

# Wilkes University

2009 – 2010

## COLLEGE OF GRADUATE AND PROFESSIONAL STUDIES BULLETIN

### College of Graduate and Professional Studies

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### STATEMENT OF DISCLAIMER

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

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### STATEMENT OF NONDISCRIMINATION

Wilkes University does not discriminate on the grounds of race, color, national origin, sex, age, or disability in the administration of or admission to any of its educational programs, activities, or with respect to employment, in compliance with Title VII, Title IX, Section 504, ADA, and the Age Discrimination Act. It is the policy of Wilkes University that no person, on the basis of race, color, religion, national origin or affectional preference, or Vietnam-era veteran status, shall be discriminated against in employment, educational programs and activities, or admissions. Inquiries may be directed to the Dean of Student Affairs or the Affirmative Action Office (Ext. 4500).

The University complies with the Ethnic Intimidation Act of 1982 of the Commonwealth of Pennsylvania which provides additional penalties for the commission of illegal acts of intimidation when such actions are motivated by hatred of the victim's race, color, religion or national origin.

### FEDERAL AND STATE ACT COMPLIANCE

The Office of Public Safety at Wilkes University prepares and distributes the "For Your Safety" annual safety and security report. This document is prepared in compliance with Act 73 of 1988 of the Commonwealth of Pennsylvania and the Jeanne Clery Disclosure of Campus Security Policy and Campus Crime Statistics Act, 20 USC §1092(f). This report is available in hard copy format upon request, during normal business hours, at the Office of Public Safety, 148 South Main Street, UCOM Garage; the Office of Admissions, Chase Hall's Reception Area; and the Office of Student Affairs, Conyngham Hall's Reception Area. Additionally, an electronic copy of this report is available on the University website at: [www.wilkes.edu/campuslife/safety/disclose.asp](http://www.wilkes.edu/campuslife/safety/disclose.asp). In addition, daily logs and crime logs are available for review during normal business hours at the Office of Public Safety. Any questions regarding this report and the specific requirements of the Acts that govern its production can be addressed to Gerald C. Rebo, Manager, Office of Public Safety, ext. 4984.

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# INTRODUCTION

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## Introduction

# WILKES UNIVERSITY

### OUR MISSION:

To educate our students for lifelong learning and success in a constantly evolving and multicultural world through a commitment to individualized attention, exceptional teaching, and academic excellence.

### OUR 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.

### OUR VALUES:

As a university community, we work together with understanding, respect and integrity, guided by these principles:

- Student success is our defining purpose
- Lifelong learning is our passion
- Mentorship is our guiding behavior
- Community engagement is our civic imperative

## COLLEGE OF GRADUATE & PROFESSIONAL STUDIES

*Dean: Dr. Michael J. Speziale*

*Dr. Michael F. Garzella, Associate Dean*

*William Jones, Assistant Dean*

*Kathleen Houlihan, Director, Graduate Admissions*

*Erin Drew, Director of the Sovereign Center for Leadership and Management Development*

### GRADUATE STUDIES AS A COMPETITIVE ADVANTAGE

Today's competitive work environment has seen a significant increase in the demand for advanced degrees, certificates and knowledge acquired through formalized continuing professional education. U.S. labor market studies indicate that many individuals will change the way they do business in their existing positions, due to rapid advancements in technology and the "flattening" of the world's economy. In fact, many professions are now requiring a master's degree for entry into the field and advancement to higher professional levels.

Wilkes University is committed to providing high quality graduate programs to meet the professional educational needs of its students. The university offers a full continuum of programs including master's, master's in fine arts and doctoral programs. In addition to traditional classroom instruction, Wilkes University is responding to increased demand for jobsite education (with alternative sites in Graduate Education throughout Pennsylvania) and a wide array of on-line programs in Education and Creative Writing. As the dean of the College of Graduate and Professional Studies, it is my hope that you will view Wilkes University as your partner in meeting life-long learning goals.

The university has committed significant resources to the College of Graduate and Professional Studies to support students through the inquiry, application, registration and matriculation processes. Enhanced student services, outstanding faculty and a rigorous curriculum provide the formula that students can count on for meeting their professional growth needs.

### A CONTINUUM OF POST-BACCALAUREATE OFFERINGS

Wilkes University has a rich tradition of responding to the changing educational needs of both workplace and students. Graduate programs were established in 1959 when the Board of Trustees authorized graduate study in the departments of chemistry and physics. The first master's degrees were conferred in 1965. The School of Pharmacy was established in 1995; the first Doctor of Pharmacy (Pharm D.) degrees were awarded in 2000. The university announced a Doctorate in Educational Leadership with majors in Educational Technology, K-12

Administration and Higher Education Administration in March of 2007. The first cohort for the Ed.D was admitted in June of 2007. Most recently, the Pennsylvania Department of Education approved the Master's in Fine Arts (MFA) in Creative Writing - the terminal degree in this field. The MFA adds yet another dimension to the increasing portfolio of master's and terminal degrees.

Graduate and post-baccalaureate programs have historically been positioned to respond to the changing needs of our students and their respective professions. An examination of the offerings in this bulletin will reveal a diverse array of advanced study programs including a Doctoral degree in Educational Leadership, Master of Arts and Master of Fine Arts degrees in Creative Writing, Master of Science degrees in Education, Electrical Engineering, Engineering Operations and Strategy, Nursing, Mathematics and a Master of Business Administration. In addition, the continuum of offerings also includes a Post-Baccalaureate Certificate in BioInformatics, an R.N. to M.S.N. program for nurses, Post Master's Certificates in Adult Psychiatric-Mental Health, Gerontological Nursing, Nursing Management and Nursing Education.

Graduate Education has forged many partnerships with leading professional development institutions including Performance Learning Systems, Learning Sciences International, Discovery Education, The New York Times and CASEnex. Most recently, Graduate Education added master's degrees in 21st Century Teaching and Learning (in partnership with Learning Sciences International), the Art and Science of Teaching (with LSI and Dr. Robert Marzano), Instructional Media, a nationally marketed on-line program ( in conjunction with Discovery Education), and English as a Second Language. Graduate Education has also initiated a Letters of Endorsement in Teacher Leadership and Instructional Coaching (in partnership with Learning Sciences International) and Technology and School Reform for Administrators and Technology and School Reform for Teachers (in partnership with CASEnex).

Graduate programs are designed to provide the opportunity for completion of advanced degrees in a reasonable amount of time that fits into a student's busy schedule. Continuous cycling of graduate courses allows a student to plan for continuous progress in his/her program of study. Programs are designed with the working professional in mind and, with a growing number of low residency programs and classes offered in a hybrid, accelerated, and weekend/evening format. Students should consult with their respective department to determine program/course schedules and available delivery formats.

Convenience, affordability and quality continue to be the hallmarks of Wilkes Graduate Programs. I hope that you, as a perspective or existing student, will take the time to look more deeply at what Wilkes has to offer. I am confident that you will find that Wilkes is the place for you to grow your professional knowledge and personal satisfaction.

## THE CENTER FOR LIFE-LONG LEARNING

*William Jones, Assistant Dean*

The Center for Life-Long Learning is your partner as you consider and explore non-credit training, and graduate and post-baccalaureate options. Assistance is available to help guide you through the details and prerequisites of established programs at Wilkes University. In addition, we are committed to helping our local and regional community as it strives to search for the newest approaches, technologies and skills needed to build and sustain a thriving economy and a rich social and cultural environment.

Information regarding the services of the center can be obtained by calling the College of Graduate and Professional Studies at 800-WILKESU Ext. 4235.

## SOVEREIGN CENTER FOR LEADERSHIP AND MANAGEMENT DEVELOPMENT

*Erin Drew, Director*

The *Sovereign Center for Leadership and Management Development* strives to be a premier partner to public and privately-owned businesses by offering leadership-driven development tools and solutions needed to improve an organization's economic vitality and overall employee

## **Introduction**

performance. The Sovereign Center has partnered with leading consultants in their fields to offer comprehensive, cutting-edge programs in the areas of New Talent Development, Management Development, and Executive Development.

Information regarding the services of the center can be obtained by calling the College of Graduate and Professional Studies at 800-WILKESU Ext. 4234.

## **ACCREDITATION**

Wilkes University is an accredited member of the Middle States Association of Colleges and Schools and its graduate and professional programs are approved by the Department of Education of the Commonwealth of Pennsylvania. In addition to total program accreditation, certain special areas are recognized by professional organizations. The Master's

Degree in Business Administration (MBA) program is accredited by the Association of Collegiate Business Schools and Programs, and the graduate program leading to the Master of Science Degree with a major in Nursing is accredited by the Commission on Collegiate Nursing Education (CCNE). The American Council on Pharmaceutical Education (ACPE) has granted full accreditation to the Doctor of Pharmacy (Pharm. D.) program.

## **STUDENT SERVICES CENTER**

Many of the functions or activities described in the following pages are performed by the Student Services Center (SSC) team located on the first floor of University Center on Main (UCOM). SSC was created to provide an integrated and centralized nexus point for the majority of student needs. While the SSC is staffed during regular university business hours, most of the services provided are also available online at [www.wilkes.edu](http://www.wilkes.edu). The primary goals for SSC include exceptional service to students, the effective use of technology and the pursuit of ever-improving services to all constituencies. Those in need of assistance may reach the SSC staff at (570) 408-2000 or [onestop@wilkes.edu](mailto:onestop@wilkes.edu). Some of the functions provided at SSC include:

- All financial aid functions
- All student account functions
- Most registration functions
- All cashier functions
- Meal plans
- Work-study matters

## **GRADUATE ADMISSION**

For admission to graduate studies an applicant must have received a baccalaureate degree from a regionally accredited institution. Ordinarily, an entering student must have completed satisfactorily a minimum of course work in designated areas, the specific courses and amount of work depending upon the field of advanced study. In some cases, programs are designed for individuals who are seeking to change professions. For specific information, you should review the specific program of interest found in detailed sections of this bulletin.

Although no specific undergraduate grade point average is a requirement for admission, it is expected that candidates for admission shall have maintained average or above-average performance during their undergraduate years.

A student whose background is judged to be deficient in any specific area of the proposed field of study or whose undergraduate grades are below standard may be asked to remedy the deficiency by taking one or more courses at the undergraduate level, without graduate credit.

Those interested in graduate programs offered at Wilkes University may apply in person, via surface mail to: The College Graduate and Professional Studies, 84 West South Street, Wilkes-Barre PA 18766, or on-line at (<http://www.wilkes.edu.applyonline>). The College of Graduate and Professional Studies is located in the lower level of Breiseth Hall, Suite 002. You may contact the office to obtain the forms and information needed to proceed with the application process by calling 1-800-WILKESU Extension 4235.



All students, whether degree-seeking or not, must complete an Application for Graduate Admission and pay the non-refundable one-time application fee. For degree-seeking students, official transcripts (signed and sealed by the higher education institutions) of all previous college and/or university work listed on the application must be submitted. Additional program admission requirements vary based on the program. Refer to specific degree program sections for more information on the admissions criteria for each graduate program.

Students, other than international students, who are unable to complete the application process prior to the beginning of their first semester may be allowed to register for up to six credits pending processing of their applications. This policy does not imply acceptance of the student into the degree program. Students failing to complete the application process by the beginning of the second semester after their initial application may be denied the right to register for additional credits.

### APPLICATION

Those interested in graduate programs offered at Wilkes University may apply in person, via surface mail, or on-line at [www.wilkes.edu/admission/application/default.asp](http://www.wilkes.edu/admission/application/default.asp). The Graduate and Professional Studies Office is located in the lower level of Breiseth Hall, Suite 002. You may contact the office to obtain the forms and information needed to proceed with the application process by calling 800-WILKESU Extension 4235.

All students, whether degree-seeking or not, must fill out an "Application for Graduate Admission" form and pay the one-time application fee. For degree-seeking students, official transcripts (signed, sealed and sent directly from higher education institutions) of all previous college and/or university work must be submitted. Students applying for Graduate Education programs must submit a copy of their teaching certificate (for most, but not all programs - see specific program for details). All degree-seeking programs require letters of recommendation and some require test scores for admission. (See specific program requirements.) For information on testing, contact the Educational Testing Service, Box 955, Princeton, NJ 08540.

Students, other than international students, who are unable to complete the application process prior to the beginning of their first semester may be allowed special admission to the program pending processing of their applications. This policy does not imply acceptance of the student into the degree program. Students failing to complete the application process by the beginning of the second semester after their initial application may be denied the right to register for courses.

### CATEGORIES OF ADMISSION

A graduate student may be admitted either as a degree or a special non-degree student, depending upon the student's objectives. After admission to one of these categories, request for a change of status must be officially acted upon by the Graduate Studies Office.

Wilkes undergraduate students may be permitted to enroll in certain graduate courses with the approval of their advisors, the Chairperson of the Department offering the course, and the Graduate Studies Office. Credit for such courses will be at the undergraduate level.

### DEGREE-SEEKING STUDENTS

**Regular admission** is granted to students who have completed the application process and who have demonstrated an acceptable level of academic work in their undergraduate program and are prepared for work at the graduate level in their field of specialization.

**Provisional admission** is granted to students who satisfy general admission requirements but who have undergraduate or admission-testing deficiencies. Typically, the deficiencies are undergraduate prerequisites that are required and completed prior to beginning graduate courses. Some graduate programs may allow a provisionally admitted student to begin graduate work before, or simultaneously with, the completion of undergraduate or testing prerequisites. A student granted provisional admission will be permitted to take a maximum of 12 graduate credits in this admission category. Upon the completion of 12 graduate credits, a provisionally admitted student will either be granted regular admission or denied admission into the graduate program. Under extraordinary circumstances, a student may petition the Dean of the College of Graduate and Professional Studies for an extension.

**Conditional admission** is granted to students who meet general admission requirements but who have a marginal undergraduate record. A student granted conditional admission will be

## **Introduction**

permitted to take a maximum of 6 graduate credits in this admission category. Upon completion of 6 graduate credits, a conditionally admitted student will either be admitted or denied admission into the graduate program based on his/her performance. Under extraordinary circumstances, a student may petition the Dean of the College of Graduate and Professional Studies for an extension.

**It should be noted that individual graduate programs retain the right to impose more rigorous conditions on students who have been admitted either provisionally or conditionally. Such conditions, if imposed, will be detailed in the letter of admission sent to the student.**

### **SPECIAL NON-DEGREE STUDENTS**

Students may apply for admission and register as special non-degree students. They must complete the Application for Admission form, check status desired (special non-degree) and pay the application fee. Special non-degree students are allowed to accumulate up to six credits only. Upon the completion of six credits, they must declare their intention to change their status to degree candidate status or their right to register for courses may be revoked. Exceptions to this policy must be approved by the Chairperson of the Department in which the student seeks to take additional courses as a special non-degree student. This option is not available to international students.

### **PROFESSIONAL DEVELOPMENT FOR TEACHERS**

Certified teachers wishing to take graduate courses for professional development are allowed to register as special non-degree students. They must complete the Application for Admission form, check status desired (special non-degree), pay the application fee, and submit a copy of their teaching certificate. While there is no limit on the number of graduate courses that teachers may take for professional development, it is understood that these courses may not fulfill requirements for a master's degree at Wilkes. Teachers should consult the Education section of this Bulletin for degree requirements as well as confer with the Director of Operations for Graduate Education in order to determine which courses are required for a specific M.S. in Education degree or Letter of Endorsement at Wilkes.

### **INTERNATIONAL STUDENTS**

International graduate students are required to send official transcripts to World Education Services ([www.wes.org](http://www.wes.org)) when applying for any graduate program at Wilkes University. Students applying to the University through one of our partner educational agencies or institutions are excluded from this requirement. Contact the College of Graduate and Professional Studies for more details.

Students applying through approved partner educational agencies and institutions must provide transcripts to the College of Graduate and Professional Studies. Approved applicants submitting transcripts from foreign institutions must provide official transcripts (original or certified) of all postsecondary academic course work and a certified English translation of their credentials if the originals are not in English. (Certification must be obtained from a university/school official, embassy official, the Ministry of Education or the Ministry of Foreign Affairs. Certification by a notary public is not acceptable.)

International Students are required to submit a statement of financial verification (bank or government statement indicating that you or your sponsor have on account a sum of money sufficient to pay tuition, room, board, and expenses for one academic year.

International students for whom an F-1 visa is required, must submit all required application documents, in addition to all documents described in the Application section above, at least three months prior to the beginning of the semester in which they intend to begin graduate studies. Wilkes University reserves the right to require two certified English translations of all academic records at the students' expense.

All international student applicants whose native language is not English and who hail from non-English speaking countries must take the TOEFL (Test of English as a Foreign Language) and submit the results of this test with the application for admission or provide proof that their language of instruction was English. A student must present a minimum TOEFL score of 550 (203, computer based or 79, internet based) to be considered for admission.

It is generally required that each international student submit an affidavit of support and bank statement indicating that the applicant has access to funds at least equal to one full year of tuition plus living and personal expenses in the United States. See program requirements.

The U.S. Citizenship & Immigration Services (USCIS) Department requires a certificate of eligibility (Form I-20A) to be initiated by the University prior to applying for a student visa to study in this country. Any extension of stay or employment while in the United States must have the prior approval of the regional office of the Immigration and Naturalization Service.

International students in the graduate program must maintain full-time student status (at least 9 credit hours per semester).

International students may be required to take certain courses for undergraduate credit that are not applicable to the master's degree. In some cases these courses will be specified in the admissions letter, but the Department Chairperson and the student's advisor may add requirements if a student is found to be deficient in the English language or in background knowledge in the field.

### ***International Student Campus Requirements***

All international students must register their names with the Immigration Specialist in the Center for Global Education and Diversity as soon as they arrive to campus. The Immigration Specialist, serves as advisor on non-academic matters to all international students.

Services provided include counseling on housing, visa and other issues related to life in the United States. The Immigration Specialist provides immigration and visa information and assistance as well as advice on personal issues. The Coordinator also provides orientation to life in the United States and the American educational system; assists students in dealings with U.S. and foreign government agencies, other campus offices and departments, and the community.

### ***International Student Academic Status***

An international student holding an F-1 visa (or equivalent) must maintain full-time status during the regular semesters (fall and spring) by registering for the minimum number of credits (currently nine) as defined by the Student and Exchange Visitor Information System (SEVIS) or for the number of credits remaining in order to complete his or her graduation requirements, whichever is less.

If such student is unable to satisfy the above condition, he or she must petition the Graduate Studies Committee. The Committee will accept only reasons recognized and specified by the United States Immigration and Naturalization Service.

An international student fulfilling the Thesis option/requirement (currently six credits) will have two continuous semesters to complete his or her work and defend the thesis. A request for an extension must be recommended by the student's Thesis Committee and approved by the Graduate Studies Committee. The decision to either grant or deny the extension must state the reasons AND the time extension granted.

An international student fulfilling the non-Thesis (Report/Project) option/requirement will have one semester to complete his or her report/project. A request for an extension must be recommended by the Program Director and approved by the Graduate Studies Committee. The decision to either grant or deny the extension must state the reasons AND the time extension granted.

***To meet the definition of CPT, the employment must meet at least one of the following criteria:***

1. The employment will yield crucial data which is *absolutely necessary* to complete the student's required thesis, i.e., it would not even be possible to complete the thesis without this employment.
2. The employment is *absolutely necessary* for the student to complete a project for which he or she will receive academic credit *that directly counts towards the student's formal degree requirements*. It will be impossible for the student to complete the project without this particular employment, and the project will earn credits that will fulfill a specific degree requirement in the student's program.

An international student who elects to do an internship, including Curricular Practical Training (CPT), must be placed in such internship and have such internship monitored by the Office of Cooperative Education. There must be a clearly defined curricular need for such internship placement.

## **ACADEMIC INFORMATION**

### **DEGREE REQUIREMENTS**

Students may be awarded the master's degree upon satisfaction of all graduate degree requirements and the following specific requirements:

1. **A completed file** (application, application fee, official transcripts, copy of teaching certificate, letters of recommendation, and any required testing).
2. **Regular admission** into a graduate program;
3. **Satisfactory completion of all requirements for the degree** to be completed within six calendar years preceding the date of the granting of the degree. If an extension of the six-year limit is needed, a request should be submitted in writing to the Graduate Studies Office. The Graduate Dean will review the request and consult with appropriate parties (graduate program director, chairperson, advisor or academic dean) and will notify the student and the appropriate administrative offices of the final decision.
4. **A minimum average of 3.0 for all graduate work** (see Grade Regulations);
5. **If a thesis is required**, the candidate should:
  - a. Be accepted by a thesis advisor and an Advisory Committee before completion of nine hours of graduate study;
  - b. Submit an acceptable thesis in the required format and quantity of copies no later than three weeks prior to the commencement at which the degree is to be conferred;
  - c. Arrange for publication of the thesis. (see Thesis Policy);

Specific requirements for graduate degrees will be found within each of the degree programs described in the following sections.

Students **CANNOT** substitute other courses for any of the required core courses in any program without the express written consent of the department chair/director.

### **REGULATIONS ON THESIS RESEARCH**

Each graduate student shall select a major advisor under whose direction he/she wishes to pursue thesis research, if a thesis is required. Following acceptance of the candidate, the advisor shall appoint two other members of the graduate faculty to serve with the advisor as the student's Thesis Advisory Committee. Students in the doctoral program in Education should refer to the Handbook for Doctoral Students for more complete details on the dissertation.

Part-time students employed in laboratories on a full-time basis may be permitted to conduct their thesis research in these laboratories, if a mutually satisfactory agreement can be reached by the student, the laboratory staff, and the University. In such cases, a qualified member of the staff of the employer shall be named by the Department Chairperson to serve as a member of the student's Thesis Advisory Committee. This staff person shall be appointed an adjunct professor of the University and shall supervise day-to-day progress of the student's research.

### **MASTER'S THESIS POLICY**

1. Upon approval of the thesis topic, the student and the advisor will identify the objectives, develop a timetable, and plan the distribution of credits in that timetable. This written plan will be placed in the student's files in the department office and the Student Services Office.
2. The student shall be continuously registered for a minimum of one thesis credit up to and including the semester that he/she defends the thesis and submits the final copies of the thesis.
3. The thesis objectives should be completed within the allocated number of credits and within the timetable developed; however, circumstances and the uncertainties associated with research and project work may require subsequent adjustments to the credits allocated and the timetable. Such adjustments shall also become part of the student's files in the department office and the Student Services Office.
4. Students registered for thesis credits will be awarded a grade reflecting the level and the quality of work conducted for that semester. Incomplete and audit designations are explicitly excluded as thesis grades.
5. The satisfactory completion of the thesis is indicated by passing the oral examination and obtaining the necessary approvals from the Thesis Advisory Committee, the Department Chairperson, and the Graduate Studies Office.

6. Student appeals to any provisions in this policy shall be to the Thesis Advisor, the Department, and finally to the Graduate Studies Committee.

The original and three copies of the thesis must be submitted to the Graduate and Professional Studies Office after the thesis has been approved by the Advisory Committee. One copy will be filed in the Library, one in the Graduate Studies Office and one in the appropriate department. If the student desires a personal copy bound, an additional copy should be furnished. For thesis binding fees, see section on Fees and Expenses.

#### GRADING

Numerical grades are given for graduate work:

- 4.0 = A      Academic achievement of superior quality  
 3.5 = B+     Academic achievement of good quality  
 3.0 = B      Academic achievement of acceptable quality in meeting graduation requirements  
 2.5 = C+     Academic achievement of adequate quality but below the average required for graduation  
 2.0 = C      Academic achievement below the average required for graduation  
 0.0 = F      Failure. No graduate course credit

A grade of "X" indicates assigned work yet to be completed in a given course. Except in thesis work, grades of "X" will be given only in exceptional circumstances. Grades of "X" must be removed through satisfactory completion of all course work no later than four weeks after the end of the final examination period of the semester in which the "X" grade was recorded. Failure to complete required work within this time period will result in the conversion of the grade to 0. An extension of the time allowed for the completion of work should be endorsed by the instructor in the form of a written statement and submitted to the Registrar.

#### APPEAL OF GRADE POLICY

Students who have a clear and justifiable grievance with reference to a grade should first seek resolution with the instructor and, subsequently, with the Department Chairperson/Director. It is expected that they will consult with the faculty member in an effort to resolve the dispute. The Chairperson/Director may also exercise the option to involve others in the discussions with the faculty member.

If satisfaction cannot be obtained, the student has the right to appeal to the Dean of the College of Graduate and Professional Studies. The appeal must be made by the end of the fourth week of the subsequent fall or spring semester. Grades themselves may not be appealed. Students may only appeal an inconsistent application of process or policy. The Dean of the College of Graduate and Professional Studies will consult with the Department Chairperson/Director and will establish an Appeal Committee of three faculty members - at least two of whom shall be from the department of the faculty member concerned, if possible. A Committee Chairperson will be appointed by the Dean of the College of Graduate and Professional Studies. The Committee Chairperson will notify the faculty member of the appeal and the composition of the Committee.

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

The Committee will make a report to the Dean of the College of Graduate and Professional Studies in which it reviews the issues and recommends a solution. In most cases this will be a recommendation to uphold the grade awarded by the instructor or to alter the grade that the student received. In some cases the recommendation may be to present the student with other alternatives such as the completion of additional work before a final grade is determined.

The Dean of the College of Graduate and Professional Studies, after consultation with the Provost, will inform the faculty member and the student of the recommendations of the Appeal Committee and will take the steps that are necessary to implement the recommendations.

## **Introduction**

### **AUDITING**

A person desiring to audit a course does not need to meet normal admission requirements, but must obtain approval to audit from the course professor and indicate "audit" on the registration form. Auditors must file the appropriate Application and pay the non-refundable application fee. The student receives no credit for courses taken as an auditor

A student enrolled in a course may apply to become an auditor by contacting the Graduate and Professional Studies Office, and must obtain approvals from the course professor. This change of status must be completed before the end of the second week of the class.

### **REGULATIONS FOR WITHDRAWAL**

A student may withdraw from a course during the first three weeks of the semester by informing the instructor, completing a withdrawal form that is co-signed by the student and the student's advisor, and returning the signed form to the Student Services Office within the first three weeks of the semester. A student may withdraw from a course from the end of the third week through the eighth week only with the approval of both the instructor and the student's advisor. (The completed form must be returned to the Student Services Office by the end of the eighth week.) Thereafter, a student may withdraw from a course only for serious circumstances, as determined by the Department Chairperson or the Director/Coordinator of the appropriate graduate program in consultation with the instructor and the Graduate Studies Office. A mark of "W" indicates an authorized withdrawal from the course. Students are advised that withdrawing from a course(s) may have financial implications; see sections on "Refunds" and "Withdrawal-Return of Financial Aid Funds" in this bulletin for more information.

**It is the student's responsibility to initiate withdrawal from a course by obtaining the withdrawal form from the Student Services Office, having it signed by the appropriate personnel, and returning it to the Student Services Office within the three- or eight-week period. A grade of "O" is assigned by the instructor and recorded for all courses in which no official withdrawal, as specified above, has been completed by the student.**

"W" is not a grade; it does not constitute a reflection of academic performance within a course. The appropriate grade for academic performance below the minimum standard for course credit is "O."

