In-depth study of identification and assessment of markets and competition. Sources of information, key analytical techniques, and evaluation strategies are examined.

*Prerequisites: MKT 321.*

**ENT 342. ENTREPRENEURIAL FINANCE** **THREE CREDITS**

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.

*Prerequisites: FIN 341.*

**ENT 361. PRACTICING ENTREPRENEURSHIP** **THREE CREDITS**

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.

*Prerequisites: Senior standing, ENT 201, or permission of the instructor.*

**ENT 362. ENTREPRENEURIAL INTERNSHIP** **THREE CREDITS**

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.

**ENT 384. SMALL BUSINESS CONSULTANCY** **THREE CREDITS**

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** **THREE CREDITS**

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 395-396. INDEPENDENT RESEARCH** **ONE TO THREE CREDITS**

Independent study and research for advanced students in the field of the major under the direction of a staff member. A research paper at a level significantly beyond a term paper is required.

**ENT 399. COOPERATIVE EDUCATION** **ONE TO SIX CREDITS**

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 198/298/398. TOPICS** **VARIABLE CREDIT**

Special offerings designed to introduce students to subjects of current interest in entrepreneurship.

**ENVIRONMENTAL ENGINEERING**

**ENV 305. SOLID WASTE MANAGEMENT** **THREE CREDITS**

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.

*Prerequisites: EES 240, CHM 116 or EES 202, or permission of the instructor.*

**ENV 315. SOILS** **THREE CREDITS**

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. Fee: \$105.

*Prerequisites: EES 211, CHM 116 or EES 202.*

**ENV 321. HYDROLOGY** **FOUR CREDITS**

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. Fee: \$105.

*Prerequisite: EES 211.*

**ENV 322. WATER RESOURCES ENGINEERING** **THREE CREDITS**

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.

*Prerequisite: ENV 321.*

**ENV 330. WATER QUALITY** **FOUR CREDITS**

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. Fee: \$105.

*Prerequisite: CHM 116 or EES 202, EES 240.*

**ENV 332. AIR QUALITY** **THREE CREDITS**

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. Fee: \$105.

*Prerequisite: CHM 116 or EES 202, EES 240.*

- ENV 351. WATER AND WASTEWATER TREATMENT** **FOUR CREDITS**  
 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. Fee: \$105.  
*Prerequisite: ENV 330.*
- ENV 352. ENVIRONMENTAL ENGINEERING HYDRAULICS** **THREE CREDITS**  
 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.  
*Prerequisite: ME 321.*
- ENV 353. AIR POLLUTION CONTROL** **THREE CREDITS**  
 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.  
*Prerequisite: ENV 332.*
- ENV 354. HAZARDOUS WASTE MANAGEMENT** **THREE CREDITS**  
 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.  
*Prerequisite: ENV 351 or permission of the instructor.*
- ENV 373. OCCUPATIONAL HEALTH** **THREE CREDITS**  
 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** **ONE CREDIT**  
 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 in Environmental Engineering and department permission.*
- ENV 392. SENIOR PROJECTS II** **TWO CREDITS**  
 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.  
*Prerequisite: ENV 391.*
- ENV 395-396. INDEPENDENT RESEARCH** **ONE TO THREE CREDITS**  
 Independent student and research for advanced students in the field of their major under the direction of a staff member. A research paper at a level significantly beyond a term paper is required.  
*Requirement: Approval of the department chairperson.*
- ENV 397. SEMINAR** **ONE TO THREE CREDITS**  
 Presentations and discussions of selected topics and projects.  
*Requirement: Senior standing in environmental engineering.*
- ENV 399. COOPERATIVE EDUCATION** **ONE TO SIX CREDITS**  
 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.*
- ENV 198/298/398. TOPICS IN ENGINEERING** **VARIABLE CREDIT**  
 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. Fee: \$105 for Topics courses that incorporate a lab component.  
*Requirement: Permission of the instructor.*

## FINANCE

- FIN 340. INTRODUCTION TO FINANCE** **THREE CREDITS**  
 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. *Junior standing recommended.*
- FIN 341. MANAGERIAL FINANCE** **THREE CREDITS**  
 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. *Junior/Senior standing recommended.*

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| <b>FIN 230. MONEY AND BANKING</b>                                                                                                                                                                                                                                                                                                    | <b>THREE CREDITS</b>        |
| 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. |                             |
| <b>FIN 342. PROPERTY AND LIFE INSURANCE</b>                                                                                                                                                                                                                                                                                          | <b>THREE CREDITS</b>        |
| A study of principles of life, health, property, and liability insurance applied to the needs of individuals and organizations.<br><i>Prerequisite: FIN 341.</i>                                                                                                                                                                     |                             |
| <b>FIN 343. INVESTMENTS AND PORTFOLIO MANAGEMENT</b>                                                                                                                                                                                                                                                                                 | <b>THREE CREDITS</b>        |
| 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.<br><i>Junior or Senior standing recommended.</i>                  |                             |
| <b>FIN 345. LONG-RANGE FINANCIAL PLANNING</b>                                                                                                                                                                                                                                                                                        | <b>THREE CREDITS</b>        |
| 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.<br><i>Prerequisites: FIN 341 and FIN 343.</i>                            |                             |
| <b>FIN 395-396. INDEPENDENT RESEARCH</b>                                                                                                                                                                                                                                                                                             | <b>ONE TO THREE CREDITS</b> |
| <b>FIN 397. SEMINAR</b>                                                                                                                                                                                                                                                                                                              | <b>ONE TO THREE CREDITS</b> |
| <b>FIN 198/298/398. TOPICS</b>                                                                                                                                                                                                                                                                                                       | <b>VARIABLE CREDIT</b>      |
| Special offerings designed to introduce students to subjects of current interest in accounting that are not covered in other courses.                                                                                                                                                                                                |                             |

### **FIRST-YEAR FOUNDATIONS**

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| <b>FYF 101. FIRST-YEAR FOUNDATIONS</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>THREE CREDITS</b> |
| 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.<br><br>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.<br><br>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. |                      |

### **HISTORY**

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| <b>HST 101. THE HISTORICAL FOUNDATIONS OF THE MODERN WORLD</b>                                                                                                                                                                                                  | <b>THREE CREDITS</b> |
| 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.           |                      |
| <b>HST 102. EUROPE BEFORE 1600</b>                                                                                                                                                                                                                              | <b>THREE CREDITS</b> |
| A survey of European history from Ancient times through the Reformation.                                                                                                                                                                                        |                      |
| <b>HST 125. AMERICAN HISTORY I</b>                                                                                                                                                                                                                              | <b>THREE CREDITS</b> |
| A survey of North American and U.S. history from European-Native American contact to the Civil War.                                                                                                                                                             |                      |
| <b>HST 126. AMERICAN HISTORY II</b>                                                                                                                                                                                                                             | <b>THREE CREDITS</b> |
| A survey of U.S. history from the Civil War to the present.                                                                                                                                                                                                     |                      |
| <b>HST 297. HISTORICAL RESEARCH AND METHODS SEMINAR</b>                                                                                                                                                                                                         | <b>THREE CREDITS</b> |
| 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.                                                                  |                      |
| <b>HST 321. AMERICAN CULTURAL AND SOCIAL HISTORY (A)</b>                                                                                                                                                                                                        | <b>THREE CREDITS</b> |
| 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. |                      |
| <b>HST 324. AMERICAN ECONOMIC HISTORY (A)</b>                                                                                                                                                                                                                   | <b>THREE CREDITS</b> |
| A study 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.                                       |                      |
| <b>HST 325. DIVERSITY IN PENNSYLVANIA HISTORY (A)</b>                                                                                                                                                                                                           | <b>THREE CREDITS</b> |
| A study of the history of the Commonwealth with particular focus on ethnic and racial diversity.                                                                                                                                                                |                      |
| <b>HST 328. HISTORY OF THE FOREIGN POLICY OF THE UNITED STATES (A)</b>                                                                                                                                                                                          | <b>THREE CREDITS</b> |
| A selective treatment of major themes in American foreign policy from the founding of the Republic to the present.                                                                                                                                              |                      |



- HST 329. AMERICAN WOMEN'S HISTORY (A)** **THREE CREDITS**  
 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)** **THREE CREDITS**  
 Discovery, exploration, and settlement; development of social, political, religious, and intellectual institutions; independence and political reorganization.
- HST 332. THE NEW NATION (A)** **THREE CREDITS**  
 A study of America's social, cultural, economic, and political development in the first generations of nationhood, 1783-1840.
- HST 333. VICTORIAN AMERICA (A)** **THREE CREDITS**  
 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)** **THREE CREDITS**  
 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)** **THREE CREDITS**  
 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 sixty years have altered this role.
- HST 341-342. HISTORY OF GREAT BRITAIN AND THE BRITISH EMPIRE AND COMMONWEALTH (N)** **THREE CREDITS EACH**  
 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 will cover the consequences of the industrial revolution and the evolution of the Empire into the Commonwealth.
- HST 345. HISTORY OF NORTHEASTERN EUROPE (N)** **THREE CREDITS**  
 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)** **THREE CREDITS**  
 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)** **THREE CREDITS**  
 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 REFORMATION (N)** **THREE CREDITS**  
 Within the political and economic framework of the period, study will be made of the culture of the Renaissance, the religious reforms and conflicts resulting from the crisis in the sixteenth century.
- HST 353. AGE OF ABSOLUTISM (N)** **THREE CREDITS**  
 The political, social, economic, intellectual, and cultural development of Europe and dependencies from 1600 to about 1750.
- HST 354. THE ERA OF THE FRENCH REVOLUTION AND NAPOLEON (N)** **THREE CREDITS**  
 A study of the structure of the Ancien Regime and an examination of the causes, events, and consequences of the French Revolution culminating in the Napoleonic Empire.
- HST 355. EUROPE IN THE NINETEENTH CENTURY (N)** **THREE CREDITS**  
 A study of the political, social, and cultural development of Europe from the Congress of Vienna to World War I.
- HST 356. WORLD WAR I AND VERSAILLES EUROPE (N)** **THREE CREDITS**  
 Examination of the international causes of World War I, the Treaties of Versailles, and the new Europe that resulted, leading to the outbreak of World War II in 1939.
- HST 357. THE WORLD SINCE 1945 (N)** **THREE CREDITS**  
 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)** **THREE CREDITS**  
 Consideration of the causes of the war, military strategy and tactics, diplomatic interests of the participants, and resulting cold war problems.
- HST 396-396. INDEPENDENT RESEARCH** **ONE TO THREE CREDITS**  
 Independent study and research for advanced students in the field of the major under the direction of a staff member. A research paper at a level significantly beyond a term paper is required.  
*Prerequisite: Approval of department chairperson.*

**HST 397. SEMINAR** **THREE CREDITS**  
Presentations and discussions of selected topics.  
*Prerequisite: Approval of instructor is required.*

**HST 399. COOPERATIVE EDUCATION** **ONE TO SIX CREDITS**  
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.)  
*Prerequisites: Sophomore standing, minimum 2.0 cumulative GPA, consent of academic advisor, and approval of placement by the department chairperson.*

**HST 198/298/398. TOPICS** **VARIABLE CREDIT**  
Special topics in history. This course will be offered from time to time when interest and demand justify it.

## INTEGRATIVE MEDIA

**IM 101. INTEGRATIVE MEDIA FOUNDATIONS I** **THREE CREDITS**  
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. Fee: \$30.

**IM 201. INTEGRATIVE MEDIA FOUNDATIONS II** **THREE CREDITS**  
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. Fee: \$50.  
*Prerequisite: IM 101.*

**IM 255. INTEGRATIVE MEDIA PRACTICUM** **ONE TO TWO CREDITS**  
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, Studio020. 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** **THREE CREDITS**  
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. Fee: \$50.  
*Prerequisite: IM 201.*

**IM 302. INTEGRATIVE MEDIA PRINCIPLES OF INTERACTIVITY** **THREE CREDITS**  
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. Fee: \$50.  
*Prerequisite: IM 201.*

**IM 320. INTEGRATIVE MEDIA CONCEPT DEVELOPMENT AND PRACTICES** **THREE CREDITS**  
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. Fee: \$50.  
*Prerequisite: IM 201.*

**IM 350. 3-DIMENSIONAL ENVIRONMENTS AND ANIMATION** **THREE CREDITS**  
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.) Fee: \$50.  
*Prerequisite: IM students—IM 301; CS students—CS 125.*

**IM 355. DIGITAL AUDIO PRINCIPLES AND EDITING** **THREE CREDITS**  
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. Fee: \$50.  
*Prerequisite: IM 201.*

**IM 368. 3-DIMENSIONAL GAME DEVELOPMENT** **THREE CREDITS**  
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. Fee: \$50  
*Prerequisite: IM 350 (CS 366) or CS 367.*

**IM 391. INTEGRATIVE MEDIA PROJECT I****THREE CREDITS**

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. Fee: \$50.

*Prerequisite: IM 320.*

**IM 392. INTEGRATIVE MEDIA PROJECT II****THREE CREDITS**

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. Fee: \$50.

*Prerequisite: IM 391.*

**IM 198/298/398. TOPICS****VARIABLE CREDIT**

A study of topics of special interest not extensively treated in regularly offered courses. Fee: \$50.

**IM 399. COOPERATIVE EDUCATION****ONE TO SIX CREDITS**

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.) Integrative Media majors will be required to complete a minimum of 3 credit hours of Cooperative Education.

*Prerequisites: 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****THREE CREDITS**

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. Fee: \$50.

*Prerequisite: IM 391.*

**INTERCOLLEGIATE ATHLETICS****IA 101. INTERCOLLEGIATE ATHLETICS****NO CREDIT**

This course is limited to students participating in intercollegiate athletics during their sport season. This course may be repeated.

**INTERNATIONAL STUDIES****IS 380. INTERNATIONAL STUDIES SENIOR PROJECT****THREE CREDITS**

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.

*Prerequisites: Senior standing and permission of the instructor.*

**LEADERSHIP****LDR 201. INTRODUCTION TO LEADERSHIP****THREE CREDITS**

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 the 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 & PRACTICE****THREE CREDITS**

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 359. BUSINESS LEADERSHIP THEORY AND PRACTICE****THREE CREDITS**

This course offers the student an introduction to leadership theory and practice. 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.

*Prerequisites: BA 151, MGT 351, or permission of the instructor.*

**LDR 361. CAPSTONE IN LEADERSHIP****THREE CREDITS**

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.

**MANAGEMENT****MGT 257. MANAGEMENT INFORMATION SYSTEMS****THREE CREDITS**

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.

**MGT 309. BUSINESS CORRESPONDENCE AND REPORTS** **THREE CREDITS**

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 351. MANAGEMENT OF ORGANIZATIONS AND PEOPLE** **THREE CREDITS**

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.

*Junior or Senior standing or ACC/BA/ENT 151 recommended.*

**MGT 352. PRODUCTION AND OPERATIONS MANAGEMENT** **THREE CREDITS**

Principles of decision-making, systems design, introduction to quantitative tools of analysis, and fundamentals of production, inventory, financial, and distribution management.

*Prerequisite: BA 319 and MGT 351.*

**MGT 354. ORGANIZATIONAL BEHAVIOR** **THREE CREDITS**

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.

*Prerequisite: MGT 351.*

**MGT 356. THE SOCIAL RESPONSIBILITY OF BUSINESS** **THREE CREDITS**

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.

*Junior standing recommended.*

**MGT 358. INTERNATIONAL BUSINESS** **THREE CREDITS**

An introduction to the field of international business. Topic 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.

*Prerequisites: MGT 351 and senior standing.*

**MGT 395-396. INDEPENDENT RESEARCH** **ONE TO THREE CREDITS**

Independent study and research for advanced students in the field of the major under the direction of a staff member. A research paper at a level significantly beyond a term paper is required.

**MGT 395-396. INDEPENDENT RESEARCH** **ONE TO THREE CREDITS**

**MGT 397. SEMINAR** **ONE TO THREE CREDITS**

**MGT 198/298/398. TOPICS** **VARIABLE CREDIT**

Special offerings designed to introduce students to subjects of current interest in accounting that are not covered in other courses.

## MARKETING

**MKT 321. MARKETING** **THREE CREDITS**

An introduction to the planning and activities of marketing. Emphasis on budgeting, product conception and development, pricing, distribution channels, and promotion.

**MKT 322. ADVERTISING** **THREE CREDITS**

A managerial analysis of the decisions involved in advertising. Topics include research, ethics, campaign design, copy, art, media, budgeting, and effectiveness.

*Prerequisite: MKT 321.*

**MKT 324. RETAILING** **THREE CREDITS**

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.

*Prerequisite: MKT 321.*

**MKT 326. THE SELLING PROCESS** **THREE CREDITS**

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.

*Prerequisite: MKT 321.*

**MKT 327. MARKETING SEMINAR** **THREE CREDITS**

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, marketing research, new product development, international marketing, and sports marketing.

*Prerequisite: MKT 321.*

**MKT 328. CONSUMER BEHAVIOR** **THREE CREDITS**

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.

*Prerequisite: MKT 321.*

**MKT 395-396. INDEPENDENT RESEARCH**

**ONE TO THREE CREDITS**

**MKT 198/298/398. TOPICS**

**VARIABLE CREDIT**

Lectures on subjects of special current interest in business that are not covered in other courses.

## **MATHEMATICS**

**MTH 84. COLLEGE PREPARATORY MATHEMATICS**

**THREE CREDITS**

Designed for students who need to review basic mathematics skills before taking MTH 94, 101, or 103. Topics include a review of arithmetic, introductory algebra, and quantitative reasoning. Only P (passed) or F (failed) grades are given. **Credits in this course will not be counted toward the graduation requirement in any degree program at Wilkes.**

**MTH 94. COLLEGE ALGEBRA**

**THREE CREDITS**

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**

**THREE CREDITS**

A course in advanced algebra and trigonometry designed to prepare students for calculus. Topics include functions, inverse functions, logarithms, exponentials, and trigonometry.

**Prerequisite:** *MTH 94 or meet Department of Mathematics and Computer Science placement criteria.*

**MTH 101. SOLVING PROBLEMS USING MATHEMATICS**

**FOUR CREDITS**

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**

**THREE CREDITS**

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.

**Prerequisite:** *Admission to the Teacher Education Program or consent of the instructor.*

**MTH 104. MATHEMATICS FOR ELEMENTARY SCHOOL TEACHERS II**

**THREE CREDITS**

A continuation of MTH 103. Topics include elementary probability, statistics, and geometry. Offered every spring.

**Prerequisite:** *Admission to the Teacher Education Program or consent of the instructor.*

**MTH 107. BUSINESS MATHEMATICS**

**THREE CREDITS**

Designed for business and accounting majors. Emphasis on mathematical modeling in the business environment. Topics include algebraic functions, mathematics of finance, systems of linear equations, linear programming, and average and instantaneous rates of change.

**Prerequisite:** *MTH 94 or meet the Department of Mathematics and Computer Science placement criteria.*

**MTH 111. CALCULUS I**

**FOUR CREDITS**

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.

**Prerequisites:** *Student must have completed MTH 100 or meet Department of Mathematics and Computer Science placement criteria.*

**MTH 112. CALCULUS II**

**FOUR CREDITS**

A continuation of MTH 111. Topics include inverse functions, techniques of integration, applications of the integral, and infinite sequences and series.

**Prerequisite:** *MTH 111.*

**MTH 114. CALCULUS AND MODELING FOR THE BIOLOGICAL AND HEALTH SCIENCES**

**FOUR CREDITS**

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.

**Prerequisite:** *MTH 111.*

**MTH 150. ELEMENTARY STATISTICS**

**THREE CREDITS**

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.

**Prerequisite:** *MTH 94 or two years of high school algebra.*

**MTH 202. SET THEORY AND LOGIC**

**FOUR CREDITS**

Provides a foundation in logic and set theory for upper-level courses in mathematics and computer science. Topics include the logic and language of proofs, the axiomatic method, sets, relations, and functions. Offered every fall

**Prerequisite:** *MTH 112 or consent of the instructor.*

**MTH 211. INTRODUCTION TO ORDINARY DIFFERENTIAL EQUATIONS**

**FOUR CREDITS**

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

**Prerequisite:** *MTH 112.*

- MTH 212. MULTIVARIABLE CALCULUS** **FOUR CREDITS**  
 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.  
*Prerequisite: MTH 112.*
- MTH 214. LINEAR ALGEBRA** **THREE CREDITS**  
 An axiomatic approach to vector spaces, linear transformations, systems of linear equations, Eigen values, and Eigen vectors. Offered every spring.  
*Prerequisite: MTH 112 or consent of the instructor.*
- MTH 231. DISCRETE MATHEMATICS** **THREE CREDITS**  
 Designed to provide background in discrete mathematics for upper level courses in computer science. Topics include basic counting principles, introduction to recurrence relations and their application in analyzing algorithms, basic properties of graphs, trees, and networks, AND, OR, and NOT gates and designing combinatorial circuits, finite-state automata, transducers, and Turing machines. Offered every spring.  
*Prerequisites: MTH 202 and CS 125 or consent of the instructor.*
- MTH 303. THE TEACHING OF MATHEMATICS IN MIDDLE LEVEL AND SECONDARY SCHOOLS** **FOUR CREDITS**  
 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.  
*Prerequisite: MTH 111.*
- MTH 311. REAL ANALYSIS** **FOUR CREDITS**  
 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.  
*Prerequisite: MTH 202 or consent of the instructor.*
- MTH 314. COMPLEX ANALYSIS** **THREE CREDITS**  
 Complex functions, limit, continuity, analytic functions, power series, contour integration, Laurent expansion, singularities, and residues. Offered when demands warrants.  
*Prerequisite: MTH 212 or consent of the instructor.*
- MTH 331. ABSTRACT ALGEBRA I** **FOUR CREDITS**  
 A rigorous study of elementary number theory, groups, rings, and fields. Offered in the fall semester of even-numbered years.  
*Prerequisite: MTH 202 or consent of the instructor.*
- MTH 343. GEOMETRY** **THREE CREDITS**  
 A study of selected topics from Euclidean and non-Euclidean geometry. Offered in the fall semester of even-number years.  
*Prerequisite: MTH 202 or consent of the instructor.*
- MTH 351. PROBABILITY AND MATHEMATICAL STATISTICS I** **THREE CREDITS**  
 Random variables, probability distributions, expectation and limit theorems, introduction to confidence intervals and hypotheses testing. Offered every fall.  
*Prerequisites: MTH 112 or consent of the instructor.*
- MTH 352. PROBABILITY AND MATHEMATICAL STATISTICS II** **THREE CREDITS**  
 Hypothesis testing, non-parametric methods, multivariate distributions, introduction to linear models. Offered in the spring semester of odd-numbered years when demand warrants.  
*Prerequisite: MTH 351 or consent of the instructor.*
- MTH 354. STATISTICAL METHODOLOGY** **THREE CREDITS**  
 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.  
*Prerequisite: MTH 150 or MTH 351 or consent of the instructor.*
- MTH 360. LINEAR PROGRAMMING** **THREE CREDITS**  
 Graphical linear programming, simplex algorithm, and sensitivity analysis. Special L.P. models such as the transportation problem, transshipment problem, and assignment problem. May include integer programming, branch and bound algorithm, geometric programming, and goal programming. Cross-listed with CS 360.  
*Prerequisite: CS 125 and MTH 111.*
- MTH 361. APPLIED MATHEMATICS I** **THREE CREDITS**  
 Intended for physical science and engineering students. Topics include inner product spaces, operator algebra, Eigen value problems, Sturm-Liouville theory, Fourier series, and partial differential equations. Offered in the fall semester of odd-numbered years when demand warrants.  
*Prerequisites: MTH 211 and 212, or consent of the instructor.*