A "W" granted during the first three weeks reflects a decision on the part of the student, after consultation with the instructor and advisor, not to be enrolled in a course. A "W" granted during the remainder of the course constitutes recognition and agreement by the student, instructor, and advisor, that, due to some extraordinary circumstances beyond the student's control, enrollment in that course is not possible or feasible. Fear of receiving a low grade does not constitute an extraordinary circumstance.

### **ACADEMIC PROBATION AND INELIGIBILITY**

A graduate student who accumulates two grades below 3.0 in one or more graduate courses will be placed on probation. A student earning a third grade below 3.0 will be dismissed from the graduate program. A student who is dismissed from the graduate program may request a review of the case by the Faculty Committee on Graduate Studies. The request should be submitted in written form to the Dean of the College of Graduate and Professional Studies.

Individual programs may have more stringent academic progression requirements than those prescribed by the Graduate Division. Students are urged to review program-specific academic progression requirements that may be described in the section of this bulletin pertaining to their program.

### **STUDENT CONDUCT**

Graduate students are obligated to observe the regulations governing all Wilkes University students relative to:

1. Academic honesty and integrity;
2. Respect for the rights of others relative to their safety, welfare and educational commitments;
3. The safety and security of the entire community.

Any disciplinary cases arising from a lack of observance of these regulations will be adjudicated by the Dean of the College of Graduate and Professional Studies and the Office of Student

Affairs. Appeals from the decisions of this Committee may be made in written form to the Dean of the College of Graduate and Professional Studies.

Policies regarding student conduct are published in the Wilkes University Student Handbook, which is available on the web site at [www.wilkes.edu](http://www.wilkes.edu).

### COURSE NUMBERING

Courses are designated by three-digit numbers. The first digit denotes the level of the course as follows:

400-499 Courses for graduate students and advanced undergraduates

500-599 Courses for graduate students only (except with special permission)

600-699 Courses for doctoral students only (except with special permission)

### TRANSFER CREDITS

*(Please see individual department information for program-specific considerations.)*

A maximum of six credits of graduate work done at another accredited university or college may be applied toward the requirements for a master's degree. There is no exception to this policy. Acceptance into a graduate program is necessary before credits can be considered for transfer. Students seeking to transfer courses from another institution may be requested to produce a course syllabus and course work so that a final determination can be made. Academic officers at Wilkes review the syllabus to determine if the course contains master's level learning objectives, a sufficient number of contact hours (40-45 for a three-credit course), and an appropriate content outline containing assessments and assignments that clearly delineate student performance.

Wilkes University does not transfer credits for 1) courses titled as workshops; 2) other courses that are determined not to meet academically rigorous standards; 3) courses that do not align with the goals and objectives of existing Wilkes courses; or 4) courses taken as Pass-Fail, unless the "Pass" can be substantiated by the former institution as being a grade of B (3.0) or better.

A transfer credit form must be submitted and an official transcript provided in order for credits to be transferred. Approval for any transferred credits toward a degree program must be granted by the Program Director. Transferred academic work must have been completed within six years prior to the date of admission to the graduate program at Wilkes, with a grade of B (3.0) or better. Grades earned in transferred courses are not included in the computation of the cumulative grade point average at the University.

Current Wilkes graduate students who seek to take a graduate course at another accredited university or college and transfer the credits back to the University must complete a "Pre-Approval Form" prior to registering for the course. An official transcript must be requested from the other institution as soon as it is available and sent to the Graduate and Professional Studies Office. All completed forms for transfer of credits should be submitted to the Graduate and Professional Studies Office.

A student cannot be approved for graduation until all transfer credits are approved by the program director, an official transcript has been received at Wilkes from the institution granting the credit, and the approved transfer credits are posted to the Wilkes University transcript. All paperwork must be received prior to each semester's Wilkes graduation clearance deadline.

### CHALLENGE EXAMINATIONS

Students who desire to remove undergraduate deficiencies may do so by formal course work or by challenge examination. Challenge examinations may not be used to earn credits toward the graduate degree. Arrangements are made by the student directly with the Graduate Program Director.

### TRANSCRIPTS

Transcripts are provided by the Student Services Office (1-800-WILKESU ext. 2000). They are issued only upon request by the student in either written or electronic form. The electronic request form is available via the MyWilkes portal under the student services tab (my transcript- request an official transcript).

A student requesting a transcript in person at the University Center on Main (UCOM) must present valid identification.

## **Introduction**

Transcripts given directly or mailed to students do not carry the University seal and are not official. The seal is attached only when the transcript is mailed directly from the University to another academic institution or authorized agency.

A transcript of work completed at any college or university other than Wilkes University must be obtained directly from that institution.

## **THE FAMILY EDUCATIONAL RIGHTS AND PRIVACY ACT OF 1974**

Wilkes University, in full compliance with the Family Educational Rights and Privacy Act of 1974 (FERPA), shall make educational records available to students upon request. Likewise, in accordance with the law, individually identifiable educational records will not be released to other than authorized individuals without written consent of the student.

Wilkes University has established a policy on access to and release of student information for compliance with provisions of this Act. This policy is published in the Wilkes University Student Handbook, which is available on the web site at [www.wilkes.edu](http://www.wilkes.edu).

# **GENERAL INFORMATION**

## **FULL-TIME STUDENT STATUS**

A graduate student's status as full- or part-time is determined by the number of graduate credits the student carries in a semester. Nine graduate credits per semester is the minimum number of credits a graduate student may carry to be considered a full-time graduate student. A graduate student registered for at least six credits, but fewer than nine credits, is considered a half-time student. A graduate student registered for fewer than nine graduate credits in a semester is considered a part-time student.

## **UNIVERSITY IDENTIFICATION CARDS**

Wilkes University provides a photo identification card (University ID card) to all of its eligible employees and students; additionally, University approved contracted personnel will be issued a University ID card. The University ID card will be used to identify all persons affiliated and employed by the University in order to facilitate safety and security; allow the cardholder access to specific areas, services and resources; and provide other privileges as designated by the University and/or its departments. All persons affiliated with and employed by the University are required to carry their University ID card at all times.

The University ID card is intended to serve as proof of an individual's status with the University. Depending on one's status with the University, access and privileges are restricted based on specific requirements. All eligible employees, students and University-approved contracted personnel who have been issued a University ID card are required to provide the card when properly requested by an agent of the University.

If the person refuses to furnish the University ID card he/she will be removed from the building/premises and/or subject to disciplinary action. Each University ID card is the property of the University; anyone who alters or intentionally mutilates the University ID card, who uses the University ID card of another, or who allows his/her University ID card to be used by another is subject to disciplinary action.

If a card is lost or stolen it can be replaced at the University Service Center between 8:00 a.m. and 8:00 p.m. Monday-Friday. A fee of \$25 will be charged to the student's account.

Wilkes University's ID Card Center is located at the University Service Center, 1st Floor, 148 S. Main Street (UCOM Parkade). The ID Card Center's operating hours are Monday ~ Friday 8:00 a.m. to 8:00 p.m. and other designated hours established by the Campus Support Services Department.

## **LIBRARY**

The Eugene S. Farley Library, located on the corner of South Franklin and South Streets, is one of the largest resource libraries in the region with more than 200,000 volumes of books and bound journals; over 430 journals and newspaper subscriptions; 10,000 full text online journals; microforms; instructional audio-visual materials; and a growing collection of classic films on DVD. Students have access to forty-four desktop computers and fourteen wireless laptops which can be used anywhere within the library's wireless environment. The library also offers limited private office study space for graduate students.



Library hours during the academic year are from 8: a.m. to 12:00 a.m. Monday through Thursday, Friday 8 a.m. to 5 p.m., Saturday 11 a.m. to 6 p.m and Sunday 11 a.m. to 12:00 a.m. Summer sessions and Holiday hours, as well as any changes are posted at the library entrance and on the library website. Library services are available online 24/7 at [www.wilkes.edu/library](http://www.wilkes.edu/library) and the MyWilkes Library page.

### ROOM AND BOARD

There are no housing facilities exclusively for graduate students on the Wilkes campus. Nor does the University provide accommodations for married couples or families. Graduate students are housed in University residence halls only on a space-available basis. Graduate students who are interested in living on campus should contact the Residence Life Office to determine space availability.

The University Dining Hall, located on the third floor of the Henry Student Center, is open to members of the Wilkes community.

For casual dining, the Rifkin Cafe is located on the first floor of the Henry Student Center, and Einstein Bros. Bagels is located on the first floor of UCOM. For information on meal plans, graduate students should contact the University Service Center on the first floor, 148 S. Main Street (UCOM Parkade).

### PARKING

Wilkes maintains parking areas on- and off-campus, and use of these facilities on week-days until 4:30 p.m. is by permit only. Except for resident parking lots, these areas are open for graduate student parking on weekends, and after 4:30 p.m. on weekdays, without a permit. Parking permits are issued on a varied schedule based on the applicant's relationship with the University and the availability of parking spaces. For information about the application process, contact the Campus Support Services Department at ext. 2349 (Verify extension).

A limited number of handicapped spaces are available in the on- and off-campus parking areas. Arrangements for a handicapped permit can be made through the Campus Support Services Department, on the first floor, 148 S. Main Street (UCOM Parkade).

### BOOKSTORE

Wilkes University and King's College, through Barnes & Noble College Booksellers, Inc., operate a joint bookstore facility on South Main Street, adjacent to Public Square. The "academic superstore" is designed to meet the needs of students as well as the community at large. The store features full textbook services ~ both new and used; a full selection of general trade books; a local authors section, a full-service Starbucks Café and lounge chairs and tables. It also houses a "spirit" shop featuring logo merchandise for Wilkes University. A full selection of textbooks, supplies, and logo merchandise is available for purchase on the Barnes & Noble web site, [www.bncollege.com](http://www.bncollege.com)

### HEALTH SERVICE

The Office of University Health Service maintains regular hours while the University is in session for the fall and spring semesters. A Nurse Practitioner and a Registered Nurse are available while Health Service is open, and a physician is available at specified hours during the week. Appropriate referrals are made as necessary to community physicians and hospitals. The Office of University Health Service does not provide clinic hours during the summer months. In times of escalating health care costs it is essential for students to have health insurance coverage.

### 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 are offered to assist students at all stages of their career development. Students are encouraged to participate in this service by registering at Conyngham Hall at 130 South River Street.

## FINANCIAL INFORMATION

### TUITION AND FEES

All payments can be directly mailed to: Wilkes University—Student P.O. Box 8500-54693. Philadelphia, Pa 19178-4693. Discover, Visa and MasterCard payments can be made on the Wilkes University web site, [www.wilkes.edu](http://www.wilkes.edu), or by calling the Student Services Center at 570-408-2000. Any questions concerning charges or payments should be directed to 570-408-2000 or

## Introduction

onestop@wilkes.edu. Payments can be made in person at the cashier's window, located on the first floor of University Center on Main (UCOM).

Several plans have been developed to assist students who do not have the cash in hand, and it is suggested that these plans be considered when special assistance is needed. Students may consult with the Financial Aid Director for information regarding scholarships and loan programs.

Subject to the regulations concerning refunds, the total tuition is considered fully earned by the University upon completion of registration by the student.

The following chart summarizes graduate and professional student expenses for the 2008-09 academic year, which officially begins with the Summer Session, 2008.\* Students are referred to the course descriptions in this Bulletin for laboratory and other fees associated with particular courses. Inquiries about particular charges should be addressed to the Controller's Office. *Note that graduate and professional school tuition and some fees are program specific.*

## GRADUATE AND PROFESSIONAL PROGRAM TUITION AND PROGRAM-SPECIFIC FEES

### Doctoral and Professional School (Pharmacy) Tuition and Fees

#### EDUCATION (Ed.D)

Ed.D.	\$430 per credit hour (2009 Summer Session Only)
Ed.D.*	\$463 (2009-10 Academic Year, Summer 2010 Only)
Application Fee	\$45

#### PHARMACY (Pharm.D.)

##### First Professional (Pharmacy School) Tuition and Fees:

Full-time Tuition (12-18 credits)	\$13,120 per semester
General University Fee	\$355 per semester

Pharmacy Clerkship Fee	\$480 per semester
Recreation Fee	\$30 per semester
Student Activity Fee	\$115 per semester
Student Union Fee	\$25 per semester
Technology Fee	\$135 per semester

### Master's Programs Tuition and Fees:

**M.A. in Creative Writing And M.F.A. in Creative Writing** \$610 per credit hour

Application Fee	\$45
Acceptance Deposit	\$250 (one-time fee)
General University Fee	\$30 per credit hour
Technology Fee	\$30 per credit hour
Thesis Reader Fee	\$250 (one-time fee)
<b>M.B.A.</b>	\$715 per credit hour
<b>M.S.Ed.</b>	\$357 per credit hour (2009 Summer Session Only)
<b>M.S.Ed.*</b>	\$370 (2009-10 Academic Year, Summer 2010 Only)

**M.S.,M.S.E.E.,M.S.E.O.S.** \$715 per credit hour

**M.S. (Nursing)** \$485 per credit hour

**M.S. (Nursing/Professional Master's)** \$11,925 per semester  
(2009-10 Academic Year, Summer 2010 Only)

### GENERAL FEES:

Application Fee	\$45 (one-time fee)
Audit Fee	One-half of tuition cost
Challenge Examination Fee	\$90 per credit hour
English as a Second Language Fee	\$5,435 per semester
General Fee	\$30 per credit hour

Graduation Fee	\$160 (charged to all graduating students in their last semester)
Technology Fee	\$30 per credit hour
Thesis Binding Fee	\$20 per copy
Transcript Fee	The first transcript is free of charge; the fee for the second and subsequent transcripts is \$15 per copy.

Individual departments have the right to charge laboratory and breakage fees as appropriate.

Third-Party Billing and Deferred Payment forms may be picked up at the Controller's Office in UCOM or on the Wilkes web site. These forms must be submitted each semester.

**Note:** The Controller's Office is prohibited from signing graduation clearance forms until any outstanding balance is paid in full. Graduates who have requested the deferred payment option must pay the final semester balances personally before clearance forms are signed (or have a written guarantee from their employer that the amount will be paid to Wilkes regardless of course completion or final grade). Those prospective graduates not complying with the above policy will not be cleared until actual cash payment is received from their employer.

#### PAYMENT OF CHARGES

Prior to the beginning of each semester, invoices listing all current semester charges and approved financial aid are mailed to all registered students. All payments can be mailed directly to Wilkes University - Student / P.O. Box 8500-54693 / Philadelphia, PA 19178-4693. Discover, Visa and Mastercard payments can be made on the Wilkes University web site ([www.wilkes.edu](http://www.wilkes.edu)) or by calling the Student Accounts Office at (570) 408-2000. Any question concerning charges or payments should be directed to (570) 408-2000 or [billings@wilkes.edu](mailto:billings@wilkes.edu). Payments can be made in person at the cashier's window located on the first floor of University Center on Main (UCOM).

Students who fail to pay all indebtedness to the University shall not be permitted to receive any degree, certificate, or transcript of 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 arrangements made with the Controller's Office 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:

- Enrollment in the Monthly Payment Option plan (discussed below);
- Participation in the Deferred Employer Reimbursement plan;
- 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 will be cancelled and the student will not be allowed to attend classes. In order to be reenrolled and reregistered, the student will be required to pay a late registration fee of \$50 in cash before registering. Students whose accounts are two payments late will be cancelled from the Monthly Payment Option plan and the full unpaid amount will immediately become due and payable. All students who fall into this category and those students who have been written off as bad debts or have been turned over to a collection agency will not be eligible for consideration of any other alternative financial arrangements.

Students who have applied for a Stafford Loan (Guaranteed Student Loan) where approval has not been granted by the bank will be required to pay the lesser of \$300 or 25% of the loan requested two weeks before the first day on which classes begin. If the Stafford Loan (Guaranteed Student Loan) is subsequently approved, refunds of overpayments will be made after the loan check is posted to the student's account.

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### SUMMER, FALL, AND SPRING PART-TIME TUITION

Charges for summer and/or part-time tuition and fees must be paid in full two weeks before the first day of classes unless covered by the Deferred Employer Reimbursement policy. The deferred payment policy is described below.

### DEFERRED PAYMENT POLICY (EMPLOYER REIMBURSED)

Deferred payments for employer reimbursement and third party payor arrangements will be permitted, provided the student makes application and receives approval and delivers the completed documents two full weeks before classes begin. Graduating students are not eligible for the deferred payment option.

### MONTHLY PAYMENTS

Wilkes has developed an interest-free, Installment Payment Plan to help ease the burden of financing an education. Arrangements may be made to finance the total unfunded cost of tuition and fees.

The following are some of the financial institutions that provide educational loans for parents and students:

Key Education Resource Group: for information, call 1-800-KEY-LEND

CitiAssist Loan at Citibank: for information, call 1-800-967-2400

Signature Loan at Sallie Mae: for information, call 1-800-695-3317

### REFUNDS

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 refund schedule below. Before a refund will be processed and released by the Controller's Office, there must be an official withdrawal form or written request on file at the Registrar's Office. The date of official withdrawal will be determined by the date the notification is given to the Student Services Office.

### REFUND SCHEDULE\*

Academic Year	Time of withdrawal	Tuition Refund
	First Week	95%
	Second Week	85%
	Third Week	80%
	Fourth Week	75%
	Fifth Week	70%
	Sixth Week	60%
	Seventh Week	55%
	Eighth Week	50%
	Ninth Week	40%
8-week Summer Sessions	First week	50%
	Two weeks of evening sessions	50%
	Second-eighth weeks	No refund
Weekend College	Through second weekend	50%
	After second weekend	No refund

\*For graduate students on board plans, in the event of withdrawal at any time during the 15-week semester, meal charges will be refunded on a pro-rated basis from the end of the week during which official withdrawal was recorded in the Student Services Office.

\*Please note that the MBA Summer Session will follow the Academic Year refund schedule.

## ASSISTANTSHIPS AND COUNSELORSHIPS

The University awards a limited number of graduate assistantships. Positions are posted by department on the Wilkes web site. Applications for these assistantships must be filed with the Department Chairperson/Manager based on the application deadline listed in the posting. The

department then reviews the graduate assistantship applications and a recommendation for awarding assistantships is made to the Dean of the College of Graduate and Professional Studies. Award letters are then sent to the individual or individuals who have been named as graduate assistants.

#### CRITERIA FOR SELECTING GRADUATE ASSISTANTS

1. Regular admission to the program or current student with good academic standing (3.0 GPA or higher).
2. Students admitted under Conditional Classification may apply for an assistantship after completion of nine semester hours of graduate credit with a cumulative average of 3.0 or higher.
3. Completion of Graduate Assistant on-line application process.
4. Ability and willingness to perform the duties outlined in the job posting and assigned by the Director/Department Chair of the respective program.

### FINANCIAL AID

#### INSTITUTIONAL AND FINANCIAL ASSISTANCE INFORMATION

The following information concerning student financial assistance may be obtained from the Student Services Center in UCOM.

1. Financial aid programs available to students who enroll at Wilkes;
2. The method by which such assistance is distributed;
3. The means, including forms, by which application for student financial assistance is made; the requirements for accurately preparing such applications; and the review standards employed to make awards for student financial assistance.

#### RENEWAL OF FINANCIAL AID

Financial aid is awarded on an annual basis; therefore, students must reapply each year. In addition to showing 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.

#### LOANS

In order for enrollment in courses to qualify for federal financial aid eligibility, the site at which a student is enrolled must be approved by the Department of Education if more than 50% of the academic program is available at that site. Wilkes University makes every attempt to keep the list of eligible sites current. However, because of the changing dynamics of school districts, it is sometimes necessary to move sites due to factors such as maintenance, construction, etc. Off campus students who are interested in federal financial aid, should call the University's financial aid office at 570-408- 2000 to verify that their site qualifies. Private loan programs, however, are available even if a site does not qualify for federal aid. The University is currently seeking approval of these sites and, therefore, eligibility for Stafford Loans may become available with the Fall Semester, 2009. Contact the Student Services Center at (570) 408-2000 for additional information on these loans.

#### IMPORTANT TERMS

**Academic Grade Level:** Graduate programs are divided into two grade levels; the first 15 graduate credits are grade level 6 and the remainder of the program is grade level 7.

**Academic Progress:** For continued participation in the loan programs, students must meet specific academic progress requirements, which include the successful completion of a specific number of credits based on their enrollment status and the maintenance of a 3.0 cumulative grade point average.

**Enrollment Status:** Full-time is 9 graduate credits per semester; half-time is 6 graduate credits per semester.

**Graduate Student:** A student who has been **officially** accepted as a candidate in a graduate degree program. A completed file has been reviewed and an acceptance letter has been issued.

## **Introduction**

### **FEDERAL STAFFORD LOANS**

The subsidized Stafford Loan is a federal program that enables students to borrow money from a bank, credit union, savings and loan, or other participating lenders. It is available to graduate students who are enrolled on at least a half-time basis and who show financial need. The loan is interest-free while the borrower is enrolled at least half-time and for the first six months following termination of such enrollment. The government pays interest on subsidized loans while the student is enrolled in graduate school on at least a half-time basis. Graduate students may apply for \$8,500 per academic year.

Interest begins to accrue the seventh month after the student ceases to be enrolled on at least a half-time basis. Beginning on July 1, 2009, the interest rate is 5.6%.

Repayment of principal and interest begins six months after the student ceases to be enrolled on at least a half-time basis.

The Unsubsidized Stafford Loan differs from the subsidized Loan in that the student must pay the interest on the loan while enrolled or have the interest capitalized. This loan is for students who do not qualify for a Subsidized Loan because of lack of financial need for any or all funds under the Subsidized Stafford Loan program.

A borrower who is eligible for a portion of the Subsidized Stafford Loan may borrow the difference from the Unsubsidized Stafford Loan program. The maximum loan limit includes a combination of the subsidized and unsubsidized loan.

The borrower is expected to make quarterly interest payments while the student is enrolled in graduate school or have the interest capitalized. The loan carries a flexible interest rate.

Repayment of the principal begins six months after the student is no longer enrolled on at least a half-time basis.

### **ADDITIONAL UNSUBSIDIZED STAFFORD LOAN**

Graduate students are eligible to apply for additional Unsubsidized Stafford Loan funds which are over and above the Stafford Loan maximums described above. The maximum additional amount is \$12,000 per academic year with an aggregate limit of \$138,000.

This loan carries the same interest rate and repayment obligation as described under the section on Stafford Loans.

### **GRADUATE PLUS LOANS**

A Graduate Plus Loan is a low-interest education loan provided to graduate and professional students through the Federal Family Education Loan Program. This program supplements the Federal Stafford Loan Program and should only be used after a student's Stafford eligibility is exhausted.

### **WITHDRAWAL - RETURN OF FINANCIAL AID FUNDS**

In accordance with federal regulations, those 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, Perkins Loans, Nursing Loans, Stafford Loans and PLUS Loans) adjusted based on the percent of the semester completed prior to the withdrawal. That is, students will be entitled to retain the same percent of the federal financial aid received as the percent of the semester completed. This percent is calculated by dividing the number of days in the semester (excluding breaks of five days or longer). The date of withdrawal will be the date the student begins the withdrawal process at the Student Services 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 the 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 of federal financial aid after the completion of at least 60% of the semester.

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

Unsubsidized Stafford Loans

Subsidized Stafford Loans  
PLUS Loans  
Perkins Loans  
Pell Grant  
Supplemental Educational Opportunity Grants  
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 received a refund of financial aid prior to withdrawing from the University may owe a repayment of federal financial aid fund received. Students will be contacted by the Student Services Office 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.

## GRADUATION

**It is the responsibility of the graduate student to sign up for a graduation audit *no later than ninety days* prior to the date of the Commencement Exercise at which the student expects to be graduated.** This is done by registering for GRD-000-B (0 credits/\$160.00 graduation fee) during the beginning of the final term before graduation.

If registration is completed, students may call or write to the Graduate Studies Office or Student Services Office to notify of intent to graduate. A completed file and acceptance into a graduate program are required for graduation. Transfer credits (approval forms and official transcripts) must be received before each semester's graduation clearance deadline. Students changing their status from non-degree seeking to degree-seeking must do so at least a year prior to graduation.

Graduating students may participate in one of the two commencement exercises held over the calendar year. These exercises occur in May and September of each year. Diplomas given during September ceremonies will always be dated as the fourth Saturday in August. There is no commencement ceremony in January, although graduations are still processed for the fall term.

# BUSINESS ADMINISTRATION

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## **BUSINESS ADMINISTRATION**

Anthony L. Liuzzo, J.D., Ph.D., Director

Ms. Karen Kaleta, Assistant Director

### **MASTER OF BUSINESS ADMINISTRATION (MBA)**

The Master of Business Administration program is part of the Jay S. Sidhu School of Business and Leadership, which combines a strong core business education with the development of skills for authentic leadership and ethical business practices.

The Sidhu School's Master of Business Administration degree program expands business knowledge, management skill and leadership capability of early and mid-career 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. It serves individuals in professional, functional, administrative and managerial roles who seek to improve their level of performance and their prospects for advancement, by providing a strong foundation in general management through the development and integration of knowledge and skills in functional areas essential to effective management and leadership of a business. Students are encouraged to focus the program of study in a way that is relevant and adds value to the roles they carry out at work and roles into which they may be promoted, and to initiate a systematic process of development as effective leaders as they continue to progress through their careers. In addition, the MBA Program seeks to contribute to the success of the businesses and organizations in which MBA candidates work, by enhancing key skills essential for organizational performance and adding to the quality of the pool of managers and leaders in these organizations.

The Association of Collegiate Business Schools and Programs (ACBSP) has accredited the graduate program which affirms the excellence of these programs to graduate and professional schools as well as potential employers and therefore serves as a major competitive advantage for students completing business programs at Wilkes.

MBA students are encouraged to participate in the broader life of the Wilkes University community. An active MBA Student Association provides programming of interest to its members, and gives them a voice with the administration of the Sidhu School and the University at large. The Sidhu School also sponsors an active chapter of Delta Mu Delta, an honorary business society that recognizes the highest levels of academic achievement by undergraduate and graduate students. Annual awards recognize outstanding scholarship and leadership among MBA candidates.

#### **MISSION**

The business program of Wilkes University, in its continuing effort to maintain excellence in teaching, serves as a resource to the University and to the community of businesses, entrepreneurial enterprises, not-for-profits, and governmental agencies, by preparing students for lifetime leadership roles and professional and personal contributions. The learning-centered Wilkes business program maintains an integrated curriculum, faculty, and facility designed to provide students and the community with knowledge and information addressing the traditional functional and cross-functional content areas of the business and accounting disciplines; proffers course-work and real world active learning experiences that provide analytical, problem-solving, interpersonal, technological, and communication competencies; and challenges students to develop sensitivity to the public policy and ethical dimensions of decision-making in an economy that is closely interrelated with a rapidly changing, diverse, and global community.

#### **PURPOSE**

The curriculum leading to the Master of Business Administration degree at Wilkes emphasizes a general, broad-based approach to graduate business education. Students acquire the quantitative and judgmental skills necessary for a manager to succeed. The program provides 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, Human Resources Management, International Business, Marketing, Operations Management, or Organizational Leadership and Development. The core objectives of the MBA include:

- To develop professional managers, with emphasis on the organization, operation, and control of an enterprise;

## Business Administration

- To enable individuals to create and evaluate alternative courses of action as a procedure for making decisions;
- To give business persons an understanding of international business policies and practices;
- To prepare these business persons for the challenge of understanding and appreciating the cultural and subcultural similarities and differences in various business environments;
- To prepare students for further training through post-graduate and/or doctoral studies in business and related disciplines.