- MTH 362. APPLIED MATHEMATICS II** **THREE CREDITS**  
 Intended for physical science and engineering students. Topics include systems of linear differential equations, nonlinear differential equations, qualitative, numerical, and finite difference methods, theorems of Green and Stokes, and the Divergence Theorem. Offered in the spring semester of even-numbered years when demand warrants.  
*Prerequisites: MTH 211 and 212 or consent of the instructor.*
- MTH 363. OPERATIONS RESEARCH** **THREE CREDITS**  
 A survey of operations research topics such as decision analysis, inventory models, queuing models, dynamic programming, network models, heuristic models, and non-linear programming. Cross-listed with CS 363. Offered in the spring semester of odd-numbered years when demand warrants.  
*Prerequisite: MTH 112 and CS 125.*
- MTH 364. NUMERICAL ANALYSIS** **THREE CREDITS**  
 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.  
*Prerequisites: MTH 211 and CS 125 (or equivalent programming experience).*
- MTH 365. NUMERICAL LINEAR ALGEBRA** **THREE CREDITS**  
 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.  
*Prerequisites: MTH 214 and CS 125 (or equivalent programming experience)*
- MTH 391. SENIOR SEMINAR** **ONE CREDIT**  
 Presentations and discussions of selected topics in mathematics, conducted by students and faculty.  
*Prerequisites: MTH 311 or MTH 331 and senior standing in mathematics.*
- MTH 392. SENIOR SEMINAR** **TWO CREDITS**  
 Presentations and discussions of selected topics in mathematics, conducted by students and faculty.  
*Prerequisites: MTH 311 or MTH 331 and senior standing in mathematics.*
- MTH 395-396. INDEPENDENT STUDY IN MATHEMATICS** **VARIABLE CREDIT**  
 Individual study in a chosen area of mathematics under the supervision of a faculty member. May be repeated for credit.  
*Requirement: Approval of the department chairperson.*
- MTH 397. SEMINAR** **ONE TO THREE CREDITS**  
 Presentations and discussions of selected topics  
*Requirement: Approval of the department chairperson.*
- MTH 399. COOPERATIVE EDUCATION** **ONE TO SIX CREDITS**  
 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** **THREE CREDITS**  
 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.  
*Prerequisite: MTH 214 and MTH 311.*
- MTH 432. ABSTRACT ALGEBRA II** **THREE CREDITS**  
 A continuation of MTH 331. Polynomial rings, ideals, field extensions, and Galois Theory. Offered when demand warrants.  
*Prerequisites: MTH 331.*
- MTH 442. TOPOLOGY** **THREE CREDITS**  
 Metric spaces, topological spaces, countability and separation axioms, compactness, connectedness, product spaces. Offered when demand warrants.  
*Prerequisite: MTH 311 or consent of the instructor.*
- MTH 470. READING COURSE** **ONE TO THREE CREDITS**  
 Advanced study of special topics under the supervision of a faculty member. Designed for students who have completed a substantial amount of course work in mathematics. May be repeated for credit.  
*Requirements: Senior standing in mathematics and approval of the department chairperson.*
- MTH 198/298/398/498. TOPICS IN MATHEMATICS** **VARIABLE CREDITS**  
 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. Offered when demand warrants.  
*Prerequisite: Varies with selected topic.*

## MECHANICAL ENGINEERING

### ME 175. INTRODUCTION TO MANUFACTURING AND MACHINING

ONE CREDIT

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. Three-hour lab each week. Fee: \$100.

### ME 180. CADD LAB

ONE CREDIT

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. Two hours of lecture and lab per week. Fee: \$100.

### ME 215. INTRODUCTION TO MANUFACTURING PROCESSES

THREE CREDITS

An introduction to manufacturing that 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.

*Prerequisites: EGR 200, ME 180, ME 232.*

### ME 231. STATICS AND DYNAMICS I

THREE CREDITS

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.

*Prerequisite: PHY 201.*

*Co-requisite: MTH 112.*

### ME 232. STRENGTH OF MATERIALS

THREE CREDITS

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.

*Prerequisite: ME 231.*

### ME 234. STATICS AND DYNAMICS II

THREE CREDITS

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.

*Prerequisite: ME 231.*

### ME 298. TOPICS IN MECHANICAL ENGINEERING

ONE TO THREE CREDITS

Selected topics in the field of mechanical engineering.

*Requirements: Sophomore standing and permission of the instructor.*

### ME 312. MANUFACTURING SYSTEM ENGINEERING

THREE CREDITS

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.

*Requirement: Junior standing in mechanical engineering.*

### ME 317. ROBOTICS

THREE CREDITS

The analysis and design of robots. Class covers the mechanical principles that govern 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.

*Requirement: Senior standing in mechanical engineering.*

### ME 321. FLUID MECHANICS

THREE CREDITS

Thermodynamics and dynamic principles applied to fluid behavior and to ideal, viscous, and compressible fluids under internal and external flow conditions. Cross-listed with PHY 213.

*Prerequisite: ME 231.*

*Co-requisite: ME 322.*

### ME 322. ENGINEERING THERMODYNAMICS

THREE CREDITS

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.

*Prerequisite: MTH 112.*

### ME 323. FLUID MECHANICS LABORATORY

ONE CREDIT

Experiments with and analysis of basic fluid phenomena, hydrostatic pressure, Bernoulli theorem, laminar and turbulent flow, pipe friction, and drag coefficient. One three-hour lab per week. Fee: \$100.

*Requirement: Concurrent with or after ME 321.*

*Requirement: Senior standing in mechanical engineering.*



**ME 324. HEAT AND MASS TRANSFER****THREE CREDITS**

Fundamental principles of heat transmission by conduction, convection, and radiation; application of the laws of thermodynamics; mass transfer; application of these principles to the solution of engineering problems.

*Prerequisites: ME 322 and MTH 211.*

**ME 325. ENERGY SYSTEMS****THREE CREDITS**

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.

*Prerequisite: ME 322.*

**ME 326. HEAT TRANSFER LABORATORY****ONE CREDIT**

Basic heat transfer modes are demonstrated experimentally. This includes conduction, convection, and radiation of heat as well as fin and heat exchanger. One two-hour lab per week. Fee: \$100.

*Requirement: Concurrent with or after ME 324.*

**ME 328. COMBUSTION ENGINES****THREE CREDITS**

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.

*Prerequisites: ME 322.*

**ME 332. VIBRATION OF DYNAMIC SYSTEMS****THREE CREDITS**

An introductory course in mechanical vibration dealing with free and forced vibration of single and multi-degrees of freedom for linear and nonlinear systems. Two hours of lecture and two hours of lab per week.

*Prerequisites: ME 324, MTH 211.*

**ME 333. MACHINE DESIGN I****THREE CREDITS**

The first of a two-course sequence in design of machine elements dealing with theories of deformation and failure, strength and endurance limit, fluctuating stresses, fatigue and design under axial, bending, torsional, and combined stresses. A study of fasteners, welds, gears, ball roller bearings, belts, chains, clutches, and brakes.

*Prerequisites: ME 232.*

**ME 335. ENGINEERING MODELING AND ANALYSIS****THREE CREDITS**

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. Two hours of lecture and two hours of lab per week.

*Prerequisite: ME 232.*

*Co-requisite: MTH 211.*

**ME 337. MICRO-ELECTRO-MECHANICAL SYSTEMS ENGINEERING****THREE CREDITS**

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. Two hours of lecture and three hours of lab per week. Fee: \$100.

*Requirement: Junior standing in engineering.*

*Co-requisite: EGR 222.*

**ME 338. MACHINE DESIGN II****THREE CREDITS**

The second of a two-course sequence in design of machine elements dealing with theories of deformation and failure, strength and endurance limit, fluctuation stresses, fatigue and design under axial, bending, torsional, and combined stresses. A study of fasteners, welds, gears, ball roller bearings, belts, chains, clutches, and brakes.

*Prerequisites: ME 333.*

**ME 340. HEATING, VENTILATION, AND AIR CONDITIONING****THREE CREDITS**

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.

*Prerequisite: ME 322.*

**ME 384. MECHANICAL DESIGN LABORATORY****THREE CREDITS**

A laboratory for the development of hands-on experience dealing with open-ended problems in mechanical systems. Emphasis on experimental performance, data collection, evaluations, analysis, and design. Two hours of lecture and four hours of lab per week. Fee: \$100.

*Requirement: Junior standing in engineering.*

*Prerequisite: ME 232.*

**ME 391. SENIOR PROJECTS I****ONE CREDIT**

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.

*Requirement: Senior standing in mechanical engineering.*

**ME 392. SENIOR PROJECTS II****TWO CREDITS**

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 is required.

*Prerequisites: ME 391.*

**ME 395-396. INDEPENDENT RESEARCH****ONE TO THREE CREDITS**

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.

*Requirements: Senior standing in mechanical engineering and approval of the department chairperson is required.*

**ME 397. SEMINAR****ONE TO THREE CREDITS**

Presentations and discussions of selected topics.

*Requirement: Senior standing in mechanical engineering or by special departmental permission.*

**ME 398. TOPICS IN MECHANICAL ENGINEERING****ONE TO THREE CREDITS**

Selected topics in the field of mechanical engineering. These may include one or more of the following: control systems, automation, robotics, manufacturing systems, solid mechanics, energy systems, fluid flow, acoustics, computer systems, and bio-mechanics. May be repeated for credit

*Requirements: Junior or senior standing in mechanical engineering.*

**MILITARY SCIENCE (ARMY ROTC)****MIL 100. PHYSICAL FITNESS TRAINING****ONE CREDIT**

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, Wednesday, and Friday at the King's College Scandlon Fitness Center and are one hour each in duration.

**MIL 211 & 212. CONCEPTS OF LEADERSHIP I AND II****ONE CREDIT EACH**

Instruction focuses on providing a basic understanding of the Army and general military knowledge and skills while concentrating on leadership skills and civic responsibilities important to everyone. Classes are one hour each week.

**MIL 221 & 222. CONCEPTS OF LEADERSHIP I AND II****TWO CREDITS EACH**

Instruction is designed to familiarize students with basic military leadership at the junior leader and immediate supervisor level. Classes meet two hours each.

**MIL 231 & 232. BASIC MILITARY LEADERSHIP I AND II****TWO CREDITS EACH**

Instruction focuses on continued leadership development. Students are trained and evaluated on developing, managing, and presenting training to the MS I and II cadets. The goal of the MS III year is to prepare students for the Leadership Development Assessment. Classes are two hours each week.

*Prerequisite: Advanced placement credit.*

**MIL 241 & 242. ADVANCED MILITARY LEADERSHIP I AND II****TWO CREDITS EACH**

This class focuses on hands-on application and reinforcement of classroom instruction as well as teaching weapons, first aid, land navigation, and tactical leadership. This class meets at the University of Scranton for two hours each week; it is highly recommended for students in the basic course and is required for students in the advanced course.

**MIL 251 & 252. LEADERSHIP APPLICATION LABORATORY****NO CREDIT**

This class focuses on hands-on application and reinforcement of classroom instruction as well as teaching weapons, first aid, land navigation, and tactical leadership. This class meets at the University of Scranton for two hours each week; it is highly recommended for students in the basic course and is required for students in the advanced course.

**MUSIC****MUS 100 – 400. APPLIED PERFORMANCE****ONE CREDIT OR TWO CREDITS**

Instruction offered in all keyboard, band, and orchestral instruments, guitar, and voice. Individual instruction. Select areas conduct a weekly master class for discussion and performance; participation is required. Fee: \$360 (1 cr.); \$720 (2 cr.)

- MUS 100. Freshman level
- MUS 200. Sophomore level
- MUS 300. Junior level
- MUS 400. Senior level

*Prerequisite: Permission of the instructor.*

**MUS 101. INTRODUCTION TO MUSIC I****THREE CREDITS**

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; Music in the United States; and The History of American Popular Music.

*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** **THREE CREDITS**  
 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** **THREE CREDITS**  
 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.  
*Prerequisite: Familiarity with music notation or MUS 102.*
- MUS 104. MUSIC THEORY II** **ONE CREDIT OR TWO CREDITS**  
 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.  
*Prerequisite: MUS 103 or placement by a diagnostic exam.*
- MUS 110. MUSIC, THE ARTS, SOCIETY, AND IDEAS** **THREE CREDITS**  
 This course presents a multicultural study of music in the context of the humanistic tradition.
- MUS 121. WILKES CIVIC BAND** **ZERO OR THREE CREDITS**  
 Large symphonic band and small wind ensemble experience. The Wilkes Civic Band presents a minimum of two concerts per year with programming focusing on standards of the band repertoire, which may include contemporary and non-Western literature for large symphonic band. Students acquire and refine skills in the areas of reading musical notation, good tone production on his or her chosen instruments, and precision in all aspects of musical performance appropriate to a large instrumental ensemble setting. Membership is open to all members of the University and surrounding community, by audition. May be repeated for credit.  
*Prerequisite: Permission of the instructor.*
- MUS 125. UNIVERSITY CHORUS** **ZERO OR THREE CREDITS**  
 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.  
*Prerequisite: Permission of the instructor.*
- MUS 126. CHAMBER SINGERS** **ONE-HALF CREDIT**  
 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.  
*Prerequisite: Permission of the instructor.*
- MUS 127. JAZZ ENSEMBLE** **ZERO OR THREE CREDITS**  
 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.
- MUS 128. CHAMBER PERFORMANCE** **ONE CREDIT**  
 Students will study and publicly perform chamber literature appropriate to their instruments. Coaching and supervision by faculty members, as assigned.  
*Prerequisite: Permission of the instructor.*
- MUS 131. UNIVERSITY ORCHESTRA** **ZERO OR THREE CREDITS**  
 Open to all members of the University community, by audition. The orchestra performs concerts of chamber and symphonic literature throughout the year. May be repeated for credit.  
*Prerequisite: Permission of the instructor.*
- MUS 210. MUSIC HISTORY I: ANCIENT THROUGH BAROQUE** **THREE CREDITS**  
 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.  
*Prerequisites: MUS 103 or permission of the instructor.*
- MUS 211. MUSIC HISTORY II: CLASSICAL THROUGH TWENTY-FIRST CENTURY** **THREE CREDITS**  
 A study of the history of music and the genres, styles, and forms of the stylistic periods of musical composition, Classical through 21<sup>st</sup> Century, and the movements, eras, and themes associated with these periods.  
*Prerequisite: MUS 103 or permission of the instructor.*
- MUS 298. TOPICS** **THREE CREDITS**  
 A study in topics of special interest not extensively treated in regularly offered courses.
- MUS 395-396. INDEPENDENT RESEARCH** **ONE TO THREE CREDITS**  
 Independent study and research for advanced students in music under the direction of a staff member. A research paper at a more substantial level beyond a term paper is required.  
*Prerequisite: Approval of the department chairperson.*

## NURSING

### NSG 171. HEALTH CARE TERMINOLOGY

ONE CREDIT

This course is designed to have students study terms common to the health care professions. The emphasis is on analysis and understanding rather than on memorization.