The program provides management education at the master's level for students with varied undergraduate backgrounds: business and economics, engineering and science, and others.

Master of Business Administration courses are offered on weekday evenings and in a year-round weekend format. Weekend courses are offered on Saturday and Sunday every third or fourth weekend, five weeks per trimester.

The Jay S. Sidhu School of Business and Leadership is a member of the Association of Collegiate Business Schools and Programs. The MBA program is accredited by the Association of Collegiate Business Schools and Programs.

### ADMISSION REQUIREMENTS

Applications are invited from individuals who have earned undergraduate or graduate degrees in any discipline or field of study. To be considered for admission, the applicant must meet the following minimum requirements:

1. Submit to the Graduate Admissions Office a completed graduate application for admission with payment of appropriate application fee;
2. Submit two letters of recommendation from previous academic faculty and/or from current or previous supervisors, if employed. Letters of recommendation should attest to the student's fitness for managerial leadership and discuss interpersonal and organizational skills;
3. Demonstrate satisfactory performance as an undergraduate by providing a complete set of official undergraduate transcripts to the Graduate Admissions Office.

To be accepted on a **regular** basis, a candidate for the Wilkes MBA must have obtained a cumulative GPA of at least 3.0 in his/her undergraduate degree program. A prospective student with a GPA of less than 3.0 may be accepted into the MBA program on a conditional basis. To change to regular status, the conditionally accepted MBA student must maintain no less than a 3.0 for each course in the first six graduate credits of the MBA program. Failure to maintain the minimum 3.0 in any course will result in dismissal of the conditionally accepted student from the MBA program.

The MBA Program at Wilkes practices intensive self-directed student advising. A student accepted into the program is immediately assigned an advisor. Advising sessions are used as an opportunity to communicate effective managerial role models, changing job market conditions, student career ambitions and strengths, and to identify course scheduling options. The focus of the advising process is to encourage students to develop a responsible and rewarding career.

### MBA DEGREE REQUIREMENTS

The total number of credits required for the MBA is 48; the total number of credits that may be waived is 12. MBA Core Courses cannot be taken on an independent basis. The MBA degree is earned by completion of five distinct tiers. These are summarized below.

**Tier I (3 credits): The Signature** - This tier is comprised of a signature course, MBA 500, Business and Leadership, which introduces students to the eight distinct objectives (business ethics, communication, decision-making, diversity, leadership, professionalism, social responsibility, and team performance). The course is required as either a prerequisite or a co-requisite to all other courses in the MBA Program.

**Tier II (0-12 credits): The Foundation** - This is a series of twelve courses, each bearing one credit. Waivers are granted if the student, within ten years of admission to the Wilkes MBA Program, has completed an equivalent credit-bearing course, while earning a grade of C or better. The twelve one-credit courses are as follows:

MBA 5011 - Foundations of Financial Accounting

MBA 5012 - Foundations of Managerial Accounting

MBA 5013 - Foundations of Finance

MBA 5021 - Foundations of Management  
MBA 5022 - Foundations of Marketing  
MBA 5023 - Foundations of Law  
MBA 5031 - Foundations of Macroeconomics  
MBA 5032 - Foundations of Microeconomics  
MBA 5033 - Foundations of International Business  
MBA 5041 - Foundations of Statistics  
MBA 5042 - Foundations of Operations Management  
MBA 5043 - Foundations of MIS

**Tier III (18 credits): The Core** - This tier is comprised of the following six courses:

MBA 512 - Business Research Design and Methods  
MBA 520 - Marketing Management  
MBA 532 - Managerial Economics  
MBA 540 - Financial Management  
MBA 560 - Financial and Managerial Accounting  
MBA 580 - Business Issues in a Dynamic Environment

**Tier IV (9 credits): The Electives** - All MBA students are required to successfully complete three courses from those listed below. All students must declare a concentration, and each student must select at least two of these three courses in his or her concentration area. The nine concentrations, and the electives that satisfy these concentrations, are as follows:

- Accounting - MBA 545 - Investment and Portfolio Management; and MBA 566 - Advanced Topics in Accounting.
- Entrepreneurship - MBA 527 - e-Business for Marketers and Entrepreneurs; and MBA 585 - Corporate Entrepreneurship.
- Finance - MBA 545 - Investment and Portfolio Management; and MBA 546 - Advanced Topics in Finance.
- Health Care Administration - MBA 546 - Advanced Topics in Finance; and MBA 577 - Topics in Health Care Management.
- Human Resources Management - MBA 553 - Advanced Leadership Theory; and MBA 555 - Human Resources Law and Compensation.
- International Business - MBA 536 - Advanced Topics in International Business; and MBA 537 - Global Business Experience.
- Marketing - MBA 526 - Advanced Topics in Marketing; and MBA 527 - e-Business for Marketers and Entrepreneurs.
- Operations Management - MBA 513 - Operations Management; and MBA 516 - Advanced Topics in Operations Management.
- Organizational Leadership and Development - MBA 553 - Advanced Leadership Theory; and MBA 554 - Organizational Diagnosis, Development, and Change.

**Tier V (6 credits): The Capstone** - All MBA students must satisfy a capstone requirement, including MBA 591, Strategic Management and Policy, a general capstone course covering all functional areas and all distinct objectives; and MBA 592, Advanced Projects in Business. In this latter course, the student is expected to perform work in his or her concentration. All work is monitored by a faculty supervisor, and in all cases, students offer a brief oral presentation on their work to faculty and peers. In addition, in all cases, a written paper or other research product is prepared and submitted by the student. These papers are published by the Sidhu School. Opportunities for this advanced work result from (a) business research, (b) internship / consulting, (c) community service, and (d) mentorship in the Sidhu School. Students are encouraged to register for MBA 591 and MBA 592 simultaneously in their final semester of study.

## Business Administration

### CONCENTRATION DESCRIPTIONS

- Accounting - The Accounting concentration covers a range of topics, including corporate financial reporting, financial and tax planning, accounting policies and practices, and advanced management accounting. The concentration helps to develop the strategic perspective needed to interact effectively with executive management and strengthens the ability to succeed in management positions.
- Entrepreneurship - The Entrepreneurship concentration is designed to foster skills in innovative thinking, risk assessment, resource acquisition, and project management, as applied to numerous types of business start-up, corporate entrepreneurship, and e-business initiatives. By incorporating theoretical models and practical applications, students practice creating entrepreneurial value in areas such as organizational structures, leadership, culture, climate, and strategy.
- Finance - The Finance concentration focuses primarily upon the development of the decision-making and problem-solving skills required to successfully plan and manage the financial activities of an organization. Emphasis is placed upon financial forecasting, capital budgeting, working capital management, capital structuring, securities valuation, financial markets structure and behavior, investment portfolio construction, and risk management. It is useful for individuals interested in general management, corporate financial management, and the design and delivery of financial services to corporate clients.
- Health Care Administration - The Health Care Administration concentration identifies the key components and organization of the health care delivery system, and provides insights into the marketing of health services, health law, and approaches to financing, public policy, workforce development, and ethics in the context of the health care sector. It is of value to managers in organizations that deliver health care services, supply inputs such as insurance, pharmaceuticals, and medical equipment to the health care system, or purchase services from the health care system on behalf of employees or customers.
- Human Resources Management - The Human Resources Management concentration is designed to provide in-depth examination of HR theory and practices, including applicable laws and compensation policies. Students will develop skills necessary to lead and manage employees; including business ethics, communication, decision-making, diversity, leadership, professionalism, social responsibility, and team performance. It is useful for both practicing managers and HR professionals.
- International Business - The International Business concentration is designed to provide an overall view of the practical principles and methods of advanced practices in the global economy. It deals with the implications of international business for managers in any business dealing with aspects of the evolving global economy and for their organization's strategy, structure, and functions.
- Marketing - The Marketing concentration is designed to provide a strategic foundation for marketing decision-making. It highlights the importance of effective market planning by taking a step-by-step approach. This includes environmental and competitive analyses, information gathering, tactical decisions regarding marketing strategy (target markets and the marketing mix), and marketing implementation and control. Emphasis is placed on written and verbal communications skill development by giving students the opportunity to analyze business problems. It is of value for those interested in business management or the marketing profession.
- Operations Management - The Operations Management concentration is designed to provide managers with analytical concepts and tools for the management of operations and the decision-making process within the scope of the supply chain. Students will develop the skills necessary to make decisions regarding the design, direction, and control of the processes that transform inputs into products and services for customers.
- Organizational Leadership and Development - The Organizational Leadership and Development concentration combines content required for successful organizational decision-making. It incorporates the examination and development of personal leadership skills, while exploring the conditions under which a variety of leadership styles have been found to be most effective. The student is exposed to business problem analysis and given the opportunity to study change in the workplace. It is of value to general managers and functional managers faced with

strategic or organizational complexity, uncertainty, and instability, as well as those interested in careers in organizational and change management consulting

**MBA WEEKENDER DATES, 2009-2010**

**Summer 2009**

May 2, 3  
May 30, 31\*  
June 20, 21  
July 11, 12  
August 1, 2  
August 8, 9

*\* Note: Four -week interval between classes*

**Fall 2009**

August 29, 30  
September 19, 20  
October 10, 11  
October 31, November 1  
November 21, 22  
December 5, 6

**Spring 2010**

January 9, 10  
January 30, 31  
February 20, 21  
March 13, 14  
April 10, 11\*  
April 17, 18

*\* Note: Four -week interval between classes*

## **BUSINESS ADMINISTRATION COURSE DESCRIPTIONS**

### **TIER I - SIGNATURE COURSE**

#### **MBA 500. BUSINESS AND LEADERSHIP THREE CREDITS**

This course introduces the distinct objectives of the MBA program, including business ethics, communication, decision-making, diversity, leadership, professionalism, social responsibility, and team performance, in the context of traditional theories and models of organizational behavior.

### **TIER II - FOUNDATION COURSES**

#### **MBA 5011. FOUNDATIONS OF FINANCIAL ACCOUNTING ONE CREDIT**

An overview of the accounting system and the applicable accounting principles and practices used by accountants and managers in decision making, planning and control, and the preparation of financial reports.

#### **MBA 5012. FOUNDATIONS OF MANAGERIAL ACCOUNTING ONE CREDIT**

A study of the essential foundations of managerial accounting. The course includes accounting and analysis techniques used in decision-making activities such as financial statement analysis and budgeting.

#### **MBA 5013. FOUNDATIONS OF FINANCE ONE CREDIT**

An introduction to the principles of financial theory and practice. Topics to be surveyed include financial decision-making, the financial model of the firm, financial markets, working capital management and capital budgeting.

#### **MBA 5021. FOUNDATIONS OF MANAGEMENT ONE CREDIT**

A foundation course that reviews theories of management and organizational behavior as they have been developed and applied in organizations. Topics will include the functions of managers, the decision-making process, leadership, social responsibility, ethical considerations and the special problems of operating in a global environment. The course is intended for graduate students who have not completed an undergraduate course in management within the past five years.

#### **MBA 5022. FOUNDATIONS OF MARKETING ONE CREDIT**

An introduction to the principles and practices of marketing. Topics will include consumer behavior, segmentation and targeting, marketing research, marketing mix and planning, promotional issues, pricing issues, services marketing, and global marketing.

#### **MBA 5023. FOUNDATIONS OF LAW ONE CREDIT**

A foundation for business managers to operate within the legal environment, and for individuals to engage in commercial transactions, including principles of contract law and property law.

#### **MBA 5031. FOUNDATIONS OF MACROECONOMICS ONE CREDIT**

A study of the essential foundations of macroeconomics. The course will introduce the problem of scarcity, and supply and demand analysis to the student. Additionally, the course will focus on a variety of topics including national income, unemployment, inflation, monetary, and fiscal policy.

#### **MBA 5032. FOUNDATIONS OF MICROECONOMICS ONE CREDIT**

A study of the essential foundations of microeconomics. The course will introduce the problem of scarcity and the concept of opportunity cost. Additionally, the course will focus on a variety of topics including the theory of the firm, and the efficiency of resource allocation under various market structures.

## **Business Administration**

### **MBA 5033. FOUNDATIONS OF INTERNATIONAL BUSINESS**

#### **ONE CREDIT**

An introduction to the field of international business and international trade. Business enterprise in international trade, effects of economic, political, and social environment on international business and international trade.

### **MBA 5041. FOUNDATIONS OF STATISTICS**

#### **ONE CREDIT**

This course introduces students to the essential elements of applied statistical analysis appropriate for business organizations. It is intended for students who have never studied business statistics or those wishing to refresh their knowledge of probability theory, descriptive statistics and data relationships. Spreadsheet software will be used extensively; students registering for this course must have basic working knowledge of Microsoft Excel.

### **MBA 5042. FOUNDATIONS OF OPERATIONS MANAGEMENT**

#### **ONE CREDIT**

This course teaches students how to obtain information from data, and how to build models for making decisions. The goal is to sharpen the student's ability to approach business-related problems by integrating methods and applications.

### **MBA 5043. FOUNDATIONS OF MIS**

#### **ONE CREDIT**

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.

## **TIER III - CORE COURSES**

### **MBA 512. BUSINESS RESEARCH DESIGN AND METHODS**

#### **THREE CREDITS**

This course presents methodology appropriate for conducting research in business organizations. It includes a brief review of introductory MIS principles, the business research process, and a discussion of ethics in the research process. The course will focus on research design and sampling methods, sources and collection of data, probability and probability distributions, estimation and hypothesis testing, and the presentation of data (both oral and written). The emphasis of the course is on data analysis and spreadsheet use in statistics and management science. Course activities may include case analyses, research, application of advanced techniques, and/or utilization of various information technologies.

Prerequisite(s): MBA 500 (co-requisite), MBA 5041, MBA 5042, MBA 5043.

### **MBA 520. MARKETING MANAGEMENT**

#### **THREE CREDITS**

This course presents a strategic foundation for marketing decision-making. It integrates the tactics of information gathering, environment analysis, competitive analysis, product positioning and the implementation of strategic positioning. Emphasis is placed on written and verbal communications skill development.

Prerequisite: MBA 500 (co-requisite), MBA 5022.

### **MBA 532. MANAGERIAL ECONOMICS**

#### **THREE CREDITS**

Problems of the firm and how to solve them. Price and output determination with analysis of cost and demand functions in markets of various types as well as decision-making under conditions of uncertainty and over time. Emphasis is given to firm's role in the global economy and the theory of international trade. The course will deal with the application of economic theory to business practice.

Prerequisite: MBA 500 (co-requisite), MBA 5031, MBA 5032.

### **MBA 540. FINANCIAL MANAGEMENT**

#### **THREE CREDITS**

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 working capital management and capital budgeting techniques.

Prerequisite: MBA 500 (co-requisite), MBA 5011, MBA 5012, MBA 5013.



**MBA 560. FINANCIAL AND MANAGERIAL ACCOUNTING  
THREE CREDITS**

A basic understanding of both internal and external accounting principles and techniques with appropriate application to decision models. Financial and managerial accounting concepts and issues are considered from the viewpoint of the report users.

Prerequisite: MBA 500 (co-requisite), MBA 5011, MBA 5012.

**MBA 580. BUSINESS ISSUES IN A DYNAMIC ENVIRONMENT  
THREE CREDITS**

This course introduces students to the varied diverse stakeholders who impact directly and indirectly on business policy and public policy formation. Included is analysis of the ways in which the interests of the customer, the creditor, the shareholder, the employee, the government, and the society interface with optimal decision-making by business organizations. The course utilized current business issues to provide students with the opportunity to think and write critically and entrepreneurially, while being sensitive to ethical, global, and policy dimensions.

Prerequisite: MBA 500 (co-requisite), MBA 5023.

**TIER IV - ELECTIVE COURSES**

**MBA 513. OPERATIONS MANAGEMENT  
THREE CREDITS**

This course presents a variety of quantitative tools applicable to both routine and non-routine business decisions. This course teaches students how to obtain information from data, and how to build models for making decisions. The goal of the course is to sharpen the student's ability to approach business-related problems by integrating methods and applications. The focus of the course is on understanding the meaning of both the numbers and the methods, not necessarily on the manual computations. Topics may include (but are not limited to) decision making under uncertainty, supply chain and materials management, forecasting, and statistical process control. The emphasis of the text is on data analysis, modeling, and spreadsheet use in statistics and management science.

Prerequisite: MBA 512 or equivalent.

**MBA 516. ADVANCED TOPICS IN OPERATIONS MANAGEMENT  
THREE CREDITS**

This course will address select advanced topics in operations management. The goal of the course is to enhance the student's ability to approach business-related problems by integrating advanced methods and applications. The focus of the course is on understanding the meaning of both the numbers and the methods, not necessarily on the manual computations. Topics may include (but are not limited to) simulation modeling in Microsoft Excel, optimization modeling and applications, stochastic modeling and queuing theory applications, and inventory management and modeling. Course activities may include case analyses, research, application of advanced techniques, and/or utilization of various information technologies.

Prerequisite: MBA 512 or equivalent.

**MBA 526. ADVANCED TOPICS IN MARKETING  
THREE CREDITS**

This course will address select advanced topics in marketing. Topics will include business-to-business marketing, consumer behavior, international marketing, new product development, promotion management, and other current issues.

Prerequisite: MBA 520.

**MBA 527. E-BUSINESS FOR MARKETERS AND ENTREPRENEURS  
THREE CREDITS**

This course examines the core business areas of marketing and entrepreneurship as they relate to an e-Business strategy. It focuses on e-Business multi-channeling that fuses digital services with retail channels to meet the needs of marketers and entrepreneurs. The major strategic concepts of the e-Business paradigm will be discussed along with analyzing the possible advantages and disadvantages. Class participation will center on the insightful analyses of new ways to use technology to become more profitable. Students will demonstrate skill in creating a full online e-Business platform using HTML, JavaScript, and XML coding.

Prerequisite: MBA 520.

## **Business Administration**

### **MBA 536. ADVANCED TOPICS IN INTERNATIONAL BUSINESS**

#### **THREE CREDITS**

This course will deal with how and why the world's countries differ. It will address select topics in International Business. The topics have been chosen to emphasize recent global changes and development. The course will deal with the functions and forms of the international monetary system. It will examine the strategies and structures of international businesses. The implications of international business for International managers, and for their organization's strategy, structure, and functions. Our objective is to acquaint the student with the advanced topics in global environment of international business policy that underlies much business analysis and decision-making.

Prerequisite(s): MBA 500 (co-requisite), MBA 5033.

### **MBA 537. GLOBAL BUSINESS EXPERIENCE**

#### **THREE CREDITS**

This course is a combination of readings, research, and direct experience. 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 summer and 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.

Prerequisite: MBA 500(co-requisite).

### **MBA 545. INVESTMENT AND PORTFOLIO MANAGEMENT**

#### **THREE CREDITS**

This course offers a study of advanced methods of security analysis and valuation, including derivative products. Additionally, asset allocation models are examined, with special focus upon portfolio construction and management, including Modern Portfolio Theory. Also analyzed are explanatory theories of market behavior and their efficiency.

Prerequisite: MBA 540

### **MBA 546. ADVANCED TOPICS IN FINANCE**

#### **THREE CREDITS**

This course will address select advanced topics in finance. Topics include, but are not limited to, financial markets and institutions, the theories and strategies of derivatives, organizational risk management and insurance, and financial modeling.

Prerequisite: MBA 540

### **MBA 553. ADVANCED LEADERSHIP THEORY**

#### **THREE CREDITS**

This course introduces students to advanced leadership theory and application. Students engage in analysis of the various leadership styles. Course content gives the student the knowledge required for effective and efficient organizational decision-making. There is a strong emphasis on recognizing assumptions and limitations of these models and the interpretation of results. Opportunities are given to integrate course material with personal leadership experiences. Emphasis is placed on the student's personal leadership development using a series of self-assessment instruments.

Prerequisite(s): MBA 500, MBA 5021.

### **MBA 554. ORGANIZATIONAL DIAGNOSIS, DEVELOPMENT, AND CHANGE**

#### **THREE CREDITS**

Organizational Diagnosis, Development and Change explores complex organizations as dynamic organisms in need of constant care and attention. Topics included in the course will enable individuals interested in such OD activities to maintain the composure of the organization through times of hyperchange so that continuous improvement and total quality management can be sustained without losing the competitive edge of the organization.

Prerequisite(s): MBA 500, MBA 5021.

### **MBA 555. HUMAN RESOURCES LAW AND COMPENSATION**

#### **THREE CREDITS**

This course offers a survey of best practices in the area of human resources, with particular attention toward responding to the legal and financial environments. Students will learn to analyze the impact that statutory, administrative, and case law have upon human resource management. Design,

management, and administration of compensation methods, as well as recent developments in benefits packages, are covered.

Prerequisite: MBA 580

**MBA 566. ADVANCED TOPICS IN ACCOUNTING  
THREE CREDITS**

This course will address select advanced topics in accounting. Topics include corporate financial reporting, financial and tax planning, accounting policies and practices, advanced management accounting, and other current issues.

Prerequisite: MBA 560.

**MBA 577. TOPICS IN HEALTH CARE MANAGEMENT  
THREE CREDITS**

This course will address select topics in health care management. The purpose of the course is to provide the student with an understanding of how applying managerial techniques can improve the delivery of high quality healthcare. Topics may include (but are not limited to) health law, epidemiology, marketing, finance, comparative health care systems, and public policy. Course assignments may include case studies, research and field interviews of acknowledged experts in the field. Prerequisite(s): MBA 500 (co-requisite), MBA 5021.

**MBA 585. CORPORATE ENTREPRENEURSHIP  
THREE CREDITS**

This course presents an exploration of corporate entrepreneurship in its many forms and manifestations. This course will cover companies that exemplify corporate entrepreneurship philosophies and practices. In addition to entrepreneurship, the course will deal with innovation, venturing, and new product development. Topics will include processes, management practices, organizational culture, 23 current practices and trends, and opportunities within a corporate environment.

Prerequisite: MBA 580.

**MBA 595.596. INDEPENDENT RESEARCH  
THREE CREDITS EACH**

Independent study and research for advanced students in the field of the major under the direction of a staff member.

**MBA 598. TOPICS  
THREE CREDITS**

Special topics in a major field. This course will be offered from time to time as interest and demand justify it.

**TIER V - CAPSTONE COURSES**

**MBA 591. STRATEGIC MANAGEMENT AND POLICY  
THREE CREDITS**

The capstone course integrates a business approach to strategic decision-making which encompasses the business functions of marketing, production, finance, and human resource management. The course will facilitate both conceptual and experiential integration of functional concepts and techniques from the core courses as well as enhance the written and oral communication skills of students.

Prerequisite(s): 24 MBA credits of Core plus Electives.

**MBA 592. ADVANCED PROJECTS IN BUSINESS  
THREE CREDITS**

This course requires that the student perform advanced research and writing in his or her concentration area. Such research must be approved by the instructor in advance and shall be based upon (a) Independent Study; (b) Internship/Consulting; (c) Community Service; or (d) Mentorship. All work is monitored by the instructor, and students are required to offer a brief oral presentation on their work to faculty and peers. In addition, a written paper or other approved product will be prepared and submitted by the student. It is expected that papers and other course products will meet the quality standards for publication by the Jay S. Sidhu School of Business and Leadership.

Prerequisite(s): 24 MBA credits of Core plus Electives.

# CREATIVE WRITING

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## CREATIVE WRITING

Bonnie Culver, Ph. D., Program Director

J. Michael Lennon, Ph. D., Program Co-Founder

### *Master of Arts in Creative Writing (low residency)*

### *Master of fine arts in creative writing (low Residency)*

#### ACCREDITATION

In October, 2004, the Pennsylvania Department of Education and the Middle States Association of Schools and Universities approved the Wilkes proposal for the M.A. program. The University graduated its first class in June 2006. In June, 2007, the Pennsylvania Department of Education approved the addition of the Master of Fine Arts to the graduate creative writing degree offerings at Wilkes University.

#### ADMISSION

Students will be accepted into the Master of Arts in Creative Writing based almost entirely upon the required writing samples - the application essay and creative writing sample. Students applying to this program should hold a bachelor's degree from an accredited college or university. However, since the M.A. is a degree in creative writing and not an English degree, students without a bachelor's may apply. No GREs are required. Applicants must submit the following for consideration:

- Completed Application.
- \$45 non-refundable application fee.
- Official transcript of all college work, undergraduate and graduate.
- Two letters of recommendation, from someone who knows your writing and work ethic (optional).
- Creative writing sample... A 15-25 page writing sample from any genre or genres of published/unpublished work that best demonstrates your creative ability.
- Essay response...A 5-10 page response to the following three questions:
  1. Where are you in time and how did you get there?
  2. What are you going to do in the program?
  3. What will you do with your program accomplishments following graduation?
- Resume, including creative citations.

Students may enter the program in either the January or June residency. Project semesters begin following each residency and continue until the next residency (approximately 6 months). Applicants for Graduate Assistantships must submit two letters of recommendation.

Students interested in the Master of Fine Arts must first complete the Master of Arts in Creative Writing. Students in the existing M.A. may apply for admission into the M.F.A. no earlier than the last term of the M.A.

#### TRANSFER CREDITS

The Master of Arts in Creative Writing addresses the life, craft, and business aspects of becoming and remaining a professional creative writer. Because much of the curriculum design is tailored to the individual student and his/her thesis project and because the program offers no electives, the M.A. does not accept transfer credits from another institution.

#### DEGREE REQUIREMENTS

**(30 credit hour minimum)**

**The Master of Arts in Creative Writing is a 30-credit, low-residency program in five genres: fiction / poetry / screenwriting / playwrighting / creative nonfiction.**

**(48 credit hour minimum)**

*The Master of Fine Arts in Creative Writing (low residency M.F.A.)*

Students complete the required 30 credit hour minimum and the Master of Arts in Creative Writing plus 18 additional credit hours to earn the Master of Fine Arts degree.

## Creative Writing

### *Certificate Option (15 credit hours)*

A certificate in one genre is also available. Students complete the first 15 credits of the Masters program. This option is suited for:

- students who do not wish to pursue the master of arts, but wish to explore writing;
- students who do not possess a bachelor's degree, but demonstrate talent in writing;
- students who are conditionally admitted to the program.

After completing nine credits hours, students in the certificate program may apply for enrollment in the Masters program. The credits in the certificate program automatically transfer into the Masters program.

### **All graduate creative writing programs include two components...**

*Residencies and Project Semesters* – which are outlined below. Specific credit requirements for the degree and certificate follow this discussion.

1. **RESIDENCIES** are eight-day-long on-campus courses that are usually team taught and include required and optional faculty lectures, readings, performances, class discussions, and panel discussions as well as student readings. This is a time to plan project work and meet with instructors and the program director. The following courses are residencies: CW 501R, CW 510R, CW 516R, and the capstone, CW 525R. *Minimum required: 4*, including capstone. The M.F.A. requires one additional residency - CW 616R.
2. **PROJECT SEMESTERS** are writing and reading project work times, beginning with foundation courses in two genre areas and ending with the final project master thesis semester. The following courses are project courses: CW 502, CW 503, CW 504, CW 505, CW 506, CW 512, CW 514, and CW 520. *Minimum project semesters: 3*; Courses delivered online. The Master of Fine Arts requires the following additional online courses - CW 612, CW 614, and CW 620.

## MA IN CREATIVE WRITING PROGRAM GOALS

### THESIS REQUIREMENTS

**To satisfy the Masters of Arts in Creative Writing thesis requirement:**

*Students, graduating with a Master of Arts in Creative Writing, will produce and present a full-length text and support materials that demonstrate the mastery of requisite standards, processes, and procedures for bringing that project into its appropriate public venue.*

### THE WRITER'S LIFE

Acknowledging and understanding the spiritual, psychological, physical, discipline, habits, and support mechanisms required for continued sustenance for the writing life.

**At the completion of this program, students will be able to:**

1. Articulate the strengths and weaknesses of and discriminate between the archetypal models of writerly lives as they build a writing life plan of their own design.
2. Articulate the strengths and address the weaknesses of the work of their peers, as well as their own work and their writing process.

### CRAFT AND TECHNIQUE

Demonstrating the mastery of one's major area of study through the practice of writing in various forms including the demonstrable and the proven ability to critique one's own work and that of others honestly and vigorously.

Most creative writing programs spend most or all of their assigned time in workshops and in one-on-one critiques that emphasize this area of study. The Wilkes program also spends a great deal of time on studying how a text "works," whether it be a classic model, your work, or a peer's draft. This study asks you to dissect texts and break them down into their basic elements. To become a better writer, you must learn how to objectively analyze and critique a wide range of texts in your genre. How did the author make that text work on me as a reader and within the context of the realm of possibilities within the genre itself? You will be introduced to the basic elements of all literature in Creative Writing 501 and continue to study literature in more depth as you advance through the program. Additionally, faculty in each genre will assist you in understanding the tradition and history of your chosen genre so that you will be better educated in making your own elemental choices in writing.

**At the completion of this program, students will be able to:**

1. Describe the breadth and depth of knowledge of the historical context and tradition of the range of forms, conventions, and styles within their selected major and minor areas.
2. Demonstrate competency in the technology of their major genre area.

#### ART DELIVERY METHOD

Studying the multiple and appropriate pathways in which one's creative work becomes public, including knowing the research methods, business practices, and genre-specific conventions that writers need to obtain notice of and appreciation for their work.

This program strand addresses the business, economic, and genre-specific opportunities for your work. Faculty panels from each genre will introduce this idea to you in the first residency. As you move through the program, the faculty and your mentors will work with you to understand both the business practices and the appropriate pathway for your work.

**At the completion of this program, students will be able to:**

1. Understand the legal and ethical standards and the practical issues of their profession, and demonstrate that knowledge through the residencies and portfolio work of the program.
2. Speak and write to people in professional venues of their genre in a confident manner.

#### CAPSTONE REQUIREMENTS

The Master of Arts in Creative Writing Capstone is where students have a chance to demonstrate their full mastery of their major area that meet all of the student learning outcomes listed above. A unique quality of the Wilkes M.A. is how that work comes together in the final capstone. All capstones, no matter which genre a graduate selects, must have both a written and spoken component and must also meet specified graduation criteria. The order for the final thesis and some samples are included in other lessons in this section of CW 520. **ALL THESES MUST BE PRESENTED IN STANDARD INDUSTRY-SPECIFIC FORMATS PER GENRE.**

**The following are the genre specific requirements for the Master of Arts in Creative Writing capstone:**

#### POETRY

During the final residency (CW 525R) poets will present a formal reading from their finished poetry chapbook or poetry collection. The formal reading will be limited to ten minutes followed by a Q & A from faculty, mentors, and other students. **Some or all work must be recited.**

***(2 poem minimum)***

**THESIS/Support materials will include:**

- THESIS-(24-50 pages, chapbook; 50+ pages., collection)
- A query letter (1-2 pages)
- Writing Self-Analysis Essay, including Writing Life Plan
- Artist's statement (1 page.)
- Final annotated bibliography of all readings leading to the thesis project, from CW 512-520.

#### FICTION

During the final residency (CW 525), fiction writers will present a formal reading from their manuscript, which will be either a novel or short story collection. The formal reading will be limited to ten minutes, followed by ten to fifteen minutes for Q & A from faculty, mentors, and other students.

**THESIS/Support materials will include:**

- THESIS- (Novella, novel, or short story collection- 120 page minimum)
- A query letter (1-2 pages)
- Writing Self-Analysis Essay, including Writing Life Plan
- Back flap copy (bio) (1 page.)

## Creative Writing

- Final annotated bibliography of all readings leading to the thesis project, from CW 512-520.

### PLAYS

Playwrights will work through the pre-residency with an assigned director to cast and to prepare the play for a formal staged reading that will be held during the CW 525 capstone or off-campus at a designated theatre. Experienced actors, appropriate to the work, will be utilized. Playwrights will rehearse with the cast and meet with the director to prepare for the reading, no less than once before the staged reading. Playwrights will be prepared to answer questions about their work and processes, following the staged reading.

#### **THESIS/Support materials will include:**

- THESIS(Full-length play, collected one-acts, or performance piece 80+ pages)
- A query letter (1-2 pages.)
- Playwright's bio (1 page.)
- Writing Self-Analysis Essay, including Writing Life Plan
- Play synopsis (1-2 pages.)
- Final annotated bibliography of all readings leading to the thesis project, from CW 512-520.

### SCREENPLAYS

Screenwriters will work with their writer mentors in the pre-residency to prepare their script for a table reading during their final residency (CW 525R). Readers will include actors, cohort members, and other available readers. Screenwriters must be prepared to present a "pitch" to a film producer, agent, or director before the reading and to answer process questions, following the table reading.

#### **THESIS/Support materials will include:**

- THESIS(Full-length screenplay, collected feature shorts, 80+ pages.)
- The "pitch"
- A query letter (1-2 pages.)
- Writing Self-Analysis Essay, including Writing Life Plan
- Screenplay treatment (2-4 pages.)
- Final annotated bibliography of all readings leading to the thesis project, from CW 512-520.

### CREATIVE NONFICTION

During the final residency (CW 525R), fiction writers will present a formal reading from their completed full-length manuscript, which will be either a novel or short story collection. The formal reading will be limited to ten minutes, followed a Q & A from faculty, mentors, and other students.

#### **THESIS/Support materials will include:**

- THESIS(Full-length manuscript or collection of short works)
- A query letter (1-2 pages.)
- Writing Self-Analysis Essay, including Writing Life Plan
- Back flap copy (bio) (1 page.)
- Final annotated bibliography of all readings leading to the thesis project, from CW 512-520.

### COURSE SEQUENCE

#### **Degree Requirements | 30 credits (minimum)**

<b>First Residency</b>	<b>First Project Semester</b>	<b>Credits</b>
CW 501R	The Professional Writer	3
<i>Two of the following foundation courses, one for certificate students</i>		
CW 502	Writing Fiction	3
CW 503	Writing Poetry	3
CW 504	Writing Screenplays	3



CW 505	Writing Stageplays	3
CW 506	Writing Creative Nonfiction	3
<b>Second Residency</b>		
CW 510R	Planning the Writing Life	3
<b>Second Project Semester</b>		
CW 512	Genre & Context	3
CW 514	Writing Projects	3
<b>Third Residency</b>		
CW 516R	Final Project/Thesis Plan	3
<b>Third Project Semester</b>		
CW 520	Final Project/Thesis	6
<b>Fourth Residency</b>		
CW 525R	M.A. capstone	3
		30 credits

CW 530 Continuous registration to complete thesis project, as needed 1-3 credits

## CREATIVE WRITING M.A. COURSE DESCRIPTIONS

### FIRST RESIDENCY

#### CW 501R. THE PROFESSIONAL WRITER THREE CREDITS | RESIDENCY COURSE

An introduction to the Writer's life, tools, craft, and the basic elements of the five genres. Students begin with pre-residency readings and exercises. Course is completed in residency.

#### First Project Semester

You will select any two of the following foundation courses. Each of these courses will be delivered online by faculty from each genre in the Project semesters.

#### CW 502. WRITING FICTION THREE CREDITS

This is an intermediate course in writing fiction. Students will study, explore, and practice the process, form, and discipline of writing fiction. Students will write and analyze a variety of short fiction samples that demonstrates their understanding of basic fiction elements, point of view, and narrative style.

#### CW 503. WRITING POETRY THREE CREDITS

This is an intermediate course in writing poetry. Students will study, explore, and practice the process, form, and discipline of writing poetry. Students will write and analyze a variety of poems that demonstrate their understanding of basic poetic elements, diverse forms, and poetic style.

#### CW 504. WRITING SCREENPLAYS THREE CREDITS

This is an intermediate course in writing screenplays. Students will study, explore, and practice the process, form, and discipline of writing screenplays. Students will write and analyze a variety of scenes that demonstrate your understanding of basic film design, diverse forms, and cinematic styles.

#### CW 505. WRITING PLAYS THREE CREDITS

An intermediate level course in writing plays. Students will explore, study and practice the process, forms, and discipline of writing all forms of stage plays. Students will write and analyze a variety of scenes and short plays that demonstrate their understanding of the basic stage elements, theatrical

## **Creative Writing**

conversations, and dramatic forms.

### **CW 506. WRITING CREATIVE NON-FICTION THREE CREDITS**

This is an intermediate level course in writing creative nonfiction. Students will explore, study and practice the process, forms, and discipline of writing all forms of creative nonfiction. Students will write and analyze a variety of scenes and short plays that demonstrate their understanding of basic narrative elements, point of view, factual research, and narrative prose styles.

### **CW 510R. PLANNING THE WRITING LIFE THREE CREDITS | RESIDENCY COURSE**

Students create project outlines and writing proposals for drafting new work in their major field of study. Course is team-taught in residency by a team of faculty members from all disciplines in a series of modules including: research, fair use, copyright introduction, arts delivery methods, intro to oral interpretation for writers. Students will attend lectures, group workshops and readings throughout the week.

## **Second Project Semester**

### **CW 512. GENRE AND CONTEXT THREE CREDITS**

Students will read, analyze, critique, and discuss in-depth their agreed upon reading list with a mentor writer. Individually the student will write responses to each assigned text and complete an annotated bibliography (of the reading list approved by the writer mentor).

### **CW 514. WRITING PROJECTS THREE CREDITS**

An upper-level drafting semester where students will begin drafting their thesis project and demonstrate their competency and understanding of the form and discipline of that genre. The work and the students' plan for completing their thesis will be presented in the following residency course. Taken in conjunction with the CW 512 Genre and Context course.

## **Third Residency**

### **CW 516R. FINAL PROJECT/THESIS PLAN THREE CREDITS | RESIDENCY COURSE**

An upper-level course in critique, analysis, and self-evaluation. During this intense residency week, the students will stand and deliver their proposed projects in a variety of ways, an analysis and critique of their own work, and present their work plan for the thesis project semester that must be approved by mentor faculty. Students will attend presentations within each of their genres addressing topics such as; business correspondence, making a pitch, and writing a query letter and how to polish their thesis for CW 520. Students will meet one-on-one with their faculty mentors and the program director to gain full approval of their writing proposal by week's end.

## **Third Project Semester**

### **CW 520. FINAL PROJECT SIX CREDITS | THESIS**

The M.A. thesis project semester is an intense immersion in the writing, revision, and completion of a full-length manuscript, required supporting documents, and a plan for a genre-specific public presentation during the capstone residency. Students will work closely one-on-one with a mentoring faculty member through e-mail, hardcopy draft exchanges, and other mentor approved communication methods.

## Final Residency

CW 525R. MASTERS CAPSTONE  
THREE CREDITS | RESIDENCY COURSE

The final presentation and public reading of each M.A. students' completed writing project. Each work will receive a written critique and final outside reading by an agent, editor, producer, or director. This residency week will include several seminars and workshops aimed at moving the individual project towards its appropriate public venue. Those students continuing onto the MFA will work with a mentoring faculty team throughout the week to prepare them for CW 612, CW 614. Students attend readings, faculty presentations, and group meetings during this week.

## Optional

CW 530. CONTINUOUS REGISTRATION  
ONE - THREE CREDITS

This course allows students to continually register where needed for further revision in preparation of their final project. Students must continually register until revisions are complete or they complete the required capstone.

## MFA IN CREATIVE WRITING GOALS

To satisfy the Masters of Fine Arts in Creative Writing degree requirements:

*Students, graduating with a Master of Fine Arts in Creative Writing, will revise their Master of Arts thesis to produce a publishable manuscript or begin a new project, building upon the strengths of the M.A. thesis. Additionally, they will produce and present a literary analysis paper, complete a term-long internship in teaching or publishing, and submit a final portfolio that chronicles their work in the entire program, all of which demonstrate their understanding and utilization of their literary tradition and the best practices of teaching pedagogy or the publishing industry.*

## THE ANALYSIS PAPER

Acknowledging and understanding the diverse forms, styles, and ongoing tradition of the student's chosen literary genre.

**At the completion of this program, students will be able to:**

1. Describe the breadth and depth of knowledge of the historical context and tradition of the range of forms, conventions, and styles within their selected major area.
2. Demonstrate an understanding of the literary tradition and where their own work lives within that literary spectrum.

## THE TEACHING/PUBLISHING INTERNSHIP

Utilizing the multiple and appropriate teaching methodologies in beginning, workshoping, critiquing, and sustaining the creative work of others, including knowing the diverse strategies, best practices, and genre-specific exercises that lead to the creation of student work.

**At the completion of this program, students will be able to:**

1. Demonstrate an understanding of how best to teach or work in a variety of artists-in-residency or publishing venues.
2. Demonstrate competency in the best practices of teaching creative writing or in the business of supporting writers and their work in the publishing industry.

## THE FINAL MFA PORTFOLIO

Demonstrating the understanding of the best practices of effective teaching and sustaining creative work, in various ways, including the demonstrable and the proven ability to critique and facilitate the creative work of others honestly and vigorously while continuing to produce one's own creative work.

FINAL M.F.A. portfolio will include:

1. revised M.A. thesis (or new polished project);
2. 15-20 page craft chapter or essay;

## **Creative Writing**

3. copies of materials developed, written in internship;
4. final annotated bibliography of readings from entire program;
5. final summary of program work *vis a vis* a self-analysis paper.

**At the completion of this program, students will be able to:**

1. Understand the legal and ethical standards and the practical issues of the teaching or publishing profession, and demonstrate that knowledge in the residencies and portfolio work of the program;
2. Demonstrate competency in the best practices of creative writing pedagogy or the business practices of the publishing industry;
3. Demonstrate advanced writing competency in their own creative work;
4. Demonstrate an advanced knowledge of contemporary literature in their area of study in an oral and written presentation of their analysis of assigned texts.

## **CREATIVE WRITING M.F.A. COURSE DESCRIPTIONS AND SEQUENCE**

### **RESIDENCY #1**

Students will begin the M.F.A. coursework during the Master of Arts Capstone residency (CW 525R). Students begin that work by attending additional modules taught by literature PhD faculty and meetings with all faculty during that residency. Students will receive a formal reading list from the faculty and develop their analysis plan in those formal meetings and discussions with faculty.

### **Project Term #1 -CW 612. Literary Analysis**

#### **SIX CREDITS**

Reading, analyzing, and preparing an extensive graduate paper that demonstrates the students' understanding of the history, tradition, various forms, and diverse styles of contemporary literature in one genre-fiction, creative nonfiction, film, drama, or poetry. Reading list will be provided by the faculty and students' essays' approach must be approved by faculty mentor and the Program Director.

### **CW 614. Revision Term**

#### **THREE CREDITS**

Students will have the opportunity to continue to work with a faculty mentor to revise their creative thesis and prepare it for publication/production OR begin a new project, built upon the strengths of the Master of Arts thesis (3 credit hours).

### **Residency #2 -- CW 616R. Writing in Education/Publishing**

#### **THREE CREDITS/RESIDENCY COURSE**

Students will have the opportunity to continue to work with a faculty mentor to revise their creative thesis and prepare it for publication/production OR begin a new project, built upon the strengths of the Master of Arts thesis.

### **Project Term #2 -- CW 620. Writing in Education/Publishing Internships**

#### **SIX CREDITS**

Students will be required to teach creative writing in one or several various educational venues from a series of artists-in-the schools residencies to for-credit adjunct/full-time course work OR complete an internship with a magazine, small press, or literary agency. Students will document their work through student portfolios and will be supervised by a faculty mentor. In whatever experience students select, they must demonstrate student contact hours of no less than 40 hours per term for teaching and 20 hours per week for publishing internships. Students will present a final analysis of their teaching or publishing experience in writing and orally at term's end.

### **CW 630. Continuous Registration**

#### **ONE TO SIX CREDITS**

This course allows students to continually register where needed for further revision in preparation of their final project. Students must continually register until revisions are complete or they complete the required capstone.



**EARTH AND  
ENVIRONMENTAL  
SCIENCES**

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## **EARTH AND ENVIRONMENTAL SCIENCES**

Marleen A. Troy, Ph.D., Chairperson

Earth and Environmental Sciences graduate courses may be taken by special students or may be applied toward graduate degrees offered by other departments. Students planning to apply these credits toward degree programs should secure the approval of their academic advisor prior to inclusion in their course of study.

### **EARTH AND ENVIRONMENTAL SCIENCES COURSE DESCRIPTIONS**

**EARTH & ENVIRONMENTAL SCIENCES 491. PRACTICUM  
THREE TO SIX CREDITS**

**EARTH & ENVIRONMENTAL SCIENCES 498. ADVANCED TOPICS  
ONE TO THREE CREDITS**

Selected topics covering a variety of atmospheric, hydrospheric, and lithospheric processes and environmental management issues. May be repeated for credit.

Prerequisite: Graduate standing.

**EDUCATION**

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## EDUCATION

Michael Speziale, Ed. D., Dean, College of Graduate and Professional Studies  
and School of Education

Michael Garzella, Ed.D., Associate Dean, School of Education

### THE DOCTORAL DEGREE IN EDUCATIONAL LEADERSHIP (ED.D.)

Dr. Mary Kropiewnicki, Program Chair & Associate Professor of Education

Dr. Gene Camoni, Assistant Professor of Education

Dr. Jin "Joy" Mao, Assistant Professor of Education

Ms. Pamela Koslosky, Office Assistant of Education

The Doctoral Degree in Educational Leadership (Ed.D.) is designed as a post-master's program that capitalizes on the existing strengths of the Graduate Education Department in leadership, technology, and advanced pedagogy. The Ed.D. program has three majors that share common core courses. These majors include: K-12 Educational Administration leading to PA Superintendent's Letter of Eligibility, Higher Education Administration, and Educational Technology Leadership with the option of PA Instructional Technology Specialist certificate. The core courses consist of leadership, research, and dissertation studies that provide doctoral students with opportunities for applied research and leadership in their respective fields.

The **mission** of the doctoral program in Educational Leadership is to produce knowledgeable, competent, and dedicated educational leaders with the skills and dispositions needed to serve in leadership capacities in their respective fields for the betterment of education for all students and society at large.

The **outcomes** of this program are to provide students with: (1) The knowledge-base to serve as educational leaders in their respective fields. (2) The skills to apply research to identify and study current issues and problems in the field of education and to analyze the resulting data toward the betterment of education. (3) Comprehensive training in the areas of administration or technology, to include skills specific to each field, as well as effective interpersonal and communication skills, analytic decision-making abilities, and effectual leadership strategies. (4) Dispositions that place value on all students and people and that promote understanding, respect, and an appreciation of diverse perspectives and cultures. (5) Opportunities to develop self and others through reflection, teamwork, and mentoring. (6) The essential value of improving education for all students and society at large through informed, ethical, and reflective decision-making.

#### ADMISSION

Admission to the doctoral program is based on several indicators of academic ability, including: the completion of an application submitted with a current resume or curriculum vitae and copies of professional state certification/teaching license (if applicable); the submission of a scholarly or professional project, report, paper, or product with a brief abstract explaining how this work gives evidence of the applicant's potential for leadership and scholarship; three letters of reference from professionals having knowledge of the applicant's academic ability, professional work, and leadership potential; a record of academic excellence and successful completion of coursework at the bachelor's and master's degree levels with earned degrees at both these levels evaluated through the submission of official transcripts from undergraduate and graduate institutions; submission of the MAT score to meet the designated cut score and taken within five years of the date of application to the program; successful interview with Wilkes University Graduate Education administrators and faculty; satisfactory rating on an extemporaneous writing sample given at the time of the interview.

#### PROGRAM REQUIREMENTS

The program requires 60 credits of course work plus the successful completion and defense of a doctoral dissertation. All new students begin in the fall semester as part of a doctoral cohort. It is recommended that students take an average of 12 credits per year to complete necessary coursework in approximately four years. A doctoral residency, involving intensive study through the completion of 18 credits in one year over three consecutive semesters, is required.

## Education

Completion of the doctoral program requires that students successfully complete all coursework requirements with an overall GPA of 3.5 or higher, pass the Qualifying and Comprehensive Doctoral Examinations, demonstrate leadership competencies through the submission of a Leadership Competency Portfolio, and develop a dissertation proposal in collaboration with the dissertation chair. After acceptance of the proposal, students are elevated to candidacy and must register for dissertation credit each academic semester (fall and spring) until the dissertation is successfully defended. The total time permitted to complete the doctoral degree is seven years. Continuous enrollment in the Ed.D. program (fall and spring) is required until graduation, although students may choose to take additional credits during summers.

### TRANSFER CREDITS

Students may be permitted to transfer 12 credits acquired post-master's toward the doctoral degree pending a review of transcripts from accredited institutions by the program coordinator. Credits must be posted on a graduate transcript after the date of the award of the master's degree from an accredited institution. Transfer credits must match existing credits contained in the scope of the doctoral program at Wilkes. Course descriptions will be reviewed to determine compatibility with existing Wilkes courses. Students may be required to submit course syllabi in cases in which the course descriptions are inconclusive. Students may appeal decisions to the Dean of the School of Education

### ED.D. PROGRAM GRADING SCALE

4.0	A	94-100%	Academic achievement of superior quality
3.5	B+	87-93%	Academic achievement of good quality
3.0	B	80-86%	Academic achievement of acceptable quality in meeting course requirements but below the average required for graduation
2.5	C+	75-79%	Academic achievement of adequate quality but below the average required to meet course and graduation requirements
2.0	C	70-74%	Academic achievement below the average to meet course and graduation requirements
0.0	F	Below 70%	Failure. No credit earned

More specific information about the program, its requirements and application procedures can be found on-line at [www.wilkes.edu](http://www.wilkes.edu) under Academics > Graduate & Professional > Doctorate of Education.

## MASTER OF SCIENCE IN EDUCATION

Kristine Prueett, Director of Operations, Graduate Education Program

Renee Kotz, Assistant Director, Graduate Education Program

### MISSION

The mission of the Graduate Education Programs at Wilkes University 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.

### PURPOSE

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 majors in Classroom Technology, Educational Development and Strategies, Educational Leadership, Instructional Technology, Special Education, Early Childhood Literacy, 21st Century Teaching and Learning, Instructional Media, Teaching English as a Second Language, Online Teaching, Art and Science of Teaching, and School Business Leadership. In addition, teachers holding secondary certification in a

specific content area who want to expand their expertise in that content area can choose to major in one of the Secondary Education programs. These programs are available in Biology, Chemistry, English, History, and Mathematics. All programs lead to a Master of Science in Education degree.

Wilkes University offers three graduate programs that lead to an additional certification through the Pennsylvania Department of Education (PDE). The Master of Science Degree in Educational Leadership qualifies an individual for K-12 principal certification. The Master of Science Degree in Instructional Technology combined with the IT internship qualifies an individual for Pennsylvania K-12 Instructional Technology Specialist certification. The Master of Science Degree in Special Education qualifies an individual for Pennsylvania certification in Special Education. All program requirements for the University as well as for PDE must be met in order for the graduate to be eligible for certification.

Two additional programs, although not a master's degree, is the Letter of Endorsement in Teacher Leadership and Instructional Coaching and a program endorsement in Autism. These 12-credit programs lead to a Letter of Endorsement that teachers can use to validate that they have advanced knowledge and skill in the area of teacher leadership and instructional coaching or autism and autistic spectrum disorders.

As part of the graduate education programs, Wilkes University houses a Regional Computer Resource Center (RCRC). The RCRC serves as a regional center for technology workshops for teachers. Services include training for pre-service and in-service K-12 teachers in current topics via short workshops and seminars.

#### **SPECIAL FEATURES OF THE PROGRAM**

The Master of Science in Education degree programs in Classroom Technology, Educational Development and Strategies, Educational Leadership, Instructional Technology and Special Education are offered at off-campus sites as well as on the Wilkes campus. The Classroom Technology, Early Childhood Literacy, 21st Century Teaching and Learning, School Business Leadership, Instructional Media, the Art and Science of Teaching, and Online Teaching programs are offered fully online. The Educational Leadership Program is offered in a low-residency/online format. Similarly, the Teaching English as a Second Language program is offered as a hybrid program with some face-to-face meetings and remaining activities conducted online. Secondary Education graduate programs are available on-campus only.

On-line formats of many courses are available. On-line sections of courses are published in the Wilkes University Graduate Education Schedule. Performance Learning Systems offers on-line courses for Wilkes University credit. Visit [www.plsweb.com](http://www.plsweb.com) for information on PLS courses.

#### **ADMISSION**

For admission to graduate study in education, the applicant must have a baccalaureate degree with an appropriate major from an institution that is accredited by one of the six regional accrediting bodies recognized by the U.S. Department of Education or the equivalent, in the case of international students. In addition, several programs require a Pennsylvania teaching certificate. Although no minimum undergraduate grade point average is required for admission, it is expected that candidates shall have maintained good or above-average performance during their undergraduate years and shall exhibit evidence of intellectual and temperamental fitness for graduate study. In the Educational Leadership Program, academic performance is a measure of both prior course work and performance on the Miller Analogies Test. Students deficient in any phase of these requirements may, at the discretion of the academic department, and the Dean of the College of Graduate and Professional Studies, be granted provisional or conditional admission. Deficiencies must be made up satisfactorily before full admission to graduate study in education will be granted.

A Master of Science degree-seeking student must complete the following process to be considered for admission to the graduate program in education:

1. Submit a Wilkes University Graduate Application for Admission,
2. Pay the required one-time, non-refundable application fee,
3. Submit two letters of recommendation,
4. Submit a copy of your teaching certificate, if applicable. All programs except Instructional Technology, Instructional Media, School Business Leadership, and Teaching English as a

## Education

Second Language (non-cert option) require an instructional certificate unless approved by the program coordinator.

5. Submit official transcripts from all of the undergraduate universities attended while obtaining the bachelor's degree, including teacher certification and, in addition, any master's degrees earned. Also send any recent graduate transcripts you want reviewed for possible transfer credits concurrent with current policy.

Upon receipt of all required documents the Program Coordinator will review files for acceptance. Accepted students are assigned an advisor to work with as they progress through the program.

### NON-DEGREE TO DEGREE SEEKING STUDENTS

Non-degree students who want to change to degree-seeking status must complete a new application for admission indicating their desired program, but do not need to re-pay the application fee. Students should then follow the remaining steps outlined above for submission of all appropriate documents to complete the change of status. A change in status is required at least one year prior to the intended date of graduation. Students must

complete all courses required for the degree as outlined in the current Graduate Bulletin at the time of the status change.