### NSG. 200 PRINCIPLES OF NORMAL NUTRITION

THREE CREDITS

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.

*Co-requisites: NSG 210, NSG 211, PHY 170.*

### NSG 210. PRINCIPLES OF NURSING: INDIVIDUAL, FAMILY, AND COMMUNITY

SIX CREDITS

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. Fee: \$135.

*Prerequisites: BIO 113, BIO 115-116, ENG 101, NSG 171, and PSY 101 and SOC 101 or ANT 101.*

*Co-requisites: NSG 200, NSG 211, PHY 170.*

### NSG 211. PHYSICAL ASSESSMENT

THREE CREDITS

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.*

### NSG 212. NURSING CARE OF THE ADULT CLIENT I: INDIVIDUAL, FAMILY, AND COMMUNITY

FOUR CREDITS

The nursing process is utilized in assisting adults and their families within their communities to achieve optimum health and to resolve common health problems. 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. Fee: \$135.

*Prerequisites: BIO 113, BIO 115, BIO 116, ENG 101, NSG 171, NSG 200, NSG 210, NSG 211, PHY 170, PSY 101, and SOC 101 or ANT 101, and ANT 102, ANT 212, SOC 251, or SOC 263.*

*Co-requisites: EES 242, NSG 213, NSG 214.*

### NSG 213. NURSING CARE OF THE PSYCHIATRIC MENTAL HEALTH CLIENT: INDIVIDUAL, FAMILY, AND COMMUNITY

FOUR CREDITS

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. 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. Fee: \$135.

*Prerequisites: BIO 113, BIO 115, BIO 116, ENG 101, NSG 171, NSG 200, NSG 210, NSG 211, PHY 170, PSY 101, and SOC 101 or ANT 101, and ANT 102, ANT 212, SOC 251, or SOC 263.*

*Co-requisites: EES 242, NSG 212, NSG 214.*

### NSG 214. PATHOPHYSIOLOGY FOR THE PROFESSIONAL NURSE

THREE CREDITS

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.*

### NSG 220. NURSING CARE OF THE CHILDBEARING FAMILY

FOUR CREDITS

The nursing process is utilized in assisting childbearing families within their communities to meet their human needs. 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. Fee: \$135.

*Prerequisites: BIO 113, BIO 115, BIO 116, ENG 101, NSG 171, NSG 200, NSG 210, NSG 211, NSG 212, NSG 213, NSG 214, PHY 170, PSY 101, and SOC 101 or ANT 101, and ANT 102, ANT 212, SOC 251, or SOC 263.*

*Co-requisites: MTH 150, NSG 221.*

### NSG 221. NURSING CARE OF THE ADULT CLIENT II: INDIVIDUAL, FAMILY, AND COMMUNITY

FOUR CREDITS

The nursing process is utilized in assisting adults and their families within their communities to achieve optimum health and to resolve medical-surgical problems. 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. Fee: \$135.

*Prerequisites: BIO 113, BIO 115, BIO 116, ENG 101, NSG 171, NSG 200, NSG 210, NSG 211, NSG 212, NSG 213, NSG 214, PHY 170, PSY 101, and SOC 101 or ANT 101, and ANT 102, ANT 212, SOC 251, or SOC 263.*

*Co-requisites: MTH 150, NSG 220.*

### NSG 222. NURSING CARE OF THE CHILDBEARING FAMILY

FOUR CREDITS

The nursing process is utilized in assisting childbearing families within their communities to meet their human needs. 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. Fee: \$135.

*Prerequisites: BIO 113, BIO 115, BIO 116, ENG 101, NSG 171, NSG 200, NSG 210, NSG 211, NSG 212, NSG 213, NSG 214, NSG 220, NSG 221, PHY 170, PSY 101, and SOC 101 or ANT 101, and ANT 102, ANT 212, SOC 251, or SOC 263.*

*Co-requisites: NSG 223, NSG 224.*

**NSG 223. NURSING CARE OF THE OLDER ADULT CLIENT: INDIVIDUAL, FAMILY, AND COMMUNITY** **FOUR CREDITS**

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: 4 hours of class, 12 hours of clinical practice. Fee: \$135.

*Prerequisites: BIO 113, BIO 115, BIO 116, ENG 101, NSG 171, NSG 200, NSG 210, NSG 211, NSG 212, NSG 213, NSG 214, NSG 220, NSG 221, PHY 170, PSY 101, and SOC 101 or ANT 101, and ANT 102, ANT 212, SOC 251, or SOC 263.*

*Co-requisites: NSG 222, NSG 224.*

**NSG 224. PHARMACOTHERAPEUTICS AND CLINICAL DECISION-MAKING IN NURSING** **THREE CREDITS**

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.

*Prerequisites: BIO 113, BIO 115, BIO 116, ENG 101, NSG 171, NSG 200, NSG 210, NSG 211, NSG 212, NSG 213, NSG 214, NSG 220, NSG 221, PHY 170, PSY 101, and SOC 101 or ANT 101, and ANT 102, 212, SOC 251, or SOC 263.*

*Co-requisites: NSG 222, NSG 223.*

**NSG 270. RECENT TRENDS IN CLINICAL NUTRITION** **THREE CREDITS**

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.

*Prerequisite: NSG 200 or RN status.*

**NSG 274. DIMENSIONS IN HEALTH AND WELLNESS** **THREE CREDITS**

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 299. NURSING FORUM** **SEVEN CREDITS**

This course is designed to facilitate the transition of RN students from other educational routes into baccalaureate nursing education. Use of the nursing process is applied throughout the growth and development of clients. Nursing theory is correlated with clinical practice in community settings. Upon successful completion of NSG 299 (7 credits), 42 additional credits (NSG 171, NSG 211, NSG 212, NSG 213, NSG 214, NSG 220, NSG 221, NSG 222, NSG 223, NSG 224, NSG 340) will be assigned in recognition of work completed. Hours weekly: 5 hours of class, 3 hours of clinical practice. Fee: \$135.

*Prerequisites: RN status or NCLEX eligibility, ENG 101.*

*Co-requisite: NSG 200 or fulfillment of course requirements by means of a challenge exam.*

**NSG 330. NURSING PRACTICE I** **TWELVE CREDITS**

(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. Fee: \$135.

*Co-requisite: NSG 211.*

**NSG 331. NURSING PRACTICE II** **TWELVE CREDITS**

(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. Fee: \$135.

*Prerequisites: NSG 211, NSG 330.*

*Co-requisite: NSG 224, NSG 346.*

**NSG 332. NURSING PRACTICE III** **TWELVE CREDITS**

(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. Fee: \$135.

*Prerequisites: NSG 211, NSG 224, NSG 330, NSG 331, NSG 346.*

*Co-requisite: NSG 342.*

**NSG 340. ADVANCED CARE CONCEPTS** **EIGHT CREDITS**

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: 4 hours of class, 12 hours of clinical practice. Fee: Consult the Associate Dean of the School of Nursing for information.

*Prerequisites: BIO 113, BIO 115, BIO 116, ENG 101, NSG 171, NSG 200, NSG 210, NSG 211, NSG 212, NSG 213, NSG 214, NSG 220, NSG 221, NSG 222, NSG 223, NSG 224, PHY 170, PSY 101, and SOC 101 or ANT 101, and ANT 102, 212, SOC 251, or SOC 263.*

*Co-requisite: NSG 342.*

**NSG 342. INTRODUCTION TO NURSING RESEARCH** **THREE CREDITS**

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.

*Prerequisites: BIO 113, BIO 115, BIO 116, ENG 101, MTH 150, NSG 171, NSG 200, NSG 210, NSG 211, NSG 212, NSG 213, NSG 214, NSG 220, NSG 221, NSG 222, NSG 223, NSG 224, PHY 170, PSY 101, and SOC 101 or ANT 101, and ANT 102, 212, SOC 251, or SOC 263.*  
*Co-requisite: NSG 340.*

**NSG 345. SENIOR PRACTICUM** **EIGHT CREDITS**

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. Fee: \$135.

*Prerequisites: BIO 113, BIO 115, BIO 116, ENG 101, NSG 171, NSG 200, NSG 210, NSG 211, NSG 212, NSG 213, NSG 214, NSG 220, NSG 221, NSG 222, NSG 223, NSG 224, NSG 340, NSG 342, PHY 170, PSY 101, and SOC 101 or ANT 101, and ANT 102, 212, SOC 251, or SOC 263; or NSG 299 for RN students.*  
*Co-requisites: NSG 346.*

**NSG 346. CONTEMPORARY ISSUES AND TRENDS IN NURSING** **THREE CREDITS**

This seminar course explores current issues and trends in nursing and health care. Designated oral presentation option (OPO).

*Prerequisites: BIO 113, BIO 115, BIO 116, ENG 101, NSG 171, NSG 200, NSG 210, NSG 211, NSG 212, NSG 213, NSG 214, NSG 220, NSG 221, NSG 222, NSG 223, NSG 224, NSG 340, NSG 342, PSY 101, and SOC 101 or ANT 101, and ANT 102, 212, SOC 251, or SOC 263; or NSG 299 for RN students.*  
*Co-requisites: NSG 345.*

**NSG 395-396. INDEPENDENT STUDY** **ONE TO THREE CREDITS**

Independent study for advanced students in nursing under the direction of a staff member.

*Requirements: By arrangement with an instructor. Candidates for independent study must have a minimum cumulative and nursing GPA of 3.00 and be of senior class standing.*

**NSG 399. COOPERATIVE EDUCATION** **ONE TO SIX CREDITS**

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.*

**NSG 198/298/398. TOPICS IN NURSING** **VARIABLE CREDIT**

A study in topics of special interest that are not extensively treated in regularly offered courses.

### **PERSONAL AND PROFESSIONAL DEVELOPMENT**

**PPD 101. PERSONAL AND PROFESSIONAL DEVELOPMENT I** **ONE CREDIT**

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 III** **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 V** **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, or leadership in context. The one-credit courses vary each semester and are taught by subject matter experts.

**PPD 401. PERSONAL AND PROFESSIONAL DEVELOPMENT VII** **ONE CREDIT**

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 Personal Learning Plan. Emphasis will be on continues portfolio and résumé development, interview skills, and job search strategies.

*Prerequisite: PPD 101, PPD 201, & PPD 301*

### **PHARMACEUTICAL SCIENCES**

Courses offered by the Department of Pharmaceutical Sciences leading to the  
B.A. in Chemistry with a concentration in Pharmaceutical Sciences.

**PHS 301. ADVANCED PHARMACEUTICS** **THREE CREDITS**

An overview of the various dosage forms used in the pharmaceutical industry and their manufacture. Particular emphasis will be placed on the excipients used and the manufacturing process and how these affect the physical and chemical nature of the dosage form.

*Prerequisites: CHM 355 and CHM 357.*

**PHS 331. MEDICAL ANATOMY AND PHYSIOLOGY I** **FOUR CREDITS**

Same as PHA 331. See PHA 331 for course description.

**PHS 332. MEDICAL ANATOMY AND PHYSIOLOGY II** **FOUR CREDITS**

Same as PHA 332. See PHA 332 for course description.