### PROGRAM OF STUDY

Students are encouraged to consult with their advisor to plan their program of study. At the time of acceptance students are sent a Program Plan with which to document their progress through the program. It is highly recommended that students keep track of the courses they take on the Program Plan and contact their advisor with any questions they may have. It is the responsibility of the student to be sure they are taking the correct courses for their major. Students should follow the requirements outlined on the Program Plan or in the Graduate Bulletin to be sure they will meet the requirements for graduation. Students wishing to transfer credits into their program should follow the procedure outlined in the "Transfer Credits" section, listed below.

Students are expected to maintain a GPA acceptable for graduate level work and progress. A graduate student who accumulates two grades below 3.0 in his or her graduate courses will be placed on probation. A student earning a third grade below 3.0 will be dismissed from the graduate program.

**NOTE:** It is the graduate student's responsibility to register for Graduation (GRD-000- B) the same semester they enroll in the final course required for their degree. The student is encouraged to contact their advisor at the time of registration for a preliminary audit to be sure all requirements will be met. The deadline for registering for graduation is 90 days prior to the next processing date for degree completion. Graduation is processed at the end of each term, however ceremonies are only held in May and September.

### TRANSFER CREDITS

Students accepted into a master's degree program may transfer a maximum of six graduate credits from an approved and accredited college or university as long as they meet all of the requirements identified in the University-wide **Transfer Credits** section of this document and the specific criteria below. This transfer credit limit is per student not per program. This means that students may only transfer a total of six credits into Wilkes at the master's level regardless of the number of master's degrees they choose to complete. The Director of Operations will make the final determination regarding transfer credits and whether they will count as elective credits or qualify to replace required courses. In order for courses to count as electives, they must meet the academic intent of the student's masters program or be aligned to their respective professional assignment. Each transfer request is handled on a case-by-case basis and the student may be asked to produce a course syllabus and/or a letter justifying his/her request.

Students desiring to take courses from another college or university while enrolled in the Wilkes program must submit a pre-approval to transfer graduate credit form prior to registering for such courses. Failure to submit the proper paperwork may result in the inability to transfer those credits. All forms are available on the Graduate Education web site: [www.wilkes.edu/GradEd](http://www.wilkes.edu/GradEd) under 'Transfer Credit Info.' An official transcript must be received before any approved transfer credits can be posted to your Wilkes transcript. For more information see Transfer Credits in the General Information section at the beginning of this Graduate Bulletin.

## SECOND MASTER'S DEGREE

A person who has an earned master's degree from Wilkes University, or is in the final semester of a master's from Wilkes, may apply to be enrolled in a second master's degree if the major, program or option is different. Up to twelve credits only of previous course work used to satisfy the requirements for the first degree (typically basic requirements from Areas I and II) may be applied to the second. This only applies to programs that have common courses. If no common courses exist between the two programs, students must take all of the courses in the second degree. All other admission and program requirements must be fulfilled. Students are encouraged to speak to the program coordinator of the new second program for advisement of courses that must be taken. A student who opts for a second master's degree must submit a written request to the department along with a new Wilkes graduate application form. There is no need to repay any application fees.

## DEGREE REQUIREMENTS

All candidates for the Master of Science in Education degree must complete a program of at least thirty credits. See the following individual program descriptions for the specific course credit requirements for each graduate education program.

# MASTER'S DEGREE PROGRAMS

## THE ART AND SCIENCE OF TEACHING (AST)

Dr. Kathleen C. Makuch

AST Program Coordinator

The Master of Science in Education in The Art and Science of Teaching is a 30 credit online graduate program designed to increase student achievement by enhancing teacher's knowledge and understanding of effective instructional practices. This program is the result of a two-way collaborative partnership between Wilkes University and National Institute for Professional Practice, a private organization specializing in e-learning for the professional development of educators. The structure of the proposed program consists of 8 three credit courses and one six credit capstone course. The content of the courses is based on the extensive research of Dr. Robert Marzano regarding the impact of effective instructional practices on student learning. The goal of this master's program is to develop Expert Teachers by increasing teacher knowledge and understanding of evidence-based practices which will translate to measurable changes in the classroom and subsequently increase student achievement. The program is primarily targeted at elementary, middle, and high school teachers.

The courses in the program include:

- EDAM 5040 Foundations of the Art and Science of Teaching
- EDAM 5041 Establishing Learning Goals to Support Learning & Instructional Design
- EDAM 5042 Monitoring & Measuring Student Progress
- EDAM 5043 Actively Processing New Content
- EDAM 5044 Extending Student Learning
- EDAM 5045 Designing Instruction for Student Engagement
- EDAM 5046 Creating an Effective Classroom Environment
- EDAM 5047 Developing Relationships and High Expectations for Student Learning
- EDAM 5048 Applying the Art and Science of Teaching

## CLASSROOM TECHNOLOGY (CT)

Ms. Barbara Moran  
CT Program Coordinator

## Education

A candidate for the Master of Science in Education degree with an emphasis in Classroom Technology will have the option of completing all courses on-line. The candidate must complete 30 credits:

### Area I: Foundations of Education (6 credits required)

Required:

ED 519 Issues, Law, and Trends in Education

*And one of the following:*

ED 510 Psychological Foundations

ED 511 Philosophical Foundations

ED 512 Social Foundations

ED 513 Comparative Foundations

ED 515 Cognition

### Area II: Professional Skills (9 credits required)

ED 520 Using Assessment to Guide Instruction

ED 522 Curriculum and Instruction

ED 585 Integrating Technology into the Curriculum

### Area VI: Educational Computing Courses (12 credits required)

ED 526 Internet Literacy for Educators

ED 527 Authoring Systems/Instructional Design

ED 528 Using Print Media to Support Education

ED 530 Utilizing Emerging Technologies to Improve Learning

### Elective Courses (3 credits required)

Completion of the Classroom Technology degree does not fulfill the requirements for any additional teacher certification area. The intent of this program is to upgrade the technology skills of the classroom teacher.

In addition to being available on the Wilkes campus and on-line, the M.S. in Education with a concentration in Classroom Technology is offered at the following off-campus sites: Bethlehem Area SD, Berks IU#14, Blue Ridge SD, Catasauqua SD, Central Columbia SD, Crestwood SD, Delaware County IU, Delaware Valley SD, Hazleton @ MMI-Freeland, Jim Thorpe SD, Manheim Twp SD, Northeastern Educational IU#19, Pleasant Valley SD, Pocono Mountain SD, Quakertown Community SD, Schuylkill IU#29, Shamokin SD, Tunkhannock SD and Wallenpaupack SD. For the most current listing of sites where the Classroom Technology program is available, refer to the Wilkes website.

## EDUCATIONAL DEVELOPMENT AND STRATEGIES (EDS)

Ms. Renee Kotz

EDS Program Coordinator

A candidate for the Master of Science in Education may elect the program in Educational Development and Strategies (EDS). The requirements for this 30-credit degree are: two courses in Area I Foundations of Education (one of which must be ED 519 Issues, Laws and Trends and one of the following: ED 510 Psychological Foundations, ED 511 Philosophical Foundations, ED 512 Social Foundations, ED 513 Comparative Foundations, ED 515 Cognition); three courses (nine credits) in Area II Professional Skills: ED 520 Using Assessment to Guide Instruction, ED 522 Curriculum and Instruction, and ED 585 Integrating Technology into the Curriculum; four Performance Learning Systems (PLS) courses ( twelve credits) in Area V: Educational Development and Strategies (numbered ED 541-558); and three elective credits. Electives can be any course offered by Wilkes and listed in this bulletin that the student has not already taken, including topics courses listed as ED 598. Note: Additional PLS (Area V) courses cannot be used for elective credits in this degree program, including those listed as 558 Topics courses.

The EDS degree is designed to meet the needs of practicing teachers by combining effective strategies with theory and research. The EDS program is offered on-line and in the following areas:

Western PA: (newly added sites)  
Coudersport Area School District  
Cranberry SD  
Hollidaysburg/Altoona  
Millcreek Township SD  
North Hills SD  
Norwin SD  
Sharon SD  
Smart Start Education Center  
Somerset/Conemaugh Area

Eastern and Central PA Sites  
Berks County  
Bradford County  
Chambersburg  
Garnet Valley SD  
Harrisburg/Hershey Area  
Hazleton Area  
Jim Thorpe SD  
Lackawanna County  
Lancaster/Manheim Twp SD  
Lehigh Valley  
Mechanicsburg  
Mifflin County  
Milton Area  
Quakertown  
Schuylkill IU 29  
Unionville-Chadds Ford SD  
Wallenpaupack  
Wilkes Campus  
Williamsport  
York

**SCHOOL BUSINESS LEADERSHIP (SBL)**

Ms. Kristine Pruett  
SBL Program Coordinator

The Master of Science degree in Education with a major in School Business Leadership in Education is a 30-credit fully on-line program. Wilkes has collaborated with the Pennsylvania Association of School Business Officials (PASBO) to design advanced courses for the practicing school business professional or anyone interested in entering the field. Courses cover the ten major areas important to any school business professional. Interested candidates should follow the admissions procedures outlined earlier in this section. Applicants must have a minimum of a bachelor's degree from an accredited college or university in an appropriate field. A teaching certificate is not required for this program.

Students should take the ten courses from Area X: School Business Leadership, SBL 501 through SBL 510, to complete all program requirements. Additionally, it is strongly recommended that Pennsylvania individuals with little or no school business experience take the prerequisite courses offered through the Pennsylvania Association of School Business Officials (PASBO) entitled the Elements program. For more information on the Elements courses, contact Corrine Shearer, Chief Learning Officer at PASBO, 717-540-9551 or email [corrineshearer@pasbo.org](mailto:corrineshearer@pasbo.org).

**EARLY CHILDHOOD LITERACY (ECL)**

Dr. Kathleen Makuch  
ECL Program Coordinator

## Education

The Master of Science in Education with a major in Early Childhood Literacy is a fully online program offered in partnership with the National Institute for Professional Practice Graduate Education. This 33-credit program explores a comprehensive literacy framework that will provide teachers with the tools needed to empower their students to discover the many joys of reading and writing. Each course in this program is classroom embedded, which allows teachers to immediately apply the teaching strategies and techniques they are learning directly into their classroom.

Applicants to this program must complete the admission process as outlined earlier in this section, and also be employed at the K-3 level in an educational institution.

The program consists of the following courses (33 Credits):

- EDAM 5001 Early Literacy: Guiding Principles and Language Development (3 Credits)
- EDAM 5002 Word Study (3 Credits)
- EDAM 5003 Fluency and Vocabulary Development (3 Credits)
- EDAM 5004 Developing Comprehension, Pt I (K-3) (3 Credits)
- EDAM 5005 Developing Comprehension, Pt II (K-1) (3 Credits) or EDAM 5006 Developing Comprehension, Pt II (2-3) (3 Credits)
- EDAM 5007 Differentiated Small Group Instruction (K-1) (3 Credits) or EDAM 5008 Differentiated Small Group Instruction (2-3) (3 Credits)
- EDAM 5009 Developing Independent Readers (K-3) (3 Credits)
- EDAM 5010 Connecting Reading and Writing (K-1) (3 Credits) or EDAM 5011 Connecting Reading and Writing (2-3) (3 Credits)
- EDAM 5013 Teacher Leadership (3 Credits)
- EDAM 5012 Master Teacher Practicum: Applying Action Research to Develop a Results-Driven Early Literacy Classroom(6 Credits)

In cases where there is a choice of courses, participants should register for the grade level designated for each course that matches the level in which they currently teach. Please refer to the course description section of this bulletin for information on course prerequisite requirements.

### NOTE:

- There are no transfer credits permitted in this program
- Courses in this program run on the National Institute for Professional Practice academic calendar. Visit [www.professionalpractice.org](http://www.professionalpractice.org) or call 888-235-6555 for a copy of the most recent academic calendar

## 21ST CENTURY TEACHING AND LEARNING

Dr. Kathleen Makuch  
Program Coordinator

The Master of Science in Education with a major in 21st Century Teaching & Learning is a fully online program offered in partnership with the National Institute for Professional Practice Graduate Education. This 30-credit program is designed to support secondary educators in Science, Mathematics, Language Arts, and Social Studies. Throughout this program, teachers will be provided with the tools and strategies that can be immediately applied in the classroom to create an engaging 21st Century Classroom. Unlike traditional master's degrees, teachers in this program will complete a series of courses designed specifically for their discipline with a supportive study group of fellow educators.

Applicants to this program must complete the admission process as outlined earlier in this section, and also be employed at the 6-12 level in an educational institution.

The program consists of the following courses (30 credits):



- EDAM 5030: Teaching in the 21st Century: The Need for Change (3 Credits)
- EDAM 5031: Action Research for Educational Change (3 Credits)
- EDAM 5032: Educational Assessment to Guide Instruction (3 Credits)
- EDAM 5033: Developing Reading and Writing Across the Curriculum (3 Credits)
- EDAM 5034: Applying Advanced Technology to Support Standards-Based Instruction (3 Credits)
- EDAM 5035A/B/C/D: Teaching Authentic Content in Math/Science/Social Studies/Language Arts (3 Credits)
- EDAM 5036A/B/C/D: Differentiated Instruction in the Classroom (Math/Science/Social Studies/Language Arts) (3 Credits)
- EDAM 5037A/B/C/D: Inquiry-based Learning in the Classroom (Math/Science/Social Studies/Language Arts) (3 Credits)
- EDAM 5038A/B/C/D: Project-based Learning in the Classroom (Math/Science/Social Studies/Language Arts) (3 Credits)
- EDAM 5039: Applying 21st Century Teaching to Educational Practice (3 Credits)

In cases where there is a choice of courses, participants should register for the course that contains the content area in which they currently teach. Please refer to the course description section of this bulletin for information on course prerequisite requirements.

**NOTE:**

- There are no transfer credits permitted in this program
- Courses in this program run on the National Institute for Professional Practice academic calendar. Visit [www.professionalpractice.org](http://www.professionalpractice.org) or call 888-235-6555 for a copy of the most recent academic calendar

**INSTRUCTIONAL MEDIA (IM)**

Ms. Karena Zdeb  
IM Program Coordinator

The Master of Science in Education with a major in Instructional Media is a fully online program that is offered in collaboration with Discovery Education.

This 30-credit program prepares teachers to engage today's students in learning through the use of cutting-edge instructional media resources from video to Web 2.0 to virtual fieldtrips. It will train educators to become specialists who can effectively blend academic rigor and research with the latest technology in digital media, capitalizing on their "Net Gen" students' strengths. Participants in the program will have access to the #1 non-fiction media brand in the world, Discovery Education, which transforms K-12 and Higher-Ed classrooms with the highest-quality content that empowers educators to measure and improve student achievement. Applicants to this program should follow the admission guidelines outlined earlier in this section.

While a state approved teaching certificate is not required for admission to this program, it is strongly encouraged that students have experience in an educational environment. Experience using technology is also recommended.

To meet the program requirements students should follow the program of study as outlined below.

The program consists of 21 credits of foundation and general pedagogy courses and 9 credits of electives.

*Foundations and pedagogy courses (21 credits)*

- EDIM 501 Cognition and Technology: Aligning Brain-based Research and Technology Integration (3 credits)
- EDIM 502 Project-based Learning (3 credits)
- EDIM 503 Differentiation Supported by Technology (3 credits)

## Education

- EDIM 504 Digital Storytelling (3 credits)
- EDIM 507 Using Technology to Support Creativity (3 credits)
- EDIM 508 Digital Media in the Classroom (3 credits)
- ED 520 Using Assessment to Guide Instruction (3 credits)

*Elective courses (choose 9 credits)*

- EDIM 510 Web 2.0 Impacting Learning Environments (3 credits)
- EDIM 511 Portable Video Production and Application (3 credits)
- EDIM 513 Inquiry-based Learning (3 credits)
- EDIM 514 Internet Tools for Teaching (3 credits)
- ED 587 Technology Leadership (3 credits)

The degree will be awarded upon successful completion of the prescribed 30 credits.

## INSTRUCTIONAL TECHNOLOGY (IT)

Ms. Victoria Glod  
IT Program Coordinator

A candidate for the Master of Science in Education degree with a concentration in Instructional Technology who enrolls in the program in the Fall 2008 or later must complete ED 519 Issues, Laws and Trends in Education and one additional course from the following:

- ED 510: Psychological Foundations
- ED 511: Philosophical Foundations
- ED 512: Social Foundations
- ED 513: Comparative Foundations
- ED 515: Cognition

The candidate must also complete ED 520 Using Assessment to Guide Instruction and the following technology courses:

- ED 577 Principles of Information Security (must complete ED 588 prior to taking this course)
- ED 579 Media Design
- ED 583 Courseware Design and Construction
- ED 585 Integrating Technology into the Curriculum
- ED 587 Technology Leadership
- ED 588 Operating Systems and Networking (pre-requisite for ED 577)
- ED 589 Instructional Technology: Models and Methods

The degree will be awarded upon the successful completion of the above listed 30 credits. In addition to the above courses, a three-credit internship, ED 591, is required for Pennsylvania Department of Education certification as a K-12 Instructional Technology Specialist (a total of 33 credits for the Master's degree with IT certification).

\*Certification requirements are dependent upon regulation changes made by the Pennsylvania Department of Education.

Candidates for the Instructional Technology Specialist Certificate who do not have a valid level 1 or level 2 Pennsylvania instructional certificate must achieve a Pennsylvania Qualifying score in the three pre-professional Praxis I tests (reading, writing and mathematics).

The Instructional Technology program is offered at the following sites:

- Wilkes campus
- Berks County Intermediate Unit
- Bethlehem Area School District
- Bucks County Intermediate Unit
- Cumberland Valley School District

- Delaware County Intermediate Unit

The criteria for admission to the Instructional Technology Specialist program are:

- completion of the Wilkes University graduate application/application fee.
- recommendations from college faculty and/or professional supervisors.
- official transcripts indicating successful completion of a baccalaureate degree with an overall minimum undergraduate GPA of 3.0 from an accredited college or university.

Students who do not have a 3.0 GPA may be admitted conditionally. After completion of 12 graduate credits, performance will be evaluated. If successful, the student may then apply for full admission to the program.

The Master of Science in Education with a concentration in Instructional Technology was designed to prepare educators to assume positions of technology leadership in schools. Graduates of the program have gone on to become computer coordinators in K-12 settings, work in the computer industry, serve as technology consultants to education, business or industry, or are pursuing a doctorate in the field.

### EDUCATIONAL LEADERSHIP (EDLS)

Rhoda Tillman, Ph.D.

EDLS Program Coordinator

The graduate program in Educational Leadership consists of 36 credits. A candidate for the EDLS degree, which includes PA Department of Education K-12 Principal Certification, must complete the following "sequence" courses: ED 516<sup>1</sup>, ED 517, ED 576, ED 578, ED 573 and ED 574 prior to registering for ED 592 Administrative Internship and Applied Research Project. However, it is recommended that all 30 course credits be completed before the ED 592 Internship. The "sequence" courses each require a field experience of 35 hours logged outside of class after the first class meeting. Students must also complete ED 575, ED 520, ED 522 and ED 587 to fulfill the remaining degree requirements. The two semester, six-credit internship is required of all candidates for principal certification. Each semester of the internship requires a field experience during which students log 90 hours for a total of 180 hours outside of class.

Candidates will be recommended for principal certification upon successful completion of the program course of study, a passing score (580) on the PDE required principal certification Praxis test #410, Educational Leadership: Administration and Supervision, and five years of professional school experience on the appropriate teaching certificate. Students must follow the program outline above in order to complete all necessary requirements.

A 'Certification Only' Option is available for the Educational Leadership program and requires a Wilkes graduate application, application fee, official transcripts and two letters of recommendation. A previous Master's degree, either from Wilkes or another university, is required for admission as a 'Certification Only' student. Wilkes EDLS graduate credits are required for principal certification only, with final determination of the courses needed made by the EDLS program director upon transcript review. If the previous master's is from Wilkes, there is no need to repay the application fee, but a new, updated application form must be submitted.

In addition to the Wilkes campus weekender format, off-campus EDLS programs are offered at the Berks County IU#14, Bethlehem Area SD, Catasauqua SD, Delaware Valley SD, Derry Township SD/Lower Dauphin SD, Loyalsock Township SD, Mahanoy Area SD, Mifflin County SD, Northeast Education IU#19, Parkland SD, Pleasant Valley SD and Pocono Mountain SD.

The MS in Educational Leadership (EDLS) is also available in a low residency format online. The EDLS Online program is designed to meet PA Department of Education standards for principals. EDLS Online begins by bringing student cohorts to the university campus in Wilkes-

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<sup>1</sup> Three credits This course introduces students to research on educational leadership theory, models, and styles. Ethics in leadership, decision-making models, and the principal as instructional leader are examined. The study of research methodology is incorporated and practiced to develop skills for future use in leadership plans of study. Required for Educational Leadership Program.

## **Education**

Barre, PA for a week- long residency. During the residency students begin work in the first two courses that form the base of the EDLS experience—ED 516 Educational Leadership and ED 517 The Principalship.

- Following the residency, students finish their work in ED 516 and ED 517 online. These and all subsequent courses are conducted completely through the Internet. Every EDLS Online course includes a field experience component. Candidates will be recommended for K-12 principal certification upon successful completion of:
- One week residency
- EDLS Online program of study
- PDE required principal certification exam (Praxis 0410) administered by ETS
- 5 years of professional school experience

### **Qualifications for Admission to the Educational Leadership Program:**

- Successful completion of the general Wilkes University application process.
- The Miller Analogies Test is administered during ED 516. If the MAT has been taken within the past five years, official report must be sent to Wilkes University.
- Written statement from the candidate attesting to interest and motivation to pursue a degree in educational leadership and principal certification.
- Instructional I Teaching Certificate, if seeking principal certification.
- At least three years full-time teaching experience at time of admission, if seeking principal certification. A total of five years is required to apply for certification upon completion of the program.

**ONLINE TEACHING (OLT)**

Ms. Karena Zdeb

OLT Program Coordinator

Wilkes University partnered with Performance Learning Systems, Inc. (PLS) to develop this 30-credit fully online master's degree in Online Teaching. This program will provide best practices for designing online instruction, teaching previously developed courses, designing and implementing meaningful assessments for the online classroom, incorporating the latest in technology tools appropriate for online learning, and integrating primary resources in the online environment. The program equips the participant with skills to perform these functions for their current or future employers.

For admission to this graduate program, the applicant must have a baccalaureate degree from an accredited institution with an appropriate major, preferably in an educational field. However, being in the role of an educational provider of some kind is also acceptable. Official transcripts and two letters of recommendation are required for consideration for admission to the program.

The 30-credit program consists of six required courses and four elective courses. After completing the required courses (in no particular order), students then select two courses from elective bank 1 and the remaining two courses from elective bank 2 in order to specialize in areas or topics of most interest to them. Courses are offered through each partner (indicated in parentheses in the titles) and registration takes place directly with that organization. Information about PLS courses and registration for them can be found by visiting [www.plsweb.com](http://www.plsweb.com) and locating Wilkes University under the University partners link or by calling 1-866-757-2527. Interested students must first apply to Wilkes before registering for any courses.

Required: 18 credits

- ED 520 Using Assessment to Guide Instruction (Wilkes)
- ED 530 Utilizing Emerging Technologies to Support Education (Wilkes)
- ED 5001 Social & Ethical Issues in Distance Learning (Wilkes)
- ED 5002 Instructional Design for Online Educators™ (PLS)
- ED 5003 Facilitating Online Learning Communities™ (PLS)
- ED 5004 Action Research in the E-Learning Environment™ (PLS)

Elective bank 1: 2 courses (6 credits) required from this list

- ED 5010 Teaching 3-D: Virtual Classroom Environments (Wilkes)
- ED 579 Media Design (Wilkes)
- ED 5011 Digital Video in Instructional Design and Delivery (Wilkes)
- ED 5012 Trends and Innovations in Instructional Technology (Wilkes)

Elective bank 2: 2 courses (6 credits) required from this list

- ED 5020 Using Online Resources to Bring Primary Sources to the Classroom™ (PLS)
- ED 5021 Blended and Synchronous Learning Environments™ (PLS)
- ED 5022 Simulations and Gaming Technologies for the Classroom™ (PLS)
- ED 5023 Building Online Collaborative Environments™ (PLS)
- ED 5024 Educating the Net-Generation™ (PLS)

**MASTER OF SCIENCE IN EDUCATION WITH SPECIAL EDUCATION CERTIFICATION OPTION**

Kristin C. Bewick, Ph.D

Special Education Program Coordinator and Advisor

## Education

The Master of Science In Education Program with Special Education Certification Option is designed to prepare individuals for Pennsylvania certification in Special Education (currently, nursery school through grade 12). To be eligible for admission into the Special Education Master's Program, applicants **must possess a previously earned Pennsylvania Instructional I or II Certificate** in Early Childhood Education, Elementary Education or a Secondary content area and present a copy of the certificate during the admissions process. An applicant who is certified in another state may contact the Pennsylvania Department of Education (PDE) at <http://www.pde.psu.edu/> to apply for PA certification, prior to admission to Wilkes University. The Master of Science Program with Special Education Certification Option is not designed for previously certified Special Education teachers, because it prepares individuals for state certification.

All secondary certified applicants must have taken and passed four pre-requisite courses before being awarded the degree and prior to eligibility for state certification. An official transcript must be on file in the Graduate Teacher Education office as evidence that these courses have been satisfactorily completed. These pre-requisite courses may be completed at the undergraduate or graduate level as follows:

- Developmental Psychology
- Foundations of Reading with Field Experience
- Math in Early Childhood / Elementary Education
- Science in Early Childhood / Elementary Education

A candidate for the Master of Science in Education with Special Education Certification Option will complete 30 graduate credits to obtain the Master's degree Certification in Special Education may be pursued after the completion of the 18 credits of EDSP courses, including the Special Education Internship EDSP 506.

Core Education course requirements are as follows:

- ED 519 Issues, Laws, and Trends in Education and one additional course from Area I Foundations in Education (Note that ED 519 and 514 cannot be combined)
- ED 522 Curriculum and Instruction
- ED 585 Integrating Technology in the Curriculum

Special Education courses are as follows:

- EDSP 501 and 502 Special Education Methodology I and II with Field Experience (15 hours of field experience in each course. Offered during the fall semesters at the Wilkes campus.
- EDSP 503 Behavior Management with Field Experience (15 hours of field experience) Offered during the spring semesters at the Wilkes campus.
- EDSP 504 Assessment in Special Education. Offered during the spring semesters at the Wilkes campus.
- EDSP 505 Issues and Topics in Special Education. Offered during the summer semesters at the Wilkes campus.
- EDSP 506 Internship in Special Education (100 internship hours involving direct teaching with special education students). Offered during the fall semesters at the Wilkes campus.

After successful completion of all six EDSP courses, fieldwork, and internship experiences students may apply for state certification in Special Education. In order to obtain certification all students must successfully pass the Special Education PRAXIS tests, Education of Exceptional Students Core Knowledge, numbered 20353 AND Fundamental Subjects Content Knowledge Test, numbered 30511. Information about registering for the PRAXIS tests is available at [www.ets.org](http://www.ets.org).