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| <b>PHS 365. MEDICAL BIOCHEMISTRY</b>                                                                                                                                                                                                                                                                             | <b>FOUR CREDITS</b>  |
| Same as PHA 365. See PHA 365 for course description.                                                                                                                                                                                                                                                             |                      |
| <b>PHS 408. CLINICAL RESEARCH DESIGN</b>                                                                                                                                                                                                                                                                         | <b>THREE CREDITS</b> |
| Same as PHA 310. See PHA 310 for course description.                                                                                                                                                                                                                                                             |                      |
| <b>PHS 413. HETEROGENEOUS PHARMACEUTICAL SYSTEMS</b>                                                                                                                                                                                                                                                             | <b>TWO CREDITS</b>   |
| An introduction to the design of heterogeneous systems as dosage forms. Emphasis will be placed on the physical and chemical evaluation of creams, lotions, emulsions, suspensions, semisolids, and aerosols.                                                                                                    |                      |
| <i>Prerequisites: CHM 355, CHM 357, and PHS 301.</i>                                                                                                                                                                                                                                                             |                      |
| <b>PHS 414. PHARMACEUTICAL REGULATORY AFFAIRS</b>                                                                                                                                                                                                                                                                | <b>TWO CREDITS</b>   |
| An introduction to the regulation of the pharmaceutical industry by the Food and Drug Administration. It will focus on the requirements for product approval by the FDA and for the establishment of Good Manufacturing Practices and Good Laboratory Practices.                                                 |                      |
| <i>Requirement: Permission of the instructor.</i>                                                                                                                                                                                                                                                                |                      |
| <b>PHS 415. SOLID DOSAGE FORMS</b>                                                                                                                                                                                                                                                                               | <b>TWO CREDITS</b>   |
| An introduction to the design and manufacture of traditional oral solid dosage forms and the design of sustained and controlled released dosage forms.                                                                                                                                                           |                      |
| <i>Prerequisites: CHM 355, CHM 357, and PHS 301.</i>                                                                                                                                                                                                                                                             |                      |
| <b>PHS 416. OPERATION OF QUALITY CONTROL SYSTEMS</b>                                                                                                                                                                                                                                                             | <b>TWO CREDITS</b>   |
| An introduction to the design and operation of quality control or quality assurance systems.                                                                                                                                                                                                                     |                      |
| <i>Prerequisites: CHM 355, CHM 357, and PHS 301.</i>                                                                                                                                                                                                                                                             |                      |
| <b>PHS 417. BIOPHARMACEUTICS AND PHARMACOKINETICS</b>                                                                                                                                                                                                                                                            | <b>THREE CREDITS</b> |
| An introduction to the principles of biopharmaceutics and pharmacokinetics. The focus is on understanding the effect of dosage form design and selection on the therapeutic outcomes. The selection of the correct mathematical model to describe the fate of a drug substance in the body will also be covered. |                      |
| <i>Prerequisites: PHS 301, PHS 331, and PHS 332.</i>                                                                                                                                                                                                                                                             |                      |
| <b>PHS 418. EXTERNSHIP IN PHARMACEUTICAL MANUFACTURE</b>                                                                                                                                                                                                                                                         | <b>EIGHT CREDITS</b> |
| This is the capstone course for the B.S. in Pharmaceutical Sciences in which the classroom experiences are integrated and applied to a drug development project in a pharmaceutical company or a quality assurance testing laboratory at the Food and Drug Administration.                                       |                      |
| <i>Prerequisites: PHS 301, 413, 414, 415, 416, and 417.</i>                                                                                                                                                                                                                                                      |                      |
| <b>PHS 498. SENIOR RESEARCH PROJECT</b>                                                                                                                                                                                                                                                                          | <b>THREE CREDITS</b> |
| The planning and execution of a formulation project under the direction of a faculty mentor. It is expected that students will search the literature and patent records, design a series of experiments, and eventually develop a formula and method of manufacture that will be commercially viable.            |                      |
| <i>Prerequisites: PHS 301, 413, 414, 415, 416, and 417.</i>                                                                                                                                                                                                                                                      |                      |

## PHARMACY

### INTRODUCTORY PHARMACY PRACTICE EXPERIENCE (IPPE)

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| <b>PHA 335. INTRODUCTORY PHARMACY PRACTICE EXPERIENCE I</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <b>TWO CREDITS</b>     |
| 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.        |                        |
| <i>Prerequisite: Successful completion of the P-1 year.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                        |
| <b>PHA 440. INTRODUCTORY PHARMACY PRACTICE EXPERIENCE II</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>ONE CREDIT</b>      |
| This course will provide introductory practice experience to students in two health care settings: prescriber's clinics and a faculty practice site. Students will have an independent approach to learning and gain a broader understanding of these settings and the role that pharmacists may play.                                                                                                                                                                                                       |                        |
| <i>Requirement: P-2 standing.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                        |
| <b>PHA 445. INTRODUCTORY PHARMACY PRACTICE EXPERIENCE III</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>TWO CREDITS</b>     |
| 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. |                        |
| <i>Requirement: Successful completion of the P-2 year.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                        |
| <b>PHA 555. INTRODUCTORY PHARMACY PRACTICE EXPERIENCE IV</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>ONE-HALF CREDIT</b> |
| This course will provide introductory practice experience to students in the home health and hospice setting. Students will have an independent approach to learning and gain a broader understanding of these settings and the role that pharmacists may play.                                                                                                                                                                                                                                              |                        |
| <i>Requirement: P-3 standing.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                        |

**PHA 560. INTRODUCTORY PHARMACY PRACTICE EXPERIENCE V****ONE-HALF CREDIT**

The self-directed IPPE course will provide practice experience in a service learning environment. This experience consists of 3 components: participation in and development of service-learning projects, reflection and self-directed learning. A minimum of 20 IPPE hours are accumulated through the P1-P3 years. Course credit is awarded in the Spring of the P3 year. .

**Requirement:** *P-3 standing.*

**PHARMACY GENERAL COURSES****PHA 301 & PHA 304. FOUNDATIONS OF PHARMACY PRACTICE****TWO CREDITS EACH**

The purpose of this course sequence is to provide the student with the foundational concepts and skills needed to practice pharmacy in the 21<sup>st</sup> century as the role of the pharmacist expands and continues to change. In addition to one's knowledge of the scientific basis of practice, the ability to communicate and be an effective team member is critical to the pharmacist's role as an educator, clinician, and member of the health-care team. As such, the student will experience the processes of self- and group-assessment, team development, and the use of effective communication strategies through discussions, assignments, role-playing, and case studies. A unique feature of this course sequence is the interdisciplinary faculty team. The expertise and perspective of each faculty member contribute to the development and teaching of this course. Furthermore, this approach demonstrates the relevance and importance of other disciplinary subject matter to the development and maturation of a pharmacy practitioner.

**Requirement:** *P-1 standing.*

**PHA 302, 401, 501, 502. PHARMACY CARE LAB I – IV****ONE CREDIT EACH**

This four-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. Fee: \$150 per class.

**Requirement:** *P-1, P-2, or P-3 standing, as appropriate for each laboratory.*

**PHA 308. PHARMACEUTICAL AND HEALTH CARE DELIVERY****THREE CREDITS**

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****THREE CREDITS**

Application of 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.

**Prerequisites:** *MTH 150 or equivalent and P-1 standing or consent of the instructor.*

**PHA 311 & PHA 312. PHARMACEUTICS I & II****FOUR CREDITS EACH**

The study and application of physic-chemical principles that are necessary for the design, development, and preparation of pharmaceutical dosage forms. The study of quantitative skills necessary for an understanding of the basic and clinical pharmaceutical sciences, including skills in pharmaceutical calculations and extemporaneous preparation of dosage forms. lecture: three hours per week. Laboratory and Recitation: three hours per week. Fee: \$150 per course.

**Requirement:** *P-1 standing or consent of the instructor. NOTE: PHA 311 is a prerequisite for PHA 312.*

**PHA 313. PHARMACY CALCULATIONS****ONE CREDIT**

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****FOUR CREDITS**

An overview of microbiology with special emphasis on pathogenic microbiology. Lecture: three hours per week. Lab: three hours per week. Fee: \$120. Cross-listed with BIO 327.

**Requirement:** *P-1 standing or consent of the instructor.*

**PHA 331 & PHA 332. MEDICAL ANATOMY AND PHYSIOLOGY I & II****FOUR CREDITS EACH**

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. Fee: \$150 per course.

**Requirement:** *P-1 standing or permission of the instructor. NOTE: PHA 331 is a prerequisite for PHA 332.*

**PHA 405. PHARMACEUTICAL CARE SYSTEMS: DESIGN AND CONTROL****TWO CREDITS**

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.



**PHA 410. IMMUNOLOGY AND BIOTECHNOLOGY****THREE CREDITS**

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.

*Prerequisites: PHA 331, 332, 365, or consent of the instructor.*

**PHA 411. BIOPHARMACEUTICS AND CLINICAL PHARMACOKINETICS****FOUR CREDITS**

The fundamentals of biopharmaceutics and pharmacokinetics are presented. The physical and chemical properties of the drug and dosage form and the impact of the route of administration and patient characteristics and disease state will be related to the absorption, distribution, metabolism, and elimination in the body. Individual drugs and patient case histories will be used to familiarize the student to practice. Lecture: three to four hours per week. Recitation: zero to three hours per week.

*Prerequisites: PHA 311, PHA 312, or consent of the instructor.*

**PHA 412. MANAGEMENT OF PHARMACY OPERATIONS****THREE CREDITS**

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.

*Prerequisite: PHA 308 or consent of the instructor.*

**PHA 503 AND PHA 504. LONGITUDINAL CARE LAB I & II****ONE CREDIT EACH**

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.

*Prerequisite: PHA 503 is the prerequisite for PHA 504.*

**PHA 505. PHARMACY LAW****TWO CREDITS**

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.

**PHA 509. ECONOMIC EVALUATION OF PHARMACEUTICAL PRODUCTS AND SERVICES****THREE CREDITS**

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.

*Prerequisites: PHA 308 and PHA 310 or consent of the instructor.*

**PHA 532. ALTERNATIVE MEDICINE AND NUTRITION****THREE CREDITS**

This course gives a brief overview of several alternative/contemporary medicine practices but focuses on dietary supplements with an emphasis on the top herbal products. This course will also give an overview on the concept and practice of obesity and nutrition including parenteral and enteral nutrition. Lecture: three hours per week.

*Prerequisites: PHA 331, 332, 365 or consent of the instructor.*

**PHARMACY ELECTIVE COURSES****PHA 395-396. INDEPENDENT STUDY****ONE TO SIX CREDITS**

Independent study and research for advanced students in the field of the major under the direction of a staff member.

*Requirement: Approval of the department chairperson.*

**PHA 450. NEUROPHARMACOLOGY OF DRUGS OF ABUSE****THREE CREDITS**

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.

*Prerequisite: PHA 421 or consent of the instructor.*

**PHA 452. EXTEMPORANEOUS COMPOUNDING****THREE CREDITS**

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. Fee: \$150.

*Prerequisites: PHA 311 and PHA 312 and permission of the instructor.*

**PHA 453/456. NUCLEAR PHARMACY I & II****THREE CREDITS EACH**

The scientific principles relating to Nuclear Pharmacy will be discussed. Topics include radioactive decay, the interaction of radiation with matter, production of radionuclides, radiation biology, instrumentation, health physics, radiation dosimetry, and laws and regulations. Radiopharmaceutical manufacturing and medical imaging will be introduced. Three hours per week of discussion, laboratory, or recitation.

*Prerequisites: P-2 or P-3 standing or consent of instructor.*

**PHA 495-496. INDEPENDENT STUDY****ONE TO SIX CREDITS**

Independent study and research for advanced students in the field of the major under the direction of a staff member.

*Requirement: Approval of the department chairperson.*

**PHA 498. ROLE OF PHYTOCHEMICALS ON HEALTH & DISEASE****TWO CREDITS**

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.

**PHA 534. INTRODUCTION TO HOSPITAL PHARMACY PRACTICE****TWO CREDITS**

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****TWO CREDITS**

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.

**PHA 538. PEDIATRIC PHARMACOTHERAPY****TWO CREDITS**

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-3 standing.*

**PHA 540. COMPREHENSIVE DIABETES MANAGEMENT****THREE CREDITS**

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: P-3 standing or permission of the instructor.*

**PHA 542. ADVANCED INFORMATION MASTERY****TWO CREDITS**

This course is offered each year in the Spring Semester. The course's primary goal is to instruct students on Evidence Based Medicine (EBM) and develop skills to practice EBM efficiently in most clinical settings.

*Prerequisites: P3 standing.*

**PHA 550. PRINCIPLES OF EXPERIMENTAL PHARMACOLOGY****THREE CREDITS**

This course is designed to increase the student's appreciation of the science of pharmacology. The student will be exposed to principles and theories that are currently used to interpret pharmacological data about new drug products and physiological systems in both humans and animals. A series of articles will be used to demonstrate application of pharmacological techniques, and the student will be asked to suggest additional techniques to further clarify published hypotheses. The student will conduct experiments to apply pharmacological theories and techniques and to use the scientific method to gain data to support a hypothesis. Fee: \$150.

**PHA 551. VETERINARY PRODUCTS****THREE CREDITS**

Veterinary Products is designed to introduce pharmacy students to Veterinary Pharmacology and Therapeutics and the role of the pharmacist in the care of animals. The students will evaluate the most commonly used drugs in veterinary care and relate that evaluation to the use of these drugs in humans. The student will learn fundamental concepts that will allow the student to provide pharmaceutical care to animals and assist the veterinarian and owner in the care of pets and domestic animals. There will be a field trip to a zoo on one Saturday during the course.

*Prerequisites: PHA 424 and PHA 426.*

**PHA 552. PRINCIPLES OF BIOORGANIC AND MEDICINAL CHEMISTRY****THREE CREDITS**

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.

*Prerequisites: CHM 231-232, PHA 327, 365.*

**PHA 558. PRINCIPLES OF TOXICOLOGY: FROM BEAKER TO BEDSIDE****TWO CREDITS**

This course is offered each year in the Spring Semester. The course's primary goal is to introduce students to both basic and clinical toxicology. Students will leave the course with the knowledge of molecular mechanisms of drug and non-drug poisons, and the basic guidelines for managing the acutely poisoned patient.

**PHA 595-596. INDEPENDENT STUDY****ONE TO SIX CREDITS**

Independent study and research for advanced students in the field of the major under the direction of a staff member.

*Requirement: Approval of the department chairperson.*

**PHARMACOTHERAPEUTIC MODULES**

A four-semester, twelve-module sequence (three modules per semester) that integrates pharmacology, medicinal chemistry, pathophysiology, and pharmacotherapy. This team-taught, interdisciplinary course provides students with the opportunity to learn and apply concepts from these four disciplines.

*Prerequisites: PHA 310, 327, 331, 332, 365.*

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| <b>PHA 421. PHARMACOTHERAPEUTICS I: PRINCIPLES OF PHARMACOLOGY &amp; MEDICINAL CHEMISTRY</b> | <b>TWO CREDITS</b>   |
| <b>PHA 423. PHARMACOTHERAPEUTICS II: PRINCIPLES OF PHARMACOTHERAPEUTICS</b>                  | <b>TWO CREDITS</b>   |
| <i>Prerequisite: PHA 421.</i>                                                                |                      |
| <b>PHA 425. PHARMACOTHERAPEUTICS III: SELF-CARE AND DERMATOLOGY</b>                          | <b>THREE CREDITS</b> |
| <i>Prerequisite: PHA 423.</i>                                                                |                      |
| <b>PHA 426. PHARMACOTHERAPEUTICS IV: GASTROINTESTINAL DISORDERS</b>                          | <b>TWO CREDITS</b>   |
| <i>Prerequisite: PHA 423.</i>                                                                |                      |
| <b>PHA 428. PHARMACOTHERAPEUTICS V: INFECTIOUS DISEASES</b>                                  | <b>FOUR CREDITS</b>  |
| <i>Prerequisite: PHA 423.</i>                                                                |                      |
| <b>PHA 430. PHARMACOTHERAPEUTICS VI: HEMATOLOGY, JOINT DISORDERS, SURGERY</b>                | <b>TWO CREDITS</b>   |
| <i>Prerequisite: PHA 423.</i>                                                                |                      |
| <b>PHA 521. PHARMACOTHERAPEUTICS VII: PULMONARY DISORDERS</b>                                | <b>TWO CREDITS</b>   |
| <i>Prerequisite: PHA 423.</i>                                                                |                      |
| <b>PHA 523. PHARMACOTHERAPEUTICS VIII: CARDIOVASCULAR DISORDERS</b>                          | <b>FOUR CREDITS</b>  |
| <i>Prerequisite: PHA 423.</i>                                                                |                      |
| <b>PHA 525. PHARMACOTHERAPEUTICS IX: RENAL DISORDERS</b>                                     | <b>TWO CREDITS</b>   |
| <i>Prerequisite: PHA 423.</i>                                                                |                      |
| <b>PHA 526. PHARMACOTHERAPEUTICS X: ENDOCRINE DISORDERS &amp; WOMEN'S HEALTH ISSUES</b>      | <b>TWO CREDITS</b>   |
| <i>Prerequisite: PHA 423.</i>                                                                |                      |
| <b>PHA 528. PHARMACOTHERAPEUTICS XI: NEOPLASTIC DISEASES</b>                                 | <b>TWO CREDITS</b>   |
| <i>Prerequisite: PHA 423.</i>                                                                |                      |
| <b>PHA 530. PHARMACOTHERAPEUTICS XII: CENTRAL NERVOUS SYSTEM DISORDERS</b>                   | <b>FOUR CREDITS</b>  |
| <i>Prerequisite: PHA 423.</i>                                                                |                      |

#### **ADVANCED PHARMACY PRACTICE EXPERIENCE (APPE)**

|                                                                                                                                                                                         |                     |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
| <b>PHA 510. GENERAL MEDICINE</b>                                                                                                                                                        | <b>FIVE CREDITS</b> |
| 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.     |                     |
| <i>Prerequisite: P-4 standing.</i>                                                                                                                                                      |                     |
| <b>PHA 511. AMBULATORY CARE ADVANCED PHARMACY PRACTICE EXPERIENCE</b>                                                                                                                   | <b>FIVE CREDITS</b> |
| 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.      |                     |
| <i>Prerequisite: P-4 standing.</i>                                                                                                                                                      |                     |
| <b>PHA 512. COMMUNITY ADVANCED PHARMACY PRACTICE EXPERIENCE</b>                                                                                                                         | <b>FIVE CREDITS</b> |
| 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.   |                     |
| <i>Prerequisite: P-4 standing.</i>                                                                                                                                                      |                     |
| <b>PHA 513. HEALTH SYSTEM ADVANCED PHARMACY PRACTICE EXPERIENCE</b>                                                                                                                     | <b>FIVE CREDITS</b> |
| 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.    |                     |
| <i>Prerequisite: P-4 standing.</i>                                                                                                                                                      |                     |
| <b>PHA 599 A, B, AND C. ELECTIVE ADVANCED PHARMACY PRACTICE EXPERIENCE ROTATIONS</b>                                                                                                    | <b>FIVE CREDITS</b> |
| 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. |                     |
| <i>Prerequisite: P-4 standing.</i>                                                                                                                                                      |                     |

#### **PHILOSOPHY**

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|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| <b>PHL 101. INTRODUCTION TO PHILOSOPHY</b>                                                                                                                                                                                                                                                                                                            | <b>THREE CREDITS</b> |
| 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. |                      |
| <b>PHL 110. INTRODUCTION TO ETHICAL PROBLEMS</b>                                                                                                                                                                                                                                                                                                      | <b>THREE CREDITS</b> |
| 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**

**THREE CREDITS**

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 214. MEDICAL ETHICS**

**THREE CREDITS**

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.

*Prerequisite: PHL 101 or permission of the instructor.*

**PHL 216. PHILOSOPHIES OF NONVIOLENCE**

**THREE CREDITS**

An examination of the concept of nonviolence and arguments supporting nonviolence as a way of life. Historical and modern theories, as well as applications of nonviolence, will be considered, including ideas from the Buddha, Jesus, Gandhi, Tolstoy, Martin Luther King, Jr., Thoreau, the Dalai Lama, Thich Nhat Hanh, and others. Students will be expected to consider the importance and relevance of these ideas for their own lives.

*Prerequisite: PHL 101, PHL 110, or permission of the instructor.*

**PHL 217. THE QUESTION OF ANIMAL RIGHTS**

**THREE CREDITS**

An exploration of arguments supporting a wide variety of conclusions regarding our ethical obligations to nonhuman animals. We will examine standard moral theories, theories about the nature of current social practices, the history of our attitudes toward nonhuman animals, feminist arguments that our attitudes toward nonhuman animals are connected to negative views of female humans, and more.

*Prerequisite: PHL 101, PHL 110, or permission of the instructor.*

**PHL 218. ENVIRONMENTAL ETHICS**

**THREE CREDITS**

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.)

*Prerequisite: PHL 101 or EES 240 or permission of the instructor.*

**PHL 236. AMERICAN POLITICAL PHILOSOPHY**

**THREE CREDITS**

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. (Same as PS 362)

**PHL 242. THE MEANING OF LIFE**

**THREE CREDITS**

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.

*Prerequisite: PHL 101, PHL 110, or permission of the instructor.*

**PHL 244. BUDDHIST THOUGHT**

**THREE CREDITS**

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.

*Prerequisite: PHL 101 or permission of the instructor.*

**PHL 272. PHILOSOPHY OF RELIGION**

**THREE CREDITS**

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.

*Prerequisite: PHL 101 or permission of the instructor.*

**PHL 298. TOPICS**

**THREE CREDITS**

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.

*Prerequisite: PHL 101 or permission of the instructor.*

**PHL 301. ORIGINS OF WESTERN THOUGHT**

**THREE CREDITS**

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.

*Prerequisite: PHL 101 or permission of instructor.*

**PHL 310. ETHICAL THEORY**

**THREE CREDITS**

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.

*Prerequisite: PHL 101 or permission of instructor.*

**PHL 314. ADVANCED TOPICS IN BIOETHICS****THREE CREDITS**

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.

*Prerequisite: PHL 214 or permission of instructor.*

**PHL 316. MORAL PSYCHOLOGY****THREE CREDITS**

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.

*Prerequisites: PHL 310 or permission of instructor.*

**PHL 332. SOCIAL AND POLITICAL PHILOSOPHY****THREE CREDITS**

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.

*Prerequisite: PHL 101 or permission of instructor.*

**PHL 344. ADVANCED TOPICS IN BUDDHIST THOUGHT****THREE CREDITS**

An examination of the history of Buddhist philosophy and the issues it raises with particular emphasis on *Shunyata*.

*Prerequisite: PHL 244 or permission of instructor.*

**PHL 350. PHILOSOPHY OF SCIENCE****THREE CREDITS**

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.

*Prerequisite: PHL 101 or permission of instructor.*

**PHL 372. ADVANCED TOPICS IN PHILOSOPHY OF RELIGION****THREE CREDITS**

An intensive examination of a major problem or figure in the philosophy of religion. Because of its variable content, this course may be repeated for credit.

*Prerequisite: PHL 272 or permission of instructor.*

**PHL 390. SENIOR PROJECTS: CAPSTONE****ONE CREDIT**

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 395-396. INDEPENDENT RESEARCH****ONE TO THREE CREDITS**

Independent study and research for advanced students. A research paper at a level significantly beyond a term paper is required.

*Prerequisite: Approval of the department chairperson.*

**PHL 397. SEMINAR****ONE TO THREE CREDITS**

Presentations and discussions of selected topics.

*Prerequisite: Approval of the department chairperson is required.*

**PHL 399. COOPERATIVE EDUCATION****ONE TO SIX CREDITS**

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.)

*Prerequisites: Sophomore standing, 2.0 cumulative GPA, consent of academic advisor, and approval of placement by the department chairperson.*

**PHYSICS****PHY 105. CONCEPTS IN PHYSICS****THREE CREDITS**

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. Fee: \$100.

*Prerequisites: No previous background in either science or college-level mathematics is required.*

**PHY 170. CONCEPTS IN PHYSICS AND CHEMISTRY****FOUR CREDITS**

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 lecture and discussion and one three-hour lab per week. Fee: \$100.

*Prerequisites: Previous courses in chemistry, algebra, and geometry.*

**PHY 171. PRINCIPLES OF CLASSICAL AND MODERN PHYSICS****FOUR CREDITS**

An introductory course designed to promote and understanding of the more important fundamental laws and methods of mechanics and electricity and magnetism. Laboratory work to emphasize basic principles and to acquaint the student with measuring instruments and their use, as well as the interpretation of experimental data. Three hours of demonstration and lecture, one hour of recitation, and two hours of lab per week. Fee: \$100.

*Co-requisite: MTH 111.*

**PHY 174. APPLICATION OF CLASSICAL AND MODERN PHYSICS****FOUR CREDITS**

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. Fee: \$100.

*Co-requisite: MTH 111.*

**PHY 201. GENERAL PHYSICS I****FOUR CREDITS**

A thorough grounding in the concepts, principles, and laws of mechanics, thermodynamics, and wave motion. Instruction by demonstration and lecture, recitation, problem solving, and experimental work. Three hours of demonstration and lecture, one hour of recitation, and two hours of lab per week. Fee: \$100.

*Co-requisite: MTH 111.*

**PHY 202. GENERAL PHYSICS II****FOUR CREDITS**

Electricity and magnetism, optics and light. Three hours of demonstration and lecture, one hour of recitation, and two hours of lab per week. Fee: \$100.