After receiving passing scores on the appropriate PRAXIS tests, the student will complete state application forms PDE 338G (General Application) and PDE 338C (University Verification Form - Part A) for Pennsylvania Teacher Certification. Application forms are available online at the PDE website: [www.pde.psu.edu](http://www.pde.psu.edu). The applicant will include the required application fee in the form of a money order to Commonwealth of Pennsylvania (\$40.00 starting in July 2006). The application forms are given to the Special Education Program Advisor who then forwards the application packet to the Wilkes University Certification Officer, Dr. Diane Polachek, Breiseth Hall Room 204. The student's transcript, previous teaching certificate, and PRAXIS

scores are reviewed by the Certification Officer prior to sending the application to the Pennsylvania Department of Education for final certification approval.

\*\* EDSP courses for the Special Education program are available at the Wilkes campus and at the Catasauqua School District site. One EDSP course per semester is available at the Catasauqua site on a rotating cycle. The internship (EDSP 506) is not offered at the Catasauqua site.

## **FIELD EXPERIENCE AND INTERNSHIP GUIDELINES:**

### **Purpose of Field Experiences**

The Graduate Special Education Program requires a sequence of field experiences that provide opportunities to apply theoretical knowledge and demonstrate professional competence. Field experiences take place in various N-12 classrooms, as relevant to the content of the specific course. Field placements are intended to be varied so that students can experience multiple grade levels, various pupil needs, and different teaching styles throughout the program.

### **Field Experiences and Course Assignments**

Field experiences and related assignments are built into the requirements for each designated special education course. Students are required to complete observation journals and logs in each course, and to help the classroom teacher with specific instructional activities assigned from each course instructor. Reflection and discussion about field experiences as well as specific projects and assignments are integrated into each course, and contribute to the determination of the final course grade. Course assignments are embedded within field experiences, including assessment and progress monitoring, lesson planning, tutoring, disability exploration, and technology projects.

Note: All students are expected to complete field experiences for each designated course. Students who are employed in teaching jobs must make arrangements to complete field experiences in a classroom other than their own.

### **Field Placements**

Graduate students arrange and schedule their own field experiences, relevant to the specific EDSP course content. Students are required to have current Criminal Record, Child Abuse and fingerprinting clearances on file in the Graduate Department prior to starting the field work. Students who are not able to produce these clearances will not be permitted to remain in the course.

Students will notify the course instructor about the specific placement, including name of teacher, school district, grade level, and type of program. Information about placement is recorded in the student's Field Placement Log as directed by the course instructor.

Membership in PSEA (Pennsylvania State Education Association) is highly recommended for all students planning to participate in field experiences. PSEA membership offers liability insurance for individuals working in school settings. Graduate students who are practicing teachers may already have a full professional PSEA membership. Graduate students who have never enrolled as a professional member may register for a discounted "Student Membership" which also provides liability insurance. PSEA membership also carries many other benefits and incentives. [Enrollment in PSEA may be done on line at www.psea.org.](http://www.psea.org)

The following list describes the types of placement that will be appropriate for each special education course:

EDSP 501 Special Education Methodology I with Field Experience - (15 hours of field work). The course focuses on higher incident special needs populations who are typically integrated and included in general education classrooms. Good field experience matches would be found in the following classrooms; learning support, learning disabilities, reading disabilities, resource room, inclusion, "pull-out" or "push-in" programs.

EDSP 502 Special Education Methodology II with Field Experience - (15 hours of field work). The course focuses on lower incident special needs populations with more significant exceptionalities such as mental retardation, autism, physical disabilities. These students would be found typically in settings such as: life skills, autistic support, mental retardation programs, physical support, sensory impairments (vision and hearing impairments).

EDSP 503 Behavior Management in Special Education with Field Experience -(15 hours of field work). The course focuses on special needs students diagnosed with various emotional and behavioral difficulties. Typically these students participate in specialized behavioral management programs, which may be separated from the general education classroom. Good field experience

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matches would be found in the following classrooms; emotional support, behavioral support, SED (severe emotional disturbance), EBD (emotional behavioral disorders). It would also be appropriate for Wilkes students to observe individual pupils with emotional/behavioral disorders during sessions with school counselors, Therapeutic Support Service providers, and school psychologists.

### Internship Placement Procedures

Graduate students arrange and schedule their own internship placement. The Program Advisor may assist the student if a placement is unable to be determined. Occasionally, a specific internship experience may be recommended for the student.

- a. It is the student's responsibility to identify a mentor teacher. The mentor teacher must be certified in special education and must be employed in a special education setting. The student should approach the potential mentor teacher to determine whether he/she is interested in serving in the role of mentor teacher.
- b. Once the student has secured permission from the mentor teacher, he/she needs to complete a Mentor Teacher Application Form. The form is signed by the mentor teacher. The form is then submitted, along with current Act 34 (PA State Police Criminal Record Check) and Act 151 (PA Child Abuse History Check) and FBI fingerprinting clearances if they are not already on file to the Graduate Teacher Education department.
- c. Paperwork for placement must be submitted to the Graduate Teacher Education department three weeks prior to start of semester/hours.
- d. Once all the paperwork is in place, the Coordinator of Graduate Field Placements will review the placement with the Special Education Program Coordinator, who ultimately approves all placements. The Program Coordinator and the Director of Graduate Teacher Education reserve the right to decline placements that are deemed to be inappropriate.
- e. The student will be assigned a supervisor from Wilkes. In most cases, the supervisor is the EDSP 506 course instructor.
- f. The Coordinator of Graduate Field Placements and Special Education Program Coordinator review the class lists for EDSP 506 to confirm that all students have legitimate field placements. In the event that students have not completed the process, they will not be allowed to continue in the course.

### Internship Requirements

Interns must participate in a minimum of 100 hours in an instructional setting with special education students. Interns must keep a detailed log of the time spent and the activities engaged in during the internship. Forms will be distributed by the course instructor.

During the internship, interns will complete the following tasks:

- Assess students' strengths and weaknesses
- Assist in the development of an Individualized Education Plan (IEP)
- Write a functional behavior plan (FBA)
- Develop and conduct a minimum of two lessons  
One lesson needs to be scheduled for a time when the Internship supervisor/instructor can observe the presentation. Alternate video taping of the lesson can be arranged, as a last resort, with the instructor if there is an irresolvable conflict in schedules.
- Interns must participate in parent related communications (i.e. parent conferences, phone conversations, written correspondence)
- Interns must participate in a team meeting related to student progress

### TEACHING ENGLISH AS A SECOND LANGUAGE

The 30-credit Master of Science degree in Teaching English as a Second Language can qualify teachers to instruct populations whose first language is not English. Graduates will be prepared to teach in K-12 schools, colleges and universities, private language schools and business-sponsored English programs, both in the United States and internationally. The program is presented in a blended, or hybrid, format; that means classes include both on-site meetings and online activities. On-site class meetings are scheduled with working adults in mind.



Students will select one of two majors, either Teach English to Speakers of Other Languages (TESOL) or English as a Second Language (ESL). The TESOL major trains instructors from anywhere in the world to work domestically or internationally and with learners of all ages to acquire English language skills. Students in this major need not possess a bachelor's degree specific to education or a teaching certificate. The ESL major trains certified teachers for U.S. public schools focusing on pre-K through grade 12 learners. Both majors contain similar coursework. Assignments in one 3-credit course will be differentiated to prepare students for their intended major.

A Letter of Endorsement is available through both majors. Students, including those from other countries who want to return to their home countries to teach English, will receive a letter of endorsement after successful completion of the first four courses. Pennsylvania teachers with an instructional certificate may obtain the "ESL Specialist" designation by completing the first four courses of the master's program. (ESL is a program specialist designation and not a stand-alone instructional certificate in Pennsylvania.) Upon successful completion of those first four courses, whether or not they continue to pursue the master's degree, they will be issued the letter of eligibility to teach ESL.

Admission to the Teaching English as a Second Language degree requires a bachelor's degree from an accredited college or university along with the official transcripts from the institution(s) attended. Two recommendations are also needed to complete the admissions file. Applicants to the ESL major are required to have a state approved instructional certificate and should submit a copy with their admissions paperwork. Teachers interested in only obtaining the ESL endorsement (completion of the four identified courses) may apply as "non-degree". These applicants must supply only a copy of the undergraduate transcript and teaching certificate at the time of application.

Admitted students should complete the following program of study in order to meet the requirements for the degree in Teaching English as a Second Language:

ESL 501\* Approaches to Teaching Second Languages

ESL 502\* Language Concepts for Second Language Learning and Teaching

\*ESL 501 and 502 are prerequisite courses. They may be taken together or separately in either order, but must be completed prior to enrolling in other ESL courses.

ESL 504 Intercultural Communication for Language Teachers

ESL 506 Teaching the Four Skills: Reading, Writing, Listening and Speaking

ESL 505 Second Language Acquisition

ED 520 Using Assessment to Guide Instruction

ESL 507 Sociolinguistics and Second Language Acquisition

ESL 508 Second Language Program Development

ESL 509 Computer-Assisted Language Learning

ESL 512 ESL Teaching Internship (Capstone Course- must be taken last in the program.)

ESL 501, 502, 504, and 506 are required for the ESL Specialist Letter of Endorsement and must be complete before a student can submit for this endorsement.

## **SECONDARY EDUCATION**

Wilkes offers Master's degree programs in Secondary Education in various content areas including Biology, Chemistry, English, History, and Mathematics. Applicants should possess teacher certification in the content area for which they are applying. The secondary education programs are not designed to prepare students for certification. A candidate for the Master of Science in Education degree whose program is in one of the secondary school teaching subjects must complete 18 credits in the appropriate content area and 12 Education graduate course credits consisting of six credits in Area I Foundations of Education and six credits in Area II Professional Skills (three credits of which must be ED 522 Curriculum and Instruction). Information about specific courses in the Secondary Education master's degree programs can be found in the Biology, Chemistry, English, History or Mathematics sections of this bulletin. Students are encouraged to contact the department chair of the specific content area to inquire about course availability. The education courses of the Secondary Education programs may be taken at off-campus locations in any semester, but the

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content area courses can only be taken on the Wilkes campus, typically during fall and spring semesters only.

### LETTER OF ENDORSEMENT: TEACHER LEADERSHIP AND INSTRUCTIONAL COACHING

Dr. Kathleen Makuch  
Program Coordinator

The Letter of Endorsement in Teacher Leadership and Instructional Coaching is a 12-credit online graduate program that quickly equips educators with the practical skills and tools necessary to be successful in a new role, while earning the respect of colleagues. Upon successful completion of this program, candidates will be granted a Letter of Endorsement that can be presented as evidence that knowledge and skills of teacher leadership and instructional coaching have been effectively demonstrated.

Teachers interested in applying to this program must have a minimum of three years full-time teaching experience in an educational setting. Applicants must submit the program application, current application fee, teaching certificate and one recommendation to enroll in the program. The recommendation should be from the applicant's current principal or supervisor and attest to the applicant's ability to be a teacher leader as well as verify the length of service as a full-time teacher.

The program consists of the following:

Teacher leader and instructional coaching series (must complete four courses = 12 credits)

- EDAM 5013: Teacher Leadership - must take as first course in program (3 Credits)
- EDAM 5020: Instructional Coaching i (3 Credits)
- EDAM 5021: Instructional Coaching ii (3 Credits)
- EDAM 5022: Problem-based Approach to Instructional Coaching k-12 (3 Credits)

#### NOTE:

- There are no transfer credits permitted in this program
- Courses in this program run on the National Institute for Professional Practice academic calendar. Visit [www.professionalpractice.org](http://www.professionalpractice.org) or call 888-235-6555 for a copy of the most recent academic calendar.

#### AUTISM ENDORSEMENT PROGRAM

Dr. Kristin Bewick

Program Coordinator

The Autism Endorsement Program is a 12-credit online graduate program designed to provide educators with advanced training in the areas of autism spectrum disorders and pervasive developmental disorders. Satisfactory completion of the 12-credit sequence would allow an endorsement to be added to the teacher's existing Level I or II Certificate following a program review process to be established by the Pennsylvania Department of Education. The courses may also be taken as electives by other professionals from other programs who wish to gain additional knowledge and Act 48 credits in the areas addressed in each course.

Candidates interested in completing the Autism Endorsement Program must show a copy of their Pennsylvania Certification. Applicants must submit the admission application, current application fee, teaching certificate, and one recommendation to enroll in the program.

The Autism Endorsement Program consists of the following three-credit courses:

- AUT 501: Autism Diagnosis and Treatment
- AUT 502: Applied Behavioral Analysis and Autism

AUT 503: Autism Scope and Sequence

AUT 504: Advanced Autism Instruction and Intervention

Candidates enrolled in AUT 501 will participate in a weekend residency bringing student cohorts to the university campus in Wilkes-Barre, Pennsylvania. During the residency students begin working on the skills and content that form the base of the Autism Endorsement Program.

## EDUCATION COURSE DESCRIPTIONS

### AREA I - FOUNDATIONS OF EDUCATION

#### EDUCATION 510. PSYCHOLOGICAL FOUNDATIONS OF EDUCATION

##### THREE CREDITS

A study of human development and learning, application of psychological principles in the practice of education.

#### EDUCATION 511. PHILOSOPHICAL FOUNDATIONS OF EDUCATION

##### THREE CREDITS

An examination of philosophical issues which bear upon American education. The problem of relating theory to practice is considered.

#### EDUCATION 512. SOCIAL FOUNDATIONS OF EDUCATION

##### THREE CREDITS

An introduction to the history, scope, materials and methods of the sociological analysis of education. Instruction includes the concepts of culture, socialization, stratification, social control and change as they relate to formal education.

#### EDUCATION 513. COMPARATIVE FOUNDATIONS OF EDUCATION

##### THREE CREDITS

An analytic study of educational patterns in contemporary societies. Educational policies and institutions are studied in their cultural context. Educational patterns of developed and developing nations are described, analyzed and compared; examples from each pattern are examined.

#### EDUCATION 514. ISSUES IN EDUCATION

##### THREE CREDITS

An examination of contemporary issues in education and their historical perspectives. The development of school organizations and higher education; instructional programs and curricula; and the delivery systems and functions of education are examined in light of contemporary issues. A survey of American education from past to present is presented.

#### EDUCATION 515. COGNITION

##### THREE CREDITS

This course provides in depth study of the processes required for students to process information, including perception, attention, memory, encoding, retrieval, problem solving, and the information processing requirements of reading and writing. Consideration of problem solving in specific subject areas is also covered.

#### EDUCATION 518. SCHOOL LAW

##### THREE CREDITS

An examination of school law at the federal, state and local levels; review, discussion and analysis of court decisions which affect schools. **Required for Special Education Program.**

#### EDUCATION 519. ISSUES, LAWS AND TRENDS IN EDUCATION

##### THREE CREDITS

(Students who have previously taken either ED 514 or ED 518 may not register for ED 519.)

This course will focus on an examination of school law at the federal, state and local levels through review, discussion and analysis of court decisions that affect educational institutions. The study of school law and American education will be centered on contemporary issues with consideration given to historical perspectives, accountability issues and future trends. Topics will include legal and

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ethical issues in instructional delivery systems and the functions of education. Required for the Classroom Technology, Educational Development & Strategies, Instructional Technology, and Special Education Programs for students beginning courses in Fall 2007.

### AREA II - PROFESSIONAL SKILLS IN EDUCATION

#### EDUCATION 520. USING ASSESSMENT TO GUIDE INSTRUCTION

##### THREE CREDITS

(previously titled Educational Assessment- Do not repeat for additional credit)

An examination of various assessment strategies and current methods of assessment, through the study of theory and effective practices in assessment translated into design. The analysis of disaggregated student data to implement effective change in teaching and assessment practices will be explored. Research based strategies for the assessment and instruction of diverse learners will be examined. (Cross listed with EDAM 5032). **Required for the Educational Leadership Program for students beginning courses in Fall 2008.**

#### EDUCATION 521. STATISTICS IN EDUCATION

##### THREE CREDITS

Correlation and regression through statistical inference.

#### EDUCATION 522. CURRICULUM AND INSTRUCTION

##### THREE CREDITS

The course will engage students in the study of school curricula in elementary and secondary education. Models and trends in curriculum development will be explored by examining past and present influences on curriculum. The needs of diverse learners will be addressed through a survey of the latest research addressing differentiated instruction and societal factors influencing achievement gaps. Participants will relate this knowledge to their delivery of curriculum to students.

#### EDUCATION 525. INTRODUCTION TO EDUCATIONAL RESEARCH / MASTER'S LEVEL

##### THREE CREDITS

This course is designed to facilitate learning methods and techniques of educational research, critiquing published research and conducting a thorough and professional search for research literature on a selected topic.

#### EDUCATION 585. INTEGRATING TECHNOLOGY INTO THE CURRICULUM

##### THREE CREDITS

The course will present models of instructional design to provide a theoretical framework in the application and integration of microcomputer technology into the K-12 curriculum. Participants will develop a portfolio of computer-generated materials for their classroom. **Required for the Classroom Technology, Instructional Technology, Special Education, and Educational Development and Strategies Programs.**

### AREA III - ELEMENTARY EDUCATION

#### EDUCATION 531. CHILDREN'S LITERATURE

##### THREE CREDITS

A study of methods and materials appropriate for elementary school instruction in literature.

#### EDUCATION 532-533. PROBLEMS IN ELEMENTARY EDUCATION

##### THREE CREDITS

Advanced study of materials and methodology appropriate for elementary classroom instruction.

Section	A Mathematics	D Social Studies
	B Science	E Special Subjects
	C Language Arts	

#### EDUCATION 536. ELEMENTARY SCHOOL READING INSTRUCTION

##### THREE CREDITS

Lectures and demonstrations cover the psychology of the reading process, appraisal of reading needs,

directed reading activities, word recognition and comprehension abilities.

#### **EDUCATION 537. READING DISABILITIES**

##### **THREE CREDITS**

Lectures and demonstrations cover the identification, diagnosis, and classification of individuals with reading problems at all ages and levels of instruction.

Prerequisite: ED 536.

### **AREA IV - SECONDARY EDUCATION**

#### **EDUCATION 540. SPECIAL METHODS IN SECONDARY SCHOOL INSTRUCTION**

##### **THREE CREDITS**

Section	A Biology	E History	I Social Studies
	B Chemistry	F Mathematics	J Educational Theater
	C Environmental Science	G Physics	K Science
	D English	H Reading	

### **AREA V - EDUCATIONAL DEVELOPMENT AND STRATEGIES**

NOTE: Education 541 through Education 558 were developed by educators at Performance Learning Systems, Inc. (PLS). The coursework is tightly structured, utilizing programmed learning with integrated audio-visual materials. Students conduct research in their own classrooms and report regularly on their success in employing strategies taught. Instructors for these courses receive special training prior to assignment. To register and pay tuition for these PLS courses only, contact the Performance Learning Systems office directly @ 1-866-757-2527.

All courses listed with a "W" (for Wilkes credit) on the PLS course schedule may be used toward the required 12 credits of Performance Learning Systems courses for the Wilkes EDS degree.

#### **ED 541. DESIGNING MOTIVATION FOR ALL LEARNERS**

##### **THREE CREDITS**

*(previously titled Keys to Motivation - students cannot retake for additional credit)*

Students will design learning experiences and develop effective leadership strategies that promote motivation for all learners. Additionally, they will learn verbal encouragement techniques that motivate by reinforcing student effort and reducing risk and discover how purposeful work and goal achievement can support all types of learners.

#### **EDUCATION 542. MEANINGFUL ACTIVITIES TO GENERATE INTERESTING CLASSROOMS**

**(M.A.G.I.C.)**

##### **THREE CREDITS**

A hands-on course which offers students the opportunity to learn a variety of engaging activities to go beyond textbook and workbook instruction. Participation in over 60 activities provides practice in creating, evaluating, and adapting ideas to each participant's specific curriculum.

#### **EDUCATION 543. ACHIEVING STUDENT OUTCOMES THROUGH COOPERATIVE LEARNING**

##### **THREE CREDITS**

Designed to encourage teachers to use cooperative strategies appropriately in classrooms. Activities include simulations, use of cooperative learning models, and creation of lesson plans.

#### **EDUCATION 544. ADVANCED PROJECT T.E.A.C.H. LAB**

##### **THREE CREDITS**

Offers an opportunity for participants to actively practice the skills learned and utilized in Project T.E.A.C.H. Participants use the innovative techniques of storyboarding, journal writing, videotaping, live event activities and simulations in this course.

Prerequisite: ED 550 Project T.E.A.C.H.

#### **EDUCATION 545. ADVANCED TEACHING THROUGH LEARNING CHANNELS LAB**

##### **THREE CREDITS**

Offers an opportunity for participants to actively practice the skills learned and utilized in Teaching Through Learning Channels.

Prerequisite: ED 552 Teaching Through Learning Channels

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### **EDUCATION 546. COACHING SKILLS FOR SUCCESSFUL TEACHING THREE CREDITS**

Develops and models strategies that help teachers share teaching ideas with one another. Participants will learn how to plan and implement coaching conferences, enhance teacher self-esteem with supportive techniques, share ideas with colleagues in a non-threatening environment and identify excellent teaching practices and grow from them.

### **EDUCATION 547. TEACHING THE SKILLS OF THE 21ST CENTURY THREE CREDITS**

Through the use of dynamic videotape productions, activities, articles and unique survey instruments, this course looks at what students need to know and be able to do to live successfully in the 21st century. In a forum where educators can share their vision of how a curriculum should be developed and taught, the course introduces facilitations skills that ensure the successful education and enrichment of both student and teacher.

### **EDUCATION 548. PURPOSEFUL LEARNING THROUGH MULTIPLE INTELLIGENCES THREE CREDITS**

Based on the research of Howard Gardner, this course focuses on understanding each of the intelligences and identifying them. Discovery centers are used to experience each intelligence and teaching strategies and classroom activities that enhance the intelligences are designed by participants.

### **EDUCATION 549. DISCOVERING THE POWER OF LIVE EVENT LEARNING THREE CREDITS**

This course teaches how to use active participation in real-life experiences to create lesson plans that allow students to learn through real experiences. Participants learn facilitative leadership skills which enable them to go beyond hands-on learning and simulations to incorporate real concrete experiences in their lessons which promote student problem solving and decision making.

### **EDUCATION 550. PROJECT T.E.A.C.H. THREE CREDITS**

Teacher Effectiveness and Classroom Handling (T.E.A.C.H.) deals with clarity of communication, avoidance of confrontation, and techniques to reduce tension in the classroom.

### **EDUCATION 551. P.R.I.D.E. THREE CREDITS**

Professional Refinements in Developing Effectiveness (P.R.I.D.E.) treats questioning techniques, non-verbal communication, and the development of contracts to motivate students.

### **EDUCATION 552. TEACHING THROUGH LEARNING CHANNELS THREE CREDITS**

This course utilizes recent brain research, examines individual differences in learning styles, and develops adaptive teaching procedures to accommodate varying cognitive processes.

### **ED 553. BRAIN-BASED WAYS WE THINK AND LEARN THREE CREDITS**

*(previously titled Patterns for IDEAS - students cannot repeat for additional credit)*

This course will explore the four basic thinking skills of induction, deduction, analysis, and synthesis. Students will experience, model, and internalize specific techniques of brain-based teaching and learning and will integrate thinking processes into real-life applications.

### **ED 554. SUCCESSFUL TEACHING FOR ACCEPTANCE OF RESPONSIBILITY THREE CREDITS**

This course is designed to help experienced and beginning K-12 educators create a classroom environment in which responsible behavior is modeled, taught, and supported. Participants will explore the underlying causes of irresponsible behavior and learn specific strategies associated with four instructional approaches that empower students to be self-directed, responsible learners. As participants learn to mentor, model, coach, and facilitate responsible actions in their students, they likewise develop increasing responsibility and personal power in their own professional practice.

### **ED 555. CLASSROOM MANAGEMENT: ORCHESTRATING A COMMUNITY OF LEARNERS THREE CREDITS**

This course equips experienced and beginning K-12 educators with current, research-validated

concepts and strategies for orchestrating classroom life and learning so that instruction flows smoothly, student misbehavior is minimized, and learning potential is maximized. Participants will learn strategies associated with seven key areas of expertise that collectively contribute to a teacher's classroom management effectiveness.

**ED 558. SPECIAL TOPICS IN EDUCATION  
THREE CREDITS**

Designates Performance Learning Systems courses that are in field test status. Courses are applicable toward appropriate degree programs. ED 558 is a designation given to multiple courses that are in field test mode. As such, a student may take more than one ED 558. It is the title of the course that designates one from another.

## AREA VI - EDUCATIONAL COMPUTING COURSES

**EDUCATION 526. INTERNET LITERACY FOR EDUCATORS  
THREE CREDITS**

(Previously titled Telecommunications for the 21st Century – do not repeat for additional credit)  
This course will explore developmentally appropriate teaching and learning opportunities that are available to classroom teachers via the Internet. Students will learn to use various types of electronic communications including the development of curriculum web sites that address content standards and student technology standards. The use of technology to communicate with peers, parents and the larger community to nurture student learning will be explored. The safe and healthy use of technology resources to facilitate equitable access of resources for all students will be endorsed. Research of best practice regarding online pedagogy will be examined. **Required for Classroom Technology Program.**

**EDUCATION 529. DISTANCE LEARNING AND EPEDAGOGY  
THREE CREDITS**

This course is designed to guide students through the process of adapting their current teaching materials for TeleTeaching. Educators will learn how to prepare themselves, their students and their materials for this teaching and learning environment.

**EDUCATION 527. AUTHORING SYSTEMS/INSTRUCTIONAL DESIGN  
THREE CREDITS**

Design and construct lessons, tutorials and presentations for the classroom utilizing authoring software such as PowerPoint or HyperStudio. Ways to incorporate multimedia will also be explored and various design methodology will be examined. **Required for Classroom Technology Program.**

**EDUCATION 528. USING PRINT MEDIA TO SUPPORT EDUCATION  
THREE CREDITS**

(Previously titled Desktop Publishing – do not repeat for additional credit)  
This course will address the editing and manipulation, enhancement and transformation of digital images including an overview of various graphic input devices. Concepts explored within the course will include image size, resolution and compression. The difference between preparing an image for a print medium vs. on-screen viewing will be discussed. The print media component of the course will present accepted principles of layout and design for professional looking documents that can be used in the classroom. Newsletters, flyers, booklets and other classroom materials that address the differentiation of instruction to accommodate the needs of all P - 12 students will be generated. **Required for Classroom Technology Program.**

**EDUCATION 530. UTILIZING EMERGING TECHNOLOGIES TO IMPROVE LEARNING  
THREE CREDITS**

This course is designed to help students understand different key learning theories and their effective use in the design of accessible learning activities. Students will apply learning theory principles to develop model lessons using emerging technologies. Students will also identify appropriate strategies and technologies to support equitable access and diverse learning styles. Using technology to accomplish data-driven decision-making will be explored. **Required for Classroom Technology Program.**

**EDUCATION 577. PRINCIPLES OF INFORMATION SECURITY  
THREE CREDITS**

With focus on the educational environment, this course will discuss the principles of information

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security, building a clear understanding of the foundations of information security, the principles on which managerial strategy can be formulated and the technical solutions available to technology coordinators. Required for Instructional Technology Program.

Prerequisite: ED 585 and ED 588.