*Prerequisite: PHY 171 or PHY 201.*

*Co-requisite: MTH 112.*

**PHY 203. GENERAL PHYSICS III****THREE CREDITS**

Modern physics including the experimental basis, concepts, and principles of atomic and nuclear physics. Three hours of demonstration and lecture per week. Fee: \$100.

*Prerequisite: PHY 202.*

**PHY 395-396. INDEPENDENT RESEARCH****ONE TO THREE CREDITS**

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.

*Requirements: Senior standing and approval of the department chairperson.*

**PHY 198/298/398. TOPICS IN PHYSICS****VARIABLE CREDIT**

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.

*Prerequisite: Varies with topic studied.*

**POLITICAL SCIENCE****PS 111. INTRODUCTION TO AMERICAN POLITICS****THREE CREDITS**

A descriptive and analytical study of the theory and practice of American government, its constitutional basis, organization, powers, functions, and problems. Offered every semester.

**PS 141. INTRODUCTION TO INTERNATIONAL POLITICS****THREE CREDITS**

An introduction to the field of international relations. Attention is given to basic theories of international relations as well as to 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. GOVERNMENTS OF THE WORLD****THREE CREDITS**

This course is an introduction to the study of the politics and government of selected foreign countries. The course begins 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****THREE CREDITS**

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. (Same as SOC 263.) Counts as a Criminology elective.

**PS 213. POLITICAL PARTIES AND POLITICAL PARTICIPATION****THREE CREDITS**

An introduction to the role and function of political parties in democratic regimes, with particular attention given to the U.S. Extensive discussion of the political activities of the American electorate in forms other than parties, such as interest groups, as well as grass roots movements. Offered in the fall semester in even years.

**PS 221. INTRODUCTION TO PUBLIC ADMINISTRATION****THREE CREDITS**

An introduction to the principles and problems of public administration in an increasingly complex society. Topic such as leadership, informal organizational processes, the relationship of administration to its cultural context, and the question of administrative responsibilities are examined as well as public finance, human resources, ethics, management and administrative law.

- PS 224. PUBLIC POLICY ANALYSIS** **THREE CREDITS**  
 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 232. CRIMINAL LAW** **THREE CREDITS**  
 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.
- PS 233. LAW AND SOCIETY** **THREE CREDITS**  
 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.
- PS 242. INTERNATIONAL LAW AND ORGANIZATION** **THREE CREDITS**  
 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.  
*Prerequisite: PS 141 or consent of instructor.*
- PS 251. EUROPEAN POLITICS** **THREE CREDITS**  
 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 in the development of the former communist states in eastern Europe.
- PS 260. INTRODUCTION TO POLITICAL THINKING** **THREE CREDITS**  
 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 fall.
- PS 261. CONCEPTS AND METHODS IN POLITICAL SCIENCE** **THREE CREDITS**  
 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** **THREE CREDITS**  
 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. (Same as PHL 236.) May not be used to meet Area I requirements of the General Education Curriculum.
- PS 265. QUANTITATIVE REASONING FOR THE SOCIAL SCIENCES** **THREE CREDITS**  
 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. (Same as SOC 373.)  
*Prerequisite: PS 111 or 141, PS 261 or SOC 371, or approval of instructor.*
- PS 311. THE AMERICAN PRESIDENCY** **THREE CREDITS**  
 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.  
*Prerequisite: PS 111 or consent of the instructor.*
- PS 312. LEGISLATIVE BEHAVIOR** **THREE CREDITS**  
 An analysis of the theory and practice of representative institutions in political systems with emphasis placed on the American Congress. Legislative elections, floor procedures, committee functions, and ethics are all considered, as well as their collective impact upon the formation of public policy. Offered in the spring semester in even years.  
*Prerequisite: PS 111 or consent of the instructor.*
- PS 331. THE CONSTITUTION AND THE FEDERAL SYSTEM** **THREE CREDITS**  
 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.  
*Prerequisite: PS 111, PS 233, or consent of the instructor.*
- PS 332. CIVIL RIGHTS AND LIBERTIES** **THREE CREDITS**  
 Continuation of 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.  
*Prerequisite: PS 111, PS 233, or consent of the instructor.*
- PS 345. AMERICAN NATIONAL SECURITY POLICY** **THREE CREDITS**  
 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.  
*Prerequisite: PS 141 or permission of the instructor.*

**PS 350. COMPARATIVE POLITICS: THEORY AND ANALYSIS****THREE CREDITS**

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.

*Prerequisite: Sophomore standing.*

**PS 354. ECOTOURISM DEVELOPMENT IN COSTA RICA****THREE CREDITS**

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****THREE CREDITS**

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.

*Prerequisite: Senior standing.*

**PS 394. PRACTICUM****ONE TO THREE CREDITS**

Educational experiences associated with faculty research, club activities, experiential learning are available to the student for credit depending upon the amount of time the student invests in the experience. Students may assist in a major research project with a faculty member or participate in the Model UN or some other educational simulation. (Maximum of nine credits can be accumulated by a student over four years.) Offered every semester.

*Prerequisite: No course prerequisites, but the permission of the instructor or faculty member is required in advance.*

**PS 395-396. INDEPENDENT RESEARCH****ONE TO THREE CREDITS**

Independent study and research for advanced students in the major under the direction of a staff member. A research paper at a level significantly beyond a term paper is required. Offered every semester.

*Prerequisite: Approval of the department chairperson.*

**PS 399. COOPERATIVE EDUCATION****ONE TO SIX CREDITS**

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.)

*Prerequisites: Sophomore standing, minimum 2.0 cumulative GPA, consent of academic advisor, and approval of placement by the department chairperson.*

**PS 198/298/398. TOPICS IN POLITICAL SCIENCES/TOPICS IN POLICY ANALYSIS****THREE CREDITS**

A study of topics of special interest not extensively treated in regularly offered courses. Examples of possible topics include the following: film and politics; minorities in the political process; American conservatism; the First Amendment in law and practice; was in the ancient era; Marxism; etc. May be repeated when topics differ. A topics course in a specific field of public policy, such as Energy, Environmental Science, Health Policy and Politics, etc., also may be offered.

*Prerequisite: Permission of the department chairperson; criterion for approval depend upon the topic offered.*

**PSYCHOLOGY****PSY 101. GENERAL PSYCHOLOGY****THREE CREDITS**

An introduction to the field of psychology with emphasis on objective and systematic methods of inquiry. Extensive treatment of major psychological topics including sensation, perception, learning, motivation, intelligence, personality development, frustration, conflict, and mental health.

**PSY 200. RESEARCH DESIGN AND STATISTICS I****FOUR CREDITS**

An introduction to the use of statistical procedures in the analysis of psychological data. Topics include descriptive statistics and inferential statistics. Techniques such as T-tests, correlation, regression, and chi-square will be used for hypothesis testing.

*Prerequisites: PSY 101 and Math competency (MTH 101 or higher).*

**PSY 221. DEVELOPMENTAL PSYCHOLOGY****THREE CREDITS**

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.

*Prerequisite: PSY 101.*

**PSY 222. ADOLESCENT PSYCHOLOGY****THREE CREDITS**

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.

*Prerequisite: PSY 101.*



- PSY 242. PERSONALITY** **THREE CREDITS**  
 An examination of the major theoretical perspectives on personality development and functioning, with additional emphasis on the assessment of personality and the treatment of disorders of personality.  
*Prerequisite: PSY 101.*
- PSY 300. RESEARCH DESIGN AND STATISTICS II** **FOUR CREDITS**  
 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. Fee: \$40.  
*Prerequisites: PSY 101 and PSY 200. To be taken by Psychology majors only, during the junior or senior year.*
- PSY 311. BEHAVIORAL NEUROSCIENCE** **FOUR CREDITS**  
 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. Fee: \$30.  
*Prerequisites: PSY 101; junior or senior standing.*
- PSY 312. SENSORY AND PERCEPTUAL PROCESSES** **FOUR CREDITS**  
 Principles and phenomena of human sensory and perceptual processes are studied within the visual, auditory, olfactory, gustatory, proprioceptive, and cutaneous systems. Students are familiarized with techniques used in the investigation of sensory and perceptual phenomena.  
*Prerequisites: PSY 101; junior or senior standing.*
- PSY 331. COGNITION** **THREE CREDITS**  
 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.  
*Prerequisite: PSY 101.*
- PSY 333. CRITICAL THINKING IN PSYCHOLOGICAL SCIENCE** **THREE CREDITS**  
 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.  
*Prerequisite: PSY 101.*
- PSY 341. INTRODUCTION TO SOCIAL PSYCHOLOGY** **THREE CREDITS**  
 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; social pathology. (Same as SOC 341.)  
*Prerequisite: ANT 101, PSY 101, or SOC 101.*
- PSY 351. BEHAVIORAL MEDICINE** **THREE CREDITS**  
 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.  
*Prerequisites: PSY 101; junior or senior standing.*
- PSY 352. PSYCHOPATHOLOGY** **THREE CREDITS**  
 A general survey of psychological disorders in children and adults with emphasis on symptomatology, etiology, and assessment. Forensic and classification issues are also examined.  
*Prerequisites: PSY 101, PSY 242.*
- PSY 353. CLINICAL METHODS IN PSYCHOLOGY** **THREE CREDITS**  
 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.  
*Prerequisites: PSY 101; PSY 242; PSY 352; junior or senior standing.*
- PSY 354. THE EXCEPTIONAL INDIVIDUAL** **THREE CREDITS**  
 A study of the psychological, physical, and social challenges and needs of exceptional individuals with an emphasis on etiology, assessment, impact, and educational interventions.  
*Prerequisites: PSY 101, PSY 221.*
- PSY 355. FORENSIC PSYCHOLOGY** **THREE CREDITS**  
 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.  
*Prerequisites: PSY 101; junior or senior standing.*

**PSY 356. INDUSTRIAL/ORGANIZATIONAL PSYCHOLOGY** **THREE CREDITS**

A survey of the applied areas of personnel, organizational, human factors, and consumer psychology.

*Prerequisite: PSY 101.*

**PSY 357. NEUROPSYCHOLOGY** **THREE CREDITS**

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.

*Prerequisite: PSY 101.*

**PSY 358. PSYCHOLOGICAL TESTS AND MEASURES** **THREE CREDITS**

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.

*Prerequisites: PSY 101, PSY 200.*

**PSY 359. PSYCHOPHARMACOLOGY** **THREE CREDITS**

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 of stimulants, depressants, antipsychotics, antidepressants, psychedelics, and legal drugs, such as caffeine, nicotine, and alcohol.

*Prerequisite: PSY 101.*

**PSY 362. HISTORY OF PSYCHOLOGY** **THREE CREDITS**

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.

*Prerequisites: PSY 101.*

**PSY 395-396. INDEPENDENT RESEARCH** **ONE TO THREE CREDITS**

Independent study and research under the direction of a faculty member.

*Prerequisites: PSY 300; approval of the department chairperson is required.*

**PSY 198/298/398. TOPICS IN PSYCHOLOGY** **VARIABLE CREDIT**

A study in topics of special interest not extensively treated in regularly offered courses.

**PSY 399. COOPERATIVE EDUCATION** **ONE TO SIX CREDITS**

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.)

*Prerequisites: Sophomore standing, minimum 2.0 cumulative GPA, consent of academic advisor, and approval of placement by the department chairperson.*

**PSY 400. SENIOR CAPSTONE** **FOUR CREDITS**

This course is designed to provide a 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. Issues related to the field, including careers and graduate school, will also be discussed. Fee: \$60.

*Prerequisites: PSY 101; PSY 200; PSY 300; Senior status and departmental permission.*

## **SOCIOLOGY**

**SOC 101. INTRODUCTION TO SOCIOLOGY** **THREE CREDITS**

A systematic view of sociology, providing essentials for an approach to questions about man in society and analysis of social processes, structures, and functions.

**SOC 211. THE FAMILY** **THREE CREDITS**

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.

*Prerequisite: ANT 101 or 102, SOC 101, or approval of the instructor.*

**SOC 212. HUMAN SEXUALITY** **THREE CREDITS**

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.

*Prerequisite: SOC 101 or approval of the instructor.*

**SOC 214. SEX ROLES** **THREE CREDITS**

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.