### EDUCATION 579. MEDIA DESIGN

#### THREE CREDITS

This course is designed to give specific and realistic examples of how different types of media and instructional technology can complement each other in the computer age classroom. Emphasis will be given to the design and production of instructional materials using text, video, audio, and computer based and photographic formats for use in both distance learning and traditional classrooms. Required for Instructional Technology Program.

### EDUCATION 580. INTRODUCTION TO EDUCATIONAL COMPUTING

#### THREE CREDITS

The course will provide teachers with basic computer skills and experiences with exemplary courseware and utility software. This introductory course is especially designed for teachers who are computer novices who lack the skills necessary for advanced classroom technology courses.

### EDUCATION 581. INSTRUCTIONAL PROGRAMMING IN BASIC

#### THREE CREDITS

Introduction to computer programming using the BASIC language. Topics include BASIC syntax, program modularity and design, simple graphics, and elementary data structures. Emphasis is on application in instructional environments.

Offered when demand warrants.

### EDUCATION 582. INSTRUCTIONAL PROGRAMMING IN C++

#### THREE CREDITS

C++ is an object-oriented programming environment that generates compiled code. C++ (and the underlying language C), has been designated as the programming language to be used in the Advanced Placement computer science examination for high school students. It is also the fastest growing language for personal computer software development.

Emphasis is on application in instructional environments.

Offered when demand warrants.

### EDUCATION 583. COURSEWARE DESIGN AND CONSTRUCTION

#### THREE CREDITS

Using state-of-the-art technology to design and construct appropriate courseware support and curricula. Topics include the use of authoring software, optical technologies, ISD (Instructional Systems Design) models and strategies geared towards proper courseware design. **Required for Instructional Technology Program.**

### EDUCATION 584. LOGO

#### THREE CREDITS

Introduction to computer programming using Logo and LogoWriter. Topics included are turtle-graphics, words and lists, recursion, "scrapbook" and "microworld" construction and elementary data structure representation.

Offered when demand warrants.

### EDUCATION 586. MICROCOMPUTERS IN EDUCATION

#### THREE CREDITS

An analysis of microcomputer applications designed for various educational settings. Special emphasis is placed on software selection, review and utilization.

A Mathematics            D Social Studies

B Science                E Special Topics

C Language Arts

Offered when demand warrants.

### EDUCATION 587. TECHNOLOGY LEADERSHIP

#### THREE CREDITS

This course is designed to develop educational technology leaders who are knowledgeable and skilled in technology leadership practices that improve student learning and school operations in K-12 schools. It addresses skills and competencies necessary for the support and assessment of technology



standards and will include issues and trends relevant to the field of educational technology.  
**Required for Instructional Technology & Educational Leadership Programs.**

**EDUCATION 588. OPERATING SYSTEMS & NETWORKING  
THREE CREDITS**

An exploration into the design of present-day microcomputer systems. Topics include microcomputer architecture and hardware, telecommunications, networking and general operating systems. Required for Instructional Technology Program.

**EDUCATION 589. INSTRUCTIONAL TECHNOLOGY: MODELS AND METHODS  
THREE CREDITS**

A "wide area" look into technology integration. An investigation into what the responsibilities of a technology coordinator will be - relating technology and thinking processes, the cognitive effects of technology integration, materials acquisition and placement and general administrative strategies. Required for Instructional Technology Program.

**EDUCATION 591. INTERNSHIP (INSTRUCTIONAL TECH)  
THREE CREDITS**

Participation in field experience to observe the use of technology to support instruction, the management of technology resources in educational settings, and the evaluation of effectiveness of technology resources for teaching and learning; application of technology resources to support instruction in classroom settings. **Required for PA Instructional Technology Specialist Certification.**

Prerequisites: ED 587, ED 588, ED 589 (or equivalent) and permission of Director.

## **AREA VII - SPECIAL EDUCATION (EDSP)**

**EDSP 501. SPECIAL EDUCATION METHODOLOGY I WITH FIELD EXPERIENCE  
THREE CREDITS**

This course addresses 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 reinforced 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 environment. A 15-hour field experience component facilitates direct interaction with special needs learners, supplemented by cooperative discussions of experiential applications to course content.

**EDSP 502. SPECIAL EDUCATION METHODOLOGY II WITH FIELD EXPERIENCE  
THREE CREDITS**

This course addresses 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 reinforced 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, hearing/vision impairments, orthopedic and health conditions) within included settings, resource room, learning support, and segregated environments. A 15-hour field experience component facilitates direct interaction with special needs learners, supplemented by cooperative discussions of experiential applications to content.

**EDSP 503. BEHAVIORAL MANAGEMENT WITH FIELD EXPERIENCE  
THREE CREDITS**

This course will assist preservice 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 assessments. A 15-hour field experience component facilitates direct interaction with special needs learners, supplemented by cooperative discussions of experiential applications to course content.

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### EDSP 504. ASSESSMENT IN SPECIAL EDUCATION

#### THREE CREDITS

This 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 vocation/transition-related evaluations. Cooperative discussions will focus on instructional decision-making based upon student learning profiles.

### EDSP 505. ISSUES AND TOPICS IN SPECIAL EDUCATION

#### THREE CREDITS

This course will offer a colloquium for constructive exploration of specialized topics in the field of special education. Preservice teachers will be given the opportunity to pursue independent issues relative to their endeavor as special educators, reviewing and reinforcing skills in the critical areas of assessment, inclusion, IEP development, discipline, management, transition, organization, planning collaboration, and professional/personal development.

### EDSP 506. INTERNSHIP IN SPECIAL EDUCATION

#### THREE CREDITS

This course is the culminating activity for the Special Education Certification program. In the course, candidates work with a special education certified teacher and their respective professor/supervisor as they experience opportunities to apply knowledge gained in EDSP 501 through EDSP 505. The internship requires 100 hours including direct teaching, related meetings, preparation and paperwork as well as designated Wilkes class-time. Examples of activities students will be involved in include (but are not limited to): a needs assessment for special education students, experience with IEPs, construction of an instructional segment, delivery of instruction, parent and staff meetings, conducting classroom based assessments and identification of appropriate instructional materials. Note: The Internship must be taken as the final EDSP course or in conjunction with the final EDSP course.

## AREA VIII - ADVANCED COURSES

### EDUCATION 516. EDUCATIONAL LEADERSHIP

#### THREE CREDITS

This course introduces students to research on educational leadership theory, models, and styles. Ethics in leadership, decision-making models, and the principal as instructional leader are examined. The study of research methodology is incorporated and practiced to develop skills for future use in leadership plans of study. **Required for Educational Leadership Program.**

### EDUCATION 517. PRINCIPAL AS INSTRUCTIONAL LEADER

#### THREE CREDITS

This course introduces students to the role and responsibilities of the principal with a focus on the role of the principal as instructional and curriculum leader, encompassing diversity and special education instructional strategies as well as the management of those programs in addition to the other duties and responsibilities of the principal. Theory is transferred to practice through the use of case study and in-basket/out-basket assignments, which will address critical issues in educational leadership. The use of leadership knowledge and skills are developed through the study of the principal's role in using appropriate data to inform decision-making, understanding the factors contributing to the over-representation of diverse students in special education, prevention and early intervention strategies for effective instruction, and effective instructional strategies for students with disabilities in inclusive settings. **Required for Educational Leadership Program.**

### EDUCATION 570. PROFESSIONAL AWARENESS FOR COOPERATING TEACHERS

#### THREE CREDITS

This course is designed to identify the role of the cooperating teacher concerning the supervision of student teachers. The course presents a formal training program for cooperating teachers including strategies for the effective interaction with student teachers as well as crucial techniques of observation, supervision and evaluation.

Prerequisite: Admission to this course approved through application to the Education Department.

**EDUCATION 572. EXTENDED TEACHING  
THREE CREDITS**

Students with appropriate teaching experience are assigned to a supervised teaching setting.  
Prerequisite: Approval of education department chairperson.

**EDUCATION 573. EVALUATION OF STUDENT LEARNING  
THREE CREDITS**

Students will undertake advanced study in educational assessment strategies and program evaluation with a focus on student learning within the operation of these programs. It will encompass various types of assessment strategies and methods, as well as the analysis of assessment data to guide instruction and curriculum design. Instruction will focus on the principal's role in guiding teachers in the design of effective assessments and alternative assessment strategies, and the use of assessment in program evaluation. Working in collaboration with faculty, colleagues, and a practicing administrator, students will design a leadership plan of study for a topic in this area. The plan of study must directly relate to the role and responsibilities of the principal in this capacity. Sample topics can be drawn from such areas as: student assessment methods, evaluation of special and regular education programs, academic standards and the PA Assessment System or other related topics. **Required for Educational Leadership Program.**

**EDUCATION 574. SCHOOL/COMMUNITY RELATIONS  
THREE CREDITS**

Students will study the role of the principal in establishing and maintaining positive school and community relations. Instruction will be provided in positive public relations and in effective communications techniques. Working in collaboration with faculty, colleagues and a practicing administrator, students will design a leadership plan of study for a topic related to this area. The plan of study must directly relate to the role and responsibilities of the principal in this capacity. Sample topics can be drawn from such areas as: needs assessments, communication systems, parent involvement, school partnerships, or other related topics. **Required for Educational Leadership Program.**

**EDUCATION 575. SCHOOL LAW FOR PRINCIPALS  
THREE CREDITS**

This course focuses on current school law at the state and federal levels and its influence on the role and responsibilities of the principal in a K - 12 school system. Law, legislation, and court decisions that affect the principals' dealings with students and employees will be studied and analyzed in light of the historical context and current issues. Emphasis will be given to laws governing the management of special education services and programs and the mandates related to student achievement of state standards. **Required for Educational Leadership Program.**

**EDUCATION 576. RESOURCE PLANNING AND SITE MANAGEMENT  
THREE CREDITS**

This course focuses on the study of administrative functions in educational institutions. Topics covered are budget planning, facilities management, resource allocation and scheduling. School finance and sources of revenue for schools as they impact the allocation of resources and scheduling of programs are examined. **Required for Educational Leadership Program.**

**EDUCATION 578. STAFF DEVELOPMENT AND SUPERVISION  
THREE CREDITS**

This course focuses on staff development and teacher supervision. Models of supervision, such as clinical supervision and differentiated supervision, are examined. Case studies will be utilized to gain understanding of the teacher evaluation process. Mentoring and new teacher induction programs will be investigated. An overview of the laws and policies, which influence and govern these programs will be included. **Required for Educational Leadership Program.**

**EDUCATION 590. THESIS  
THREE CREDITS****EDUCATION 592. EDLS ADMINISTRATIVE INTERNSHIP AND APPLIED RESEARCH PROJECT (TWO SEMESTERS AT 3 CREDITS EACH)  
SIX CREDITS TOTAL**

Students will complete work as an administrative intern with practicing K-12 principals. Within this experience, students will design a leadership plan of study to implement a research-based project,

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which will attest to their ability to perform as an educational leader. The project is to address the needs of the candidate, as well as the needs of the school where the internship is being completed. **Required for Educational Leadership Program.**

Prerequisites: Completion of 30 required program credits and permission of program director.

### EDUCATION 594. WORKSHOP THREE CREDITS EACH SEMESTER

Provides an opportunity for experienced teachers to develop study programs designed to meet their special needs. Students may receive credit more than once if there is no duplication in subject matter covered.

### EDUCATION 595-596. INDEPENDENT STUDY THREE CREDITS EACH SEMESTER

Affords an opportunity for independent study of selected topics under faculty supervision.

Prerequisite: Permission of department chairperson/program director.

### EDUCATION 597. SEMINAR THREE CREDITS

An advanced course dealing with some significant issues selected by the instructor. The seminar technique provides a review of major problems based on the current level of knowledge in the area.

Prerequisite: Permission of instructor/department chairperson.

### EDUCATION 598. TOPICS THREE CREDITS

Advanced study of topics of special interest not extensively treated in regular courses.

### EDUCATION 599. SHORT COURSES ONE TO THREE CREDITS

These courses treat a variety of topics, usually on a condensed schedule basis. Designed to investigate problems in the field, these courses provide an opportunity for practicing professionals to study current issues under qualified leadership. Departmental approval is required if credits are to be applied to meet degree requirements. A maximum of six credits may be used as electives to meet degree requirements. Credit is given at the rate of one-half semester hour for each eight hours of class work.

## AREA IX - EDUCATIONAL ADVANCED METHODS (EDAM)

### EARLY LITERACY COURSE SERIES

#### EDAM 5001. EARLY LITERACY: GUIDING PRINCIPLES AND LANGUAGE DEVELOPMENT (K-3) THREE CREDITS

This course will set the stage for the entire Comprehensive Early Literacy Series. It begins by introducing Scientifically-Based Reading Research, and what it means regarding teaching students to read. Comprehensive Literacy Instruction and the principles that guide it will be covered. The Gradual Release of Responsibility Model will be introduced as a strategy for moving students to independent learning. Finally, the importance of language development instruction and how it relates to guiding principles will be connected. **Prerequisite course for the MS in Education with a major in Early Childhood Literacy program.**

#### EDAM 5002. WORD STUDY K-3: PRINT AWARENESS, LETTER KNOWLEDGE, PHONICS, AND HIGH FREQUENCY WORDS THREE CREDITS

The course begins with a look at the core beliefs about teaching and learning and a review of the Gradual Release of Responsibility Model. The learner will then consider what comprehensive early literacy is and how the Gradual Release of Responsibility Model is applied to it, as well as how to develop a comprehensive early literacy assessment system. The learner will also examine phonological awareness, the five components of word study, and the role of accuracy in comprehensive early literacy.

Prerequisite: EDAM 5001 Early Literacy: Guiding Principles and Language Development (K-3)

#### EDAM 5003. FLUENCY AND VOCABULARY DEVELOPMENT (K-3) THREE CREDITS

Assessing and improving oral reading fluency are explored, as well as vocabulary development

activities in the context of five research-based methods for a teaching vocabulary.

Prerequisite: EDAM 5001 Early Literacy: Guiding Principles and Language Development (K-3)

**EDAM 5004. DEVELOPING COMPREHENSION, PART I (K-3)****THREE CREDITS**

The course begins with a review of the core beliefs about teaching and learning, the Guiding Principles, and the Gradual Release of Responsibility Model. The learner will then understand what comprehension is and why it should be studied, including the role of oral language, phonics, fluency, and vocabulary development. This will be followed by an introduction to literary genres and elements and structures of text. The learner will then consider comprehension strategies, as well as how comprehension can be assessed.

Prerequisite: EDAM 5001 Early Literacy: Guiding Principles and Language Development (K-3)

**EDAM 5005. DEVELOPING COMPREHENSION, PART II (K-1)****THREE CREDITS**

The course begins with a review of the core beliefs about teaching and learning, the Guiding Principles, and the Gradual Release of Responsibility Model. The learner will review what comprehension is and why it should be studied. This will be followed by modeling of comprehension strategies used individually. The learner will also examine tools to support comprehension instruction strategies. Next, the learner will examine techniques known as interactive read alouds/think alouds and shared reading and see modeling of comprehension strategies used with these techniques. Finally, the course will show how comprehension can be assessed.

Prerequisite: EDAM 5001 Early Literacy: Guiding Principles and Language Development (K-3)

Perquisite: EDAM 5004 Developing Comprehension Part I (K-3)

**EDAM 5006. DEVELOPING COMPREHENSION, PART II (2-3)****THREE CREDITS**

The course begins with a review of the core beliefs about teaching and learning, the Guiding Principles, and the Gradual Release of Responsibility Model. The learner will review what comprehension is and why it should be studied. This will be followed by modeling of comprehension strategies used individually. The learner will also examine tools to support comprehension instruction strategies. Next, the learner will examine techniques known as interactive read alouds/think alouds and shared reading and see modeling of comprehension strategies used with these techniques. Finally, the course will show how comprehension can be assessed.

Prerequisite: EDAM 5001 Early Literacy: Guiding Principles and Language Development (K-3)

Prerequisite: EDAM 5004 Developing Comprehension Part I (K-3)

**EDAM 5007. DIFFERENTIATED SMALL GROUP INSTRUCTION (K-1)****THREE CREDITS**

The course begins with a review of the core beliefs about teaching and learning, the Guiding Principles, and the Gradual Release of Responsibility Model. The course covers what differentiated small group instruction is, why it is used, and how the Guiding Principles apply to it. This will be followed by considering the developmental stages of learning to read and the teaching emphasis at each stage. The course will then cover how to use assessment data to group and regroup students for differentiated instruction. Then, the learner will consider differentiated systematic and explicit instruction and learn what the lesson components are, how to plan the lesson, and how to manage the classroom.

Finally, the course will cover how to create a partnership with parents and how to communicate with them.

Prerequisite: EDAM 5001 Early Literacy: Guiding Principles and Language Development (K-3)

**EDAM 5008. DIFFERENTIATED SMALL GROUP INSTRUCTION (2-3)****THREE CREDITS**

The course begins with a review of the core beliefs about teaching and learning, the Guiding Principles, and the Gradual Release of Responsibility Model. The course covers what differentiated small group instruction is, why it is used, and how the Guiding Principles apply to it. This will be followed by considering the developmental stages of learning to read and the teaching emphasis at each stage. The course will then cover how to use assessment data to group and regroup students for differentiated instruction. Then, the learner will consider differentiated systematic and explicit

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instruction and learn what the lesson components are, how to plan the lesson, and how to manage the classroom.

Finally, the course will cover how to create a partnership with parents and how to communicate with them.

Prerequisite: EDAM 5001 Early Literacy: Guiding Principles and Language Development (K-3)

### **EDAM 5009. DEVELOPING INDEPENDENT READERS (K-3)**

#### **THREE CREDITS**

The course begins with a review of the core beliefs about teaching and learning, the Guiding Principles, and the Gradual Release of Responsibility Model. The learner will explore the how, what, and why of independent reading and how it relates to the 7 Guiding Principles. The learner will consider the classroom environment and methods they can use to promote independent reading. The course will also explore the implementation and management of independent reading as well as how to create partnerships to support it.

Prerequisite: EDAM 5001 Early Literacy: Guiding Principles and Language Development (K-3)

### **EDAM 5010. CONNECTING READING AND WRITING (K-1)**

#### **THREE CREDITS**

In this course, learners will understand how the reciprocal processes of connecting reading and writing accelerate student learning in both areas. This course will provide the research, the continuum of development, and resources for instructional techniques, assessment and record keeping. The learner will apply learned concepts and focus on student achievement.

Prerequisite: EDAM 5001 Early Literacy: Guiding Principles and Language Development (K-3)

### **EDAM 5011. CONNECTING READING AND WRITING (2-3)**

#### **THREE CREDITS**

In this course, learners will understand how the reciprocal processes of connecting reading and writing accelerate student learning in both areas. This course will provide the research, the continuum of development, and resources for instructional techniques, assessment and record keeping. The learner will apply learned concepts and focus on student achievement.

Prerequisite: EDAM 5001 Early Literacy: Guiding Principles and Language Development (K-3)

### **EDAM 5012. MASTER TEACHER PRACTICUM: APPLYING ACTION RESEARCH TO DEVELOP A RESULTS-DRIVEN EARLY LITERACY CLASSROOM**

#### **SIX CREDITS**

This six credit practicum is designed to integrate all course content from the Early Literacy series through the practical application and implementation of a comprehensive literacy program in the classroom. Participants will complete an action research project in their classrooms and document the instruction and interventions which were provided to maximize student proficiency. Participants will be required to maintain a journal, participate in weekly discussions, group meetings, and debriefings with a practicum supervisor. At the end of the practicum learners will submit an evidence portfolio that will document and reflect on each phase of the action research project.

Prerequisite: EDAM 5001, EDAM 5002, EDAM 5003, EDAM 5004, EDAM 5005, EDAM 5006, EDAM 5007, EDAM 5008, EDAM 5009, EDAM 5010, EDAM 5011, EDAM 5013

### **EDAM 5013. TEACHER LEADERSHIP**

#### **THREE CREDITS**

After understanding the meaning of teacher leadership, learners will explore their own school's culture, their impact on learning, and the power of reflective practice. Teacher leaders are needed in order to facilitate effective change in school culture and student achievement. The course begins with a review of the core beliefs and guiding principles about teacher leadership and explores how schools are rapidly changing and the complexity of the change. Learners will experience various tools of reflection throughout the course, explore the impact of school culture on learning, and understand the behaviors and attitudes of teacher leaders.

Prerequisite: None

## **COACHING COURSE SERIES**

### **EDAM 5020. INSTRUCTIONAL COACHING I**

#### **THREE CREDITS**

Instructional Coaching I defines instructional coaching and provides depth on initial coaching

strategies used by new coaches as they develop their role within a school.

Prerequisite: EDAM 5013 Teacher Leadership

**EDAM 5021. INSTRUCTIONAL COACHING II****THREE CREDITS**

Instructional Coaching II provides additional coaching strategies used after the role has been established and provides depth on evaluating program success using student assessment results.

Prerequisite: EDAM 5020 Instructional Coaching I

**EDAM 5022. PROBLEM-BASED APPROACH TO INSTRUCTIONAL COACHING****THREE CREDITS**

This is a comprehensive instructional coaching course designed to address a range of grade levels and content areas. It provides examples through a case study approach of dealing with content areas and grade levels that span K-12 and are unique to specific certification areas and the teaching dilemmas and situations that are encountered when coaching K-12 teachers. Issues arising with special education, racial and socio-economic diversity are also addressed.

Prerequisite: EDAM 5013 Teacher Leadership

**EDAM 5023. PROBLEM-BASED APPROACH TO K-3 LITERACY COACHING****THREE CREDITS**

This course is specific to the intended content area. It provides specific examples through case study approach of dealing with both the content area and grade range unique to the intended certification and the teaching dilemmas and situations that are encountered when coaching teachers. Issues arising with special education, racial and socio-economic diversity are also addressed.

Prerequisite: EDAM 5013 Teacher Leadership

**TEACHING IN THE 21ST CENTURY COURSE SERIES****EDAM 5030. TEACHING IN THE 21ST CENTURY****THREE CREDITS**

This course lays the foundation by answering the question, "Why do I need to change my instruction?" Through this course, many learners will understand that student disinterest and poor achievement can be linked to the use of 20th century teaching strategies being used on 21st century minds. This course will allow learners to reflect on their current instruction in light of what 21st century students need. It will provide a systems view of what needs to change in the classroom and in the school system. The online learner will assess these needs and be introduced to the pedagogical strategies used, including inquiry, project-based learning, and differentiated instruction.

Prerequisite course to all other courses in the MS in 21st Century Teaching & Learning.

**EDAM 5031. ACTION RESEARCH FOR EDUCATIONAL CHANGE****THREE CREDITS**

Action research is applied research educators can do within the school to improve practice, from instruction to learning. Knowledge and skill will be in designing action research, using both quantitative and qualitative data collection methods, to inform and improve practice.

Prerequisite: EDAM 5030 Teaching in the 21st Century

**EDAM 5032. USING ASSESSMENT TO GUIDE INSTRUCTION****THREE CREDITS**

Using data-driven instruction to guide teaching and learning is critical in the attainment of student learning outcomes. Educators will learn to use assessments to plan, modify, and differentiate instruction, as well as to assess mastery of content and academic standards through the selection of appropriate content and the design of varied assessments to lead to the interpretation and application of data from multiple assessment sources. (cross-listed with ED 520). Prerequisite: EDAM 5030 Teaching in the 21st Century

**EDAM 5033. DEVELOPING READING & WRITING ACROSS THE CURRICULUM****THREE CREDITS**

This course lays the foundation by answering the question, "Why do I need to change my instruction?" Through this course, many learners will understand that student disinterest and poor achievement can be linked to the use of 20th century teaching strategies being used on 21st century minds. This course will allow learners to reflect on their current instruction in light of what 21st century students need. It will provide a systems view of what needs to change in the classroom and in the school system. The online learner will assess these needs and be introduced to the pedagogical

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strategies used, including inquiry, project-based learning, and differentiated instruction.

Prerequisite: EDAM 5030

### **EDAM 5034. APPLYING ADVANCED TECHNOLOGY TO SUPPORT STANDARDS-BASED INSTRUCTION**

#### **THREE CREDITS**

This course introduces students to advanced instructional technologies, currently available to educators, and the ways they can be used to support standards-based instruction. Ubiquitous use of technology will be emphasized to create enriched, motivating and authentic learning experiences for students.

Prerequisite: EDAM 5030: Teaching in the 21st Century

### **EDAM 5035. TEACHING AUTHENTIC CONTENT IN THE 21ST CENTURY**

#### **THREE CREDITS**

This course shows teachers of specific subject areas how to provide an authentic experience or their students by using the previously learned methods to transform their teaching into having students engage in learning and activities as people actually would in the real world.

Prerequisite: EDAM 5030 Teaching in the 21st Century

### **EDAM 5036. DIFFERENTIATED INSTRUCTION TO MEET THE NEEDS OF ALL LEARNERS**

#### **THREE CREDITS**

This course will explain how learners can determine the needs and learning styles of their students in order to differentiate instruction so that the needs and learning styles of students are met.

Prerequisite: EDAM 5030 Teaching in the 21st Century

### **EDAM 5037. INQUIRY-BASED LEARNING IN THE 21ST CENTURY**

#### **THREE CREDITS**

This course explains that inquiry-based learning helps students "learn how to learn" through observation, reason, critical thinking, and the ability to justify or question knowledge. This course also allows learners to understand that inquiry-based learning helps students learn more by asking questions and doing investigations in order to learn, with the teacher acting more as a consultant.

Prerequisite: EDAM 5030: Teaching in the 21st Century

### **EDAM 5038. PROJECT-BASED LEARNING IN THE 21ST CENTURY**

#### **THREE CREDITS**

This course will explain how project-based learning addresses learning through completing projects that foster skills in communication, collaboration, networking research using technology, and critical thinking.

Prerequisite: EDAM 5030 Teaching in the 21st Century

### **EDAM 5039. APPLYING 21ST CENTURY TEACHING TO EDUCATIONAL PRACTICE**

#### **THREE CREDITS**

This capstone course requires secondary educators to transfer the knowledge and skills attained in this program to practice through authentic teaching and learning experiences. Projects that demonstrate the mastery of program goals and objectives will be planned, implemented, and reflected upon in a cumulative experience that enables educators to demonstrate their mastery of 21st century pedagogy.

Prerequisite: EDAM 5030, EDAM 5031, EDAM 5032, EDAM 5033, EDAM 5034, EDAM 5035, EDAM 5036, EDAM 5037, EDAM 5038



THE ART AND SCIENCE OF TEACHING (AST)

## **Education**

### **EDAM 5040. Foundations of the Art and Science of Teaching 3 CREDITS**

This course introduces learners to the work of Dr. Robert Marzano and his meta-analysis of the research regarding effective teaching practices conducted over the last 35 years in the field of education. Throughout this course learners will review research on effective teaching, develop a framework for designing units, and be introduced to a research based observation and feedback protocol. This course will also lay the foundation for the core courses in this degree program by presenting learners with Dr. Marzano's 10 instructional design questions.

Prerequisites: None

**EDAM 5041. Establishing Learning Goals to Support Learning & Instructional Design**  
**3 CREDITS**

This course provides an in-depth exploration to the importance of learning goals that address various levels of cognitive processing. Learners in this course will develop learning goals to address high levels of learning for the students in their classroom. Additionally learners will facilitate the development of learning goals with their students.