*Prerequisite: ANT 101 or 102, SOC 101, or approval of the instructor.*

- SOC 215. FAMILY VIOLENCE** **THREE CREDITS**  
 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.  
*Prerequisite: ANT 101 or 102, SOC 101, or approval of the instructor.*
- SOC 222. CRIMINOLOGY** **THREE CREDITS**  
 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 criminal law and its functions.  
*Prerequisite: SOC 101 or approval of the instructor.*
- SOC 223. DRUGS AND ALCOHOL IN AMERICAN SOCIETY** **THREE CREDITS**  
 An examination of drugs and alcohol in American society as a major social problem. Offered every other year.  
*Prerequisite: SOC 101 or approval of the instructor.*
- SOC 224. SOCIAL GERONTOLOGY** **THREE CREDITS**  
 Considers major findings about the social organization of aging and dying. Reviews history, present and future implications of the rapidly expanding population of elderly.  
*Prerequisite: ANT 101 or 102, SOC 101, or approval of the instructor.*
- SOC 225. JUVENILE DELINQUENCY** **THREE CREDITS**  
 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, as well as community based programs and their role in delinquency prevention and control.  
*Prerequisite: SOC 101 or approval of the instructor.*
- SOC 226. CORRECTIONS, PROBATION, AND PAROLE** **THREE CREDITS**  
 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.  
*Prerequisite: SOC 101 or approval of the instructor.*
- SOC 228. DEVIANCE AND SOCIAL CONTROL** **THREE CREDITS**  
 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 social responses to deviant behavior.  
*Prerequisite: SOC 101 or approval of the instructor.*
- SOC 231. FIELDS OF SOCIAL WORK** **THREE CREDITS**  
 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.  
*Prerequisite: ANT 101 or 102, PSY 101, SOC 101, or approval of the instructor.*
- SOC 234. GROUP COUNSELING** **THREE CREDITS**  
 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.  
*Prerequisite: SOC 101.*
- SOC 235. CORRECTIONS COUNSELING** **THREE CREDITS**  
 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.  
*Prerequisite: SOC 101 or approval of the instructor.*
- SOC 236. INDIVIDUAL COUNSELING** **THREE CREDITS**  
 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.  
*Prerequisite: SOC 101.*
- SOC 251. SOCIOLOGY OF MINORITIES** **THREE CREDITS**  
 A theoretical analysis of inter-group tensions and processes of adjustment with special reference to modern racial, national, and religious conflicts.  
*Prerequisite: ANT 101 or 102, SOC 101, or approval of the instructor.*
- SOC 261. SOCIOLOGY OF SPORT** **THREE CREDITS**  
 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. Offered every other year.  
*Prerequisite: SOC 101 or approval of the instructor.*
- SOC 263. THE URBAN ENVIRONMENT** **THREE CREDITS**  
 Cross-listed with PS 212. See description under the Political Science course listings. (Same as PS 212.)

**SOC 341. INTRODUCTION TO SOCIAL PSYCHOLOGY** **THREE CREDITS**

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. (Same as PSY 341.)

*Prerequisite: ANT 101 or 102, PSY 101, SOC 101, or approval of the instructor.*

**SOC 352. SOCIAL STRATIFICATION** **THREE CREDITS**

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.

*Prerequisite: ANT 101 or 102, SOC 101, or approval of the instructor.*

**SOC 371. METHODS OF RESEARCH IN SOCIOLOGY** **THREE CREDITS**

Introduction to sociological research; selected problems of research in social relations; interviewing techniques; questionnaire design and case studies.

*Prerequisite: SOC 101 or approval of the instructor.*

**SOC 373. QUANTITATIVE REASONING FOR THE SOCIAL SCIENCES** **THREE CREDITS**

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. (Same as PS 265.)

*Prerequisite: PS 261, SOC 101, SOC 371, or approval of the instructor.*

**SOC 381. SOCIOLOGICAL THEORY** **THREE CREDITS**

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.

*Prerequisite: SOC 101 or approval of the instructor.*

**SOC 390. SENIOR CAPSTONE** **THREE CREDITS**

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.

*Prerequisites: SOC 371, SOC 381.*

**SOC 395-396. INDEPENDENT RESEARCH** **ONE TO THREE CREDITS**

Independent study and research for advanced students in the field of the major under the direction of a staff member. A research paper at a level significantly beyond a term paper is required.

*Prerequisite: By arrangement with an instructor.*

**SOC 399. COOPERATIVE EDUCATION** **ONE TO SIX CREDITS**

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.)

*Prerequisites: Sophomore standing, minimum 2.0 cumulative GPA, consent of academic advisor, and approval of placement by the department chairperson.*

**SOC 198/298/398/498. TOPICS IN SOCIOLOGY** **THREE CREDITS**

A study in topics of special interest not extensively treated in regularly offered courses.

**SPANISH**

**SP 101-102. ELEMENTARY SPANISH** **THREE CREDITS EACH**

Fundamentals of spoken and written Spanish, and introduction to Spanish culture. Emphasis is placed on communicative proficiency. Work in language laboratory required.

**SP 203-204. INTERMEDIATE SPANISH** **THREE CREDITS 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. Work in language laboratory required.

*Prerequisite: SP 102 or permission of the instructor.*

**SP 205. CONVERSATION** **THREE CREDITS**

Practice in spoken Spanish, including discussions, oral presentation, and role-playing. Includes written exercises.

*Prerequisite: SP 204 or permission of the instructor.*

**SP 206. ADVANCED GRAMMAR, STYLISTICS, AND COMPOSITION** **THREE CREDITS**

Practice in written and oral skills, with an emphasis on the refinement of grammatical and stylistic abilities.

*Prerequisite: SP 204 or permission of the instructor.*

**SP 208. CULTURE AND CIVILIZATION** **THREE CREDITS**

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.

*Prerequisite: SP 204 or permission of the instructor.*

**SP 209. LATIN AMERICAN CULTURE AND CIVILIZATION** **THREE CREDITS**

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.

*Prerequisite: SP 204 or permission of the instructor.*

**SP 210. SPANISH FOR BUSINESS** **THREE CREDITS**

Introduction to language use in the contemporary Spanish business world, including practice in reading, understanding, and writing business communications.

*Prerequisite: SP 204 or permission of the instructor.*

**SP 211. CONVERSATIONAL SPANISH FOR HEALTH AND SOCIAL SERVICES** **THREE CREDITS**

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.

*Prerequisite: SP 204 or permission of the instructor.*

**SP 212. NON-LITERARY TRANSLATION** **THREE CREDITS**

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.

*Prerequisite: SP 203-204 or equivalent.*

**SP 220. SPANISH LISTENING AND COMPREHENSION** **THREE CREDITS**

"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.

*Prerequisite: SP 204 or permission of the instructor.*

**SP 301. INTRODUCTION TO LATIN AMERICAN LITERATURE** **THREE CREDITS**

An examination of literary language, genre conventions, and critical approaches, as well as an introduction to Spanish literary history.

*Prerequisite: SP 204 or permission of the instructor.*

**SP 307. SURVEY OF SPANISH LITERATURE I** **THREE CREDITS**

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.

*Prerequisite: SP 203-204 or equivalent.*

**SP 308. SURVEY OF SPANISH LITERATURE II** **THREE CREDITS**

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.

*Prerequisite: SP 203-204 or equivalent.*

**SP 395-396. INDEPENDENT RESEARCH** **ONE TO THREE CREDITS**

Independent study and research in the field of the major under the direction of a staff member.

*Prerequisite: Approval of the department chairperson.*

**SP 397. SEMINAR** **ONE TO THREE CREDITS**

Presentations and discussions of selected topics. Maximum of three credits per student.

*Prerequisite: Approval of the department chairperson.*

**SP 399. COOPERATIVE EDUCATION** **ONE TO SIX CREDITS**

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.)

*Prerequisites: Sophomore standing, minimum 2.0 cumulative GPA, consent of academic advisor, and approval of placement by the department chairperson.*

**SP 198/298/398.** **VARIABLE CREDIT**

Examination of a special topic in Spanish language, culture, or literature. Possible topics include literature of exile, pre- and post-Franco literary works, Latin-American twentieth-century writings, Hispanic women writers, literature and art, social protest literature, Latino issues through Hispanic films, Hispanic literature in translation, aspects of bilingualism, problems in Spanish grammar, and history of the Spanish Language.

**STUDY TOUR EXPERIENCE**

**STE 300. STUDY TOUR EXPERIENCE** **THREE CREDITS**

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)

## THEATRE ARTS

- THE 100. APPROACH TO THEATRE** **THREE CREDITS**  
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, collage, and professional theatre performances.
- THE 111. FUNDAMENTALS OF PLAY STRUCTURE AND CRITICISM** **THREE CREDITS**  
A study of critical techniques in interpreting plays and the application of such techniques to evaluating plays for stage presentation.  
*Prerequisite: ENG 101.*
- THE 112. SCRIPT ANALYSIS** **THREE CREDITS**  
The cultivation of interpretative skills as an approach to dramatic literature for the purposes of production. Classical Literature.  
*Prerequisite: THE 111.*
- THE 121. STAGECRAFT** **THREE CREDITS**  
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** **THREE CREDITS**  
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. SPEECH FOR THE STAGE** **THREE CREDITS**  
Instruction and exercises in vocal development for the stage, including diction, delivery, and interpretation. Laboratory sessions.
- THE 141. ORAL INTERPRETATION** **THREE CREDITS**  
Instruction in vocal delivery of prose, poetry, drama, and archaic language for the purposes of oral communication of the written text.  
*Prerequisite: THE 131 or permission of the instructor.*
- THE 190. THEATRE LABORATORY** **ONE TO THREE CREDITS**  
A study, through the application of various techniques, of different facets of theatre, such as auditioning, costuming, fencing, make-up, masks, mime, scene study, soliloquy, stage combat, textual analysis, and voice. Guest lecturers, master classes, workshops. Required of all Theatre Arts majors every semester. Fee: \$40.
- THE 191. DEPARTMENT PRACTICUM IN THEATRE PRODUCTION** **ONE TO THREE CREDITS**  
The Department Practicum in theatre production may be taken for one to three credits per semester, with the total not to exceed six. Students may earn credit for major roles and positions of major responsibility in 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. Approval or credit must be by advisor and department chairperson.
- THE 211. THEATRE HISTORY I** **THREE CREDITS**  
A survey of the historical development and background of theatrical art from ancient times through the seventeenth century.
- THE 221. SCENE DESIGN** **THREE CREDITS**  
The nature and function of scenic art with emphasis on contemporary theories and techniques.  
*Prerequisite: THE 121.*
- THE 223. COSTUME DESIGN** **THREE CREDITS**  
Introduction to approach, methods, and basic techniques for designing costumes for the theatre.
- THE 232. ACTING II** **THREE CREDITS**  
An introduction to the major theories, aims, and styles of acting through performing various roles and monologues in selected dramatic scenes.  
*Prerequisite: THE 131.*
- THE 234. DIRECTING I** **THREE CREDITS**  
An introduction to the principles of directing, including play selection, composition, casting, blocking, and rehearsing. Class and workshop.  
*Prerequisite: THE 131 or departmental permission.*
- THE 312. THEATRE HISTORY II** **THREE CREDITS**  
A survey of the historical development and background of theatrical art from the eighteenth century to the present.  
*Prerequisite: THE 211.*
- THE 331. ACTING III** **THREE CREDITS**  
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.  
*Prerequisite: THE 131, 132, 232, or permission of the instructor.*
- THE 335. DIRECTING II** **THREE CREDITS**  
A study of special problems in directing. Students will prepare a prompt book, critique productions, and direct a one-act play.  
*Prerequisite: THE 234.*

**THE 393. SENIOR CAPSTONE**

**ONE TO THREE CREDITS**

Individual performance project intended to inspire students to take on responsibility for self-governance and, through effort, create a meaningful expression of their aesthetic.

**THE 395-396. INDEPENDENT RESEARCH**

**ONE TO THREE CREDITS**

Independent study and research for advanced students in theatre under the direction of a staff member. A research paper at a level significantly beyond a term paper is required.

**THE 431. ACTING IV**

**THREE CREDITS**

Scene study, analysis, and development of acting theories for a sophisticated preparation of audition material and rehearsal technique for the working actor.

*Prerequisite: THE 131, 132, 232, 331, or permission of the instructor.*

**THE 198/298/398. TOPICS**

**ONE TO THREE CREDITS**

A study of topics of special interest not extensively treated in regularly offered courses.

**THE 399. COOPERATIVE EDUCATION**

**ONE TO SIX CREDITS**

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.)

*Prerequisites: Sophomore standing, minimum 2.0 cumulative GPA, consent of academic advisor, and approval of placement by the department chairperson.*

**WOMEN'S AND GENDER STUDIES**

**WS 101. INTRODUCTION TO WOMEN'S AND GENDER STUDIES**

**THREE CREDITS**

Introduction to Women's and Gender Studies is a lecture and discussion course. It introduces students to the theoretical assumptions and historical development of feminist thought. It examines a variety of contemporary issues related to race, gender, class, culture, sexuality, the family, reproduction, language, and discourse in light of these theoretical assumptions. Offered every spring semester.





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