Prerequisites: EDAM 5040 Foundations of the Art & Science of Teaching

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### **EDAM 5042. Monitoring & Measuring Student Progress 3 CREDITS**

This course defines standards-based systems and standards-referenced systems. Learners in this course will differentiate between the two systems and develop a system for tracking student progress towards learning. Learners in this course will also use summative and formative assessments that will allow them to report student progress and measure student achievement.

Prerequisites: EDAM 5040 Foundations of the Art & Science of Teaching

**EDAM 5043. Actively Processing New Content**  
**3 CREDITS**

This course focuses on developing a comprehensive approach to introducing new content, which will provide learners with the tools to support student construction of meaning through active interaction with content. Learners in this course will acquire the skills needed to introduce new knowledge through critical input experiences using active processing strategies that will allow students in their classroom to achieve their learning goals.

Prerequisites: EDAM 5040 Foundations of the Art & Science of Teaching

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### **EDAM 5044. Extending Student Learning 3 CREDITS**

In this course learners will gain the knowledge and skills needed to provide their students with opportunities to generate and test hypotheses by applying new information with relevant content. Learners in this course will engage in activities that apply evidence-based methods in the classroom for long-term retention of knowledge and use of content to move beyond levels of knowing.

Prerequisites: EDAM 5040 Foundations of the Art & Science of Teaching

**EDAM 5045. Designing Instruction for Student Engagement**  
**3 CREDITS**

This course examines research findings around theory and practice on student engagement. Learners in this course will be provided with methods to motivate and engage students in ways that enhance academic student performance.

Prerequisites: EDAM 5040 Foundations of the Art & Science of Teaching

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### **EDAM 5046. Creating an Effective Classroom Environment 3 CREDITS**

This course encourages learners to re-examine their current routines and procedures, how they are developed, maintained, and adjusted in order to support a positive classroom climate. Learners will focus on creating the conditions for effective relationships with their students through cooperation, concern, and empathy for students as well as appropriate levels of objectivity, guidance, and control.

Prerequisites: EDAM 5040 Foundations of the Art & Science of Teaching



**EDAM 5047. Developing Relationships and High Expectations for Student Learning  
3 CREDITS**

The teacher-student relationship provides foundational support for effective instruction. This course enables learners to examine the often hidden dynamic of personal beliefs and expectations and their impact on student achievement.

Prerequisites: EDAM 5040 Foundations of the Art & Science of Teaching

**EDAM 5048. Applying the Art and Science of Teaching  
3 CREDITS**

This six credit course engages learners in a formal action research project to determine the impact on student learning or specific instructional, curricular, and management strategies used in the classroom. Learners will reflect upon the knowledge acquired throughout the previous courses in the degree program to develop their practicum where they will apply theory and practice directly into their classroom.

Prerequisites: EDAM 5040 Foundations of the Art & Science of Teaching; EDAM 5041 Establishing Learning Goals to Support Learning & Instructional Design; EDAM 5042 Monitoring & Measuring Student Progress; EDAM 5043 Actively Processing New Content; EDAM 5044 Extending Student Learning; EDAM 5045 Designing Instruction for Student Engagement; EDAM 5046 Creating an Effective Classroom Environment; EDAM 5047 Developing Relationships and High Expectations for Student Learning

**NOTE:**

There are no transfer credits permitted in this program

Courses in this program run on National Institute for Professional Practice's academic calendar. Visit [www.professionalpractice.org](http://www.professionalpractice.org) or call 888-235-6555 for a copy of the most recent academic calendar.

Registration and payment for courses in the MS Ed: The Art & Science of Teaching program are processed by National Institute for Professional Practice. Visit [www.professionalpractice.org](http://www.professionalpractice.org) or call 888-235-6555 for more information on payment options and the registration process.

**AREA X - SCHOOL BUSINESS LEADERSHIP (SBL)****SBL 501. PUBLIC RELATIONS AND SCHOOL COMMUNICATIONS  
THREE CREDITS**

Communications and community relations are the responsibility of all professionals who make up the educational community. Dealing with stakeholders and creating "buy-in" and support for school-sponsored programs is a critical factor in a formula for educational success. This course is designed to help participants prepare and manage effective communications strategies related to district-wide and other pertinent educational issues.

Contents will be geared toward the many constituencies who have a vested interest in the school, including internal, external and media groups. The course will also provide a legal context for release of information. Participants will ultimately design a plan for effective communications related to their respective role in the school. Offered Fall semesters.

**SBL 502. SCHOOL FACILITY MANAGEMENT  
THREE CREDITS**

This course is designed to allow participants to develop competency in facilities management to support an optimal teaching and learning environment. Topics include facilities management concepts and techniques that protect capital investments, insure health and safety of students and staff, enhance day-to-day operations and support educational performance of school programs. Offered Fall semesters.

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### **SBL 503. FINANCIAL OPERATIONS OF SCHOOL DISTRICTS THREE CREDITS**

This course is an examination of financial reporting and audit requirements, internal control; cash management principles; and payroll and benefit management and accounting. Subject areas are approached with an emphasis on practical application in a school district, vocational-technical school, or intermediate unit business office. Course of study involves a core text, independent research, and work-connected projects. Offered Fall semesters.

### **SBL 504. FINANCIAL PLANNING AND MANAGEMENT FOR SCHOOL BUSINESS THREE CREDITS**

This course focuses on the study of financial planning and management functions in educational institutions. Topics covered include: public education funding, budgetary planning and reporting using various models, and resource allocation and its impact on students. Revenues and expenditures for schools are examined and forecasted. A communication plan is developed to share the impact of the financial projections to the appropriate stakeholders. This course requires the completion of a rigorous on line component of authentic simulations and/or field experience in applying the fundamental concepts of school financial planning and management. Offered Spring semesters.

### **SBL 505. HUMAN RESOURCES IN EDUCATION THREE CREDITS**

This course will cover advanced topics in human resources in education. The course will provide practical human resource information for students to use in their current jobs, or to prepare them for a career in human resources in education. Areas to be covered include recruitment, selection, compensation, fringe benefits, performance evaluation, certification, and labor relations. Offered Spring semesters.

### **SBL 506. MATERIALS MANAGEMENT IN SCHOOLS THREE CREDITS**

This course will examine various aspects of purchasing, inventory, fixed assets and real estate management in educational settings. Participants will gain practical application experience so that district needs in support of the educational process can be met. Subject areas include, but are not limited to, the preparation and administration of competitive bids, ethical practices in purchasing and contract management, requisitions, management of hazardous materials, and capital assets. Offered Summer semesters.

### **SBL 507. INFORMATION TECHNOLOGY IN EDUCATION THREE CREDITS**

This course is designed to inform participants in the various areas of technology planning and implementation in a school district on the information technology and management side of the equation. The course covers topics in areas including: IT systems management, planning, data management, project management, fiscal management and purchasing and staffing / training issues. Offered Summer semesters.

### **SBL 508. STUDENT TRANSPORTATION THREE CREDITS**

The purpose of this course is to provide students with the concepts, procedures and tools necessary to manage a student transportation system effectively. By analyzing utilization of resources, personnel and processes students will be introduced to a broad view of school transportation issues. The course will provide students with opportunities for research and discussion on school transportation themes thereby enhancing the student's ability to develop an efficient and safe student transportation system. Offered Spring semesters.

### **SBL 509. FOOD SERVICE IN EDUCATION THREE CREDITS**

This course will examine the role of food services in school districts. Participants will study such topics as nutrition and its role in the educational process, food safety, fiscal responsibility, state regulations, managing the bid process and kitchen facilities, marketing and staffing. Subject matter will be approached with an emphasis on practical application either in the student's current position or as preparation to obtain future employment in the field. Offered Summer semesters.

**SBL 510. LEADERSHIP FOR SCHOOL BUSINESS  
THREE CREDITS**

This course is designed to examine theories of leadership and analyze applications within the school environment. The topics addressed deal with a wide range of school related processes targeted at school improvement and overall student performance. Offered Summer semesters.

**AREA XI - EDUCATION - INSTRUCTIONAL MEDIA (EDIM)****EDIM 501. COGNITION & TECHNOLOGY: ALIGNING BRAIN BASED RESEARCH & TECHNOLOGY  
INTEGRATION  
THREE CREDITS**

This course provides in-depth study of the processes required for students to process information, including perception, attention, memory, encoding, retrieval, problem solving, and the information processing requirements of reading and writing. How brain-based theory can be incorporated in the classroom using technology will be covered.

**EDIM 502. PROJECT BASED LEARNING  
THREE CREDITS**

This course will demonstrate to educators the benefits of project-based learning in the instructional environment. Strategies to transform learning into a more active, student-driven experience using technology tools for collaboration and connection to the world outside the traditional classroom will be explored.

**EDIM 503. DIFFERENTIATION SUPPORTED BY TECHNOLOGY  
THREE CREDITS**

This course will provide educators with techniques for using technology to help create a stimulating, effective classroom for all students including English language learners, special education students and students with a variety of learning styles. Specific challenges and processes for managing a differentiated instructional setting with accommodations for alternative teaching, learning and assessment will be discussed and researched. Students will explore the use of various technological tools to differentiate assessment of students' understanding and learning by using various assessment strategies such as instructional rubrics, student reflections and portfolios. Using technology to manage ongoing assessment for diverse learners will be explored.

**EDIM 504. DIGITAL STORYTELLING  
THREE CREDITS**

This course will demonstrate how audio, video, and interactive elements can complement and enhance classroom instruction. Students will understand the principles of digital storytelling and how this process can be used in the classroom. Students will develop storyboards and create rubrics for evaluating digital stories. Various software used for digital storytelling will also be explored.

**EDIM 507. USING TECHNOLOGY TO SUPPORT CREATIVITY  
THREE CREDITS**

In this course, students will examine the social and economic factors that are impacting the US economy and related labor market as a basis for exploring ways that technology can be used to increase teacher and student levels of creativity to position students for success in the future. Creativity will be examined as an overtly taught skill utilizing technology resources - examining design, story, symphony, empathy, play and meaning (as described by Daniel Pink (2005) in *A Whole New Mind*). Teachers will learn how to apply skills through inquiry learning techniques. Teachers will also learn leadership techniques, which can be used to transform their school's learning environments.

**EDIM 508. DIGITAL MEDIA IN THE CLASSROOM  
THREE CREDITS**

This course is designed to help educators integrate digital media tools with core academic content. Teachers will learn how to transform their classrooms into 21st century learning centers with cutting-edge, standards-based, and hands-on digital media projects that incorporate technologies like video on-demand from [Unitedstreaming.com](http://Unitedstreaming.com), podcasting/vodcasting and shared-screen presentations. Imaginative ways to visualize ideas and concepts through the acquisition and manipulation of digital images will be explored.

## **Education**

### **EDIM 510. WEB 2.0: IMPACTING LEARNING ENVIRONMENTS**

#### **THREE CREDITS**

Students learn the core concepts of Web 2.0 and how it is impacting learning environments. The course focuses on Web 2.0 technologies and how these tools are shaping education by allowing users to publish and interact in new and different ways. Topics include social networking technology and online collaborative tools such as blogs, wikis, etc

### **EDIM 511. PORTABLE VIDEO PRODUCTION & APPLICATION**

#### **THREE CREDITS**

This course provides a comprehensive introduction to the use of portable video recording and editing devices. Students will learn camera techniques and terminology. Applications for classroom integration will also be explored.

### **EDIM 513. INQUIRY BASED LEARNING**

#### **THREE CREDITS**

Inquiry-based instruction is a powerful way for students to learn through active engagement with their environment. Teachers who engage in this form of instruction orchestrate a learning environment that allows students to develop deep understanding and enriched knowledge about selected topics. Inquiry should be one of the methodologies that teachers employ in meeting the challenges of today's academic expectations. We live in an era of rapidly expanding knowledge, which highlights the need for students to be lifelong learners. Inquiry skills support students' abilities to question and methodically investigate a wide range of subject matter. This course will explore Inquiry as a teaching technique, utilizing technology to support the various stages of the process.

### **EDIM 514. INTERNET TOOLS FOR TEACHING**

#### **THREE CREDITS**

The course will explore an array of powerful tools and standards-based resources that will help educators move their students to proficiency and beyond. Tools that make the development of high quality lesson-plans, assignments, writing prompts, quizzes, and surveys easier for educators will be presented. Topics will also include the exploration of resources like classroom uses of the high-speed data transfer provided by Internet2 and the educational opportunities of virtual field trips.

## **AREA XII - ENGLISH AS A SECOND LANGUAGE**

### **ESL 501 APPROACHES TO TEACHING SECOND LANGUAGES**

#### **3 CREDITS**

This course will survey the field of methodology in second language teaching. Students will examine past and present second language learning and teaching experiences in a variety of contexts. The course does not promote any particular approach to second language teaching but rather presents an overview and examples of some approaches in the field of teaching second and foreign languages. Prerequisite course to all other ESL courses

### **ESL 502 LANGUAGE CONCEPTS FOR SECOND LANGUAGE LEARNING AND TEACHING**

#### **3 CREDITS**

This course introduces some instrumental concepts of linguistics, examining phonology, morphology, syntax, semantics, and discourse structure, with a focus on their importance to the teaching of foreign or second languages. Students will examine a wide range of concepts and discuss the many different approaches to the study of language, including those which stress the communicative and social aspect. Prerequisite course to all other ESL courses

### **ESL 504 INTERCULTURAL COMMUNICATION FOR LANGUAGE TEACHERS**

#### **3 CREDITS**

This course examines contemporary theories of language and linguistics as they apply to communication. Students will discuss the theoretical aspects of language and culture; communicative competence, intercultural competence, and intercultural contact; issues of diversity and the impact these have on the language classroom and the language teacher. Emphasis will be placed on language and social interaction and pragmatics.

### **ESL 505 SECOND LANGUAGE**

#### **3 CREDITS**

This course aims to review current topics and research in the field of second language acquisition

and to explore relationships between theory and practice. The course covers strategies, and styles of language development and looks at significant linguistic factors that influence the development of language in second language learners. Participants are exposed to the major theoretical issues, the latest areas of research, and the major methodologies in the field.

**ESL 506 TEACHING THE FOUR SKILLS: READING, WRITING, LISTENING AND SPEAKING  
3 CREDITS**

This course will introduce the most important concepts of teaching English to second language learners and contain assignments to be completed in the field. Participants will examine the teaching of reading, writing, listening, speaking, grammar, and vocabulary. Additionally, participants will learn how to assess student needs, develop syllabi, design supplemental materials and emerge from the class with an ample number of high quality lesson plans. Students will apply theory by designing practical English as a Second Language lessons.

**ESL 507 SOCIOLINGUISTICS AND SECOND LANGUAGE ACQUISITION  
3 CREDITS**

This course examines concepts and issues in the field of sociolinguistics, with the main focus remaining on second language teaching and learning. Topics covered include the sociology of language, the ethnography of communication, pragmatics, and discourse and conversational analysis. Participants will demonstrate their understanding of these issues through discussion, field work exercises, and a final research paper containing a literature review and a design for an action research study that could be conducted in a second language classroom.

**ESL 508 SECOND LANGUAGE PROGRAM DEVELOPMENT  
3 CREDITS**

This course will introduce students to the theory and practice required for developing and implementing second language programs. Students will examine language policies and the role of language learning and how it impacts on textbook selection and curricular design. The course provides students the opportunity to explore the intricacies involved in developing and implementing English as a Second Language programs, and raises awareness of the cultural conflicts and biases, both social and linguistic, faced by newcomer, multilingual students. Students will apply their understanding of these issues in field-based assignments and by engaging in a curriculum and assess planning process for a specific context.

**ESL 509 COMPUTER ASSISTED LANGUAGE LEARNING  
3 CREDITS**

This course focuses on the theory and practical application of Computer-Assisted Language Learning (CALL) in second language teaching. Areas covered in the course include: an analysis of the history of CALL, current approaches used, exposure to various CALL software, and an introduction to on-line language teaching and learning. Students will demonstrate their knowledge of the material covered by developing a CALL project for second language learners.

**ESL 512 ESL TEACHING INTERNSHIP  
3 CREDITS**

This capstone course is field-based and divided into two facets: practical teaching experience and discussion seminars. Each participant is assigned to a head teacher who will involve the student in the teaching a specific English as a Second Language curriculum or course. The student will be expected to teach a set number of weeks within the internship. In addition, course members will meet periodically at seminars to discuss language teaching practices and their individual teaching experiences. A portfolio documenting field-based work will be constructed and submitted as evidence of mastery of TESOL Standards

## **AREA XIII - ONLINE TEACHING (OLT)**

## **Education**

**ED 5001. SOCIAL & ETHICAL ISSUES IN DISTANCE LEARNING (WILKES)**

**3 CREDITS**

This course will lead students through the historical development of online and other forms of distance education and the associated ethical and social issues that have accompanied them. Students will examine issues from multiple perspectives and formulate position statements that can be translated into policy and practice in educational settings.

**ED 5002. INSTRUCTIONAL DESIGN FOR ONLINE EDUCATORS™ (PLS)  
3 CREDITS**

Students will explore instructional design theories and approaches in the e-learning environment in order to understand the basics of instructional design and philosophies of e-learning, as well as gain experience with online delivery and interaction techniques and tools.

## **Education**

**ED 5003. FACILITATING ONLINE LEARNING COMMUNITIES™ (PLS)**  
**3 CREDITS**

Students will experience the strategies and best practices of successful online facilitation in order to engage diverse learners, support various learning styles, and handle conflict constructively. This course will focus on the practice of skills necessary to nurture a successful online learning community, manage myriad facilitator roles, and communicate positively and effectively.



**ED 5004. ACTION RESEARCH IN THE ELEARNING ENVIRONMENT™ (PLS)**

**3 CREDITS**

Students will employ online data collection techniques, interpret the data to affect change in the online classroom, and develop a research plan that integrates and makes effective use of e-learning technology.

## **Education**

### **ED 5010. TEACHING 3-D IN A VIRTUAL ENVIRONMENT (WILKES)**

**3 CREDITS**

Students will explore a variety of 3D virtual worlds, including those designed for children, adolescent, and adult learners. Students will examine research and theory about 3-D and virtual learning and their pedagogical implications, as well as explore the social, interpersonal, cultural, instructional, and technical implications of virtual environments.

**ED 5011. DIGITAL VIDEO IN INSTRUCTIONAL DESIGN AND DELIVERY (WILKES)**

**3 CREDITS**

The course is designed to provide students with opportunities to apply instructional design principles to video production. Instructional strategies for higher order learning will be incorporated into video lessons created by students. Essential camera and editing techniques will be experienced as part of the course.

## **Education**

### **ED 5012. TRENDS AND INNOVATIONS IN INSTRUCTIONAL TECHNOLOGY (WILKES) 3 CREDITS**

Students will explore the implications of current trends and possible innovations in technology related to online teaching and learning. Factors that are likely to affect the future of instructional technology will be examined, including developments of newer technologies, contributions of key leaders, and the effects of social, political, and economic changes on online learning. The value of technology in the improvement and accessibility of education will be explored both now and into the future.

**ED 5020. USING ONLINE RESOURCES TO BRING PRIMARY SOURCES TO THE CLASSROOM™ (PLS)  
3 CREDITS**

Students will learn how to access and analyze primary sources, explore classroom applications, and develop authentic, engaging learning experiences for students. The course will enable students to discover how digital primary source archives can enhance and improve student learning.

## **Education**

**ED 5021. BLENDED AND SYNCHRONOUS LEARNING DESIGN™ (PLS)**

**3 CREDITS**

This course focuses on two different formats for online learning environments: blended and synchronous. Students will define these environments, understand the development process each one requires, and conclude with considerations for implementing each.

**ED 5022. SIMULATIONS AND GAMING TECHNOLOGIES FOR THE CLASSROOM™ (PLS)  
3 CREDITS**

Students will examine contemporary gaming technologies, their pedagogical models, and how they may be used for learning. Students will critically evaluate learning games to determine how they relate to academic content and standards and identify how particular game mechanics appeal to diverse learners.

## **Education**

**ED 5023. BUILDING ONLINE COLLABORATIVE ENVIRONMENTS™ (PLS)**  
**3 CREDITS**

Students will experience the Web as a means of constructing new knowledge through conversation, networking, and collaboration. This course focuses on currently-available tools, such as blogs, podcasts, and wikis, and their utilization for learner engagement in research, writing, and learning.



**ED 5024. EDUCATING THE NET-GENERATION™ (PLS)  
3 CREDITS**

Students will explore the learning styles, expectations, and technical acumen of the Net-Generation and identify this generation's key educational and cultural influences then create pedagogy which meets their needs. Students will apply innovative techniques that today's generation values, including advances in technology, a team approach, and social networking.

**AREA XIV - AUTISM ENDORSEMENT PROGRAM****AUT 501. AUTISM DIAGNOSIS AND TREATMENT  
THREE CREDITS**

The course will include an historical overview of the diagnosis and treatment of Autism and Autistic Spectrum Disorders. Special education policies, procedures, IEP development, and ethical considerations will be addressed. A review of contemporary diagnostic tools and biological research will be presented. A special emphasis will be given to evidence based treatment protocols as highlighted by the National Autism Standards Project. This course is a pre-requisite to the remaining three AUT courses. It may also be taken as a co-requisite to another AUT course.

**AUT 502. APPLIED BEHAVIORAL ANALYSIS AND AUTISM  
THREE CREDITS**

This course will introduce the basic principles of Applied Behavior Analysis (ABA) with special consideration given to its applications to ASD and Pervasive Developmental Disorders (PDD). Emphasis will be placed on positive behavioral supports, behavioral intervention plans (BIP), Functional Behavior Analysis (FBA), and error analysis. A review of outcome research in Early Intensive Behavior Intervention will be presented.

**AUT 503. AUTISM SCOPE AND SEQUENCE  
THREE CREDITS**

This course will present a review of past and present curricular approaches for students with ASD and Pervasive Developmental Disorders (PDD) including Asperger's Syndrome. Particular emphasis will be placed on ABA designs and visually mediated strategies, including ME, ABLLS, and VB-MAPP that address core language deficits and social competence. The role of specific augmentative and alternative communication systems (AAC) will be discussed.

**AUT 504. ADVANCED AUTISM INSTRUCTION AND INTERVENTION  
THREE CREDITS**

This course will offer an in-depth examination of state-of-the-art instructional techniques and protocols for ASD and Pervasive Developmental Disorders (PDD). Topics will include Functional Behavior Assessment, Positive Behavior Support Plans, Precision Teaching, Instructional Control, Classwide Behavior Plans, FloorTime, Sensory Integrative Approaches, and Direct Instruction. Materials from the statewide Verbal Behavior Project, TEACCH, and Competent Learner Models will be reviewed.

**DOCTORAL CORE AREAS (REQUIRED FOR ALL ED.D. STUDENTS)****LEADERSHIP CORE COURSES  
TWELVE CREDITS****ED 610. ETHICS FOR EDUCATIONAL LEADERS  
THREE CREDITS**

This course focuses on the principles, practices and issues related to ethics in educational leadership within a variety of institutional settings. The ethical dimensions of leadership will be examined through both traditional and nontraditional paradigms. Students will reflect on personal ethical stances, examine the influence of ethics and values on decision-making, and analyze and critique ethical issues in a variety of contexts to frame their professional ethical perspectives.

## **Education**

### **ED 612. LEADERSHIP, DIVERSITY AND SOCIETAL CHANGE**

#### **THREE CREDITS**

This course examines the impact of diversity, culture, ethnic origin and societal change on educational institutions and the emerging leadership styles resulting from these factors. This course is designed to better prepare leaders to meet the challenges of cultural diversity and rapid societal change in organizations. Attention is given as to how language, gender, race, tradition, education, economic structure, societal transitions and global events interact with organizational philosophy to create behavioral norms at all levels. The influence of these factors on leaders' behaviors, as well as their interactions with diverse groups both inside and outside the organization, will be studied.

### **ED 614. LEADERSHIP FOR CONTEMPORARY EDUCATIONAL REFORM**

#### **THREE CREDITS**

This course explores different strategies for bringing about change leading to institutional improvement and reform. Current trends in curriculum and instruction are examined with a focus on research-based practices that are proven to be effective and sustainable. Students will consider the many critical factors that shape and influence efforts to bring about reform in educational institutions, including vision, culture and climate, group dynamics, decision-making and communication processes, change theory, and influences of internal and external social systems. Special attention is given to the educational leader's role in building organizational capacity to change.

### **ED 616. PUBLIC RELATIONS: ISSUES AND TRENDS FOR EDUCATIONAL LEADERS**

#### **THREE CREDITS**

This course will focus on understanding contemporary public relations issues and trends with emphasis on public relations in educational institutions, changes in society and in educational institutions, public opinions, and political contexts; understanding of public relations relative to public relations' theory and practice, legal and ethical aspects, technology, and public relations in a communication context; learning about educational leadership responsibilities relative to planning in public relations; setting goals and developing strategies, working with the media, responding to crisis, collecting and analyzing decision-oriented data, public relations in a funding campaign, and evaluating public relations programs.

## **RESEARCH CORE COURSES**

### **NINE CREDITS**

### **ED 681. INTRODUCTION TO EDUCATIONAL RESEARCH**

#### **THREE CREDITS**

This course is designed to provide foundational knowledge of quantitative and qualitative research methodologies and to develop skills in reading and evaluating the quality of research. Focus is placed on research design factors such as sampling, validity, reliability, statistical methods, and ethical safeguards. Required to be taken in the first year of the Ed.D. program..

### **ED 683. QUALITATIVE AND QUANTITATIVE RESEARCH METHODS**

#### **THREE CREDITS**

Students will develop a greater depth of knowledge related to qualitative, quantitative and mixed methods with some levels of application. Data collection and analysis techniques and software will be examined. Prerequisites: ED 681 and acceptance into the Ed.D. program. Department permission required.

### **ED 685. ADVANCED QUANTITATIVE METHODOLOGIES IN EDUCATIONAL RESEARCH**

#### **THREE CREDITS**

This course is designed for students who are considering a quantitative study for their dissertation research. The course will provide students with an in-depth study of quantitative research methods and the statistical skills necessary to analyze and evaluate data in quantitative research. Prerequisites: ED 681 and ED 683 and acceptance into the Ed.D. program.

### **ED 686. ADVANCED QUALITATIVE METHODOLOGIES IN EDUCATIONAL RESEARCH**

#### **THREE CREDITS**

This course is designed for students who are considering a qualitative study for their dissertation research. The course will provide students with an in-depth study of qualitative research methods and the skills necessary to analyze and interpret data in qualitative research. Prerequisites: ED 681 and ED 683 and acceptance into the Ed.D. program.

## Dissertation Core Courses

**NINE CREDITS**

## ED 697. DISSERTATION PROPOSAL SEMINAR

## THREE CREDITS

This seminar is for doctoral students to develop and refine ideas for the doctoral dissertation. Students will utilize research resources, identify a research problem, select an appropriate research design for the given problem, and state the principles for analyzing and evaluating subsequent findings. This course should be taken during or after the last semester of course work in the doctoral program. Prerequisites: Acceptance into the Ed.D. program and successful completion of doctoral core and major coursework. Department permission required.

## ED 698. A &amp; B DISSERTATION

## SIX CREDITS

Doctoral students are required to register for six credits of ED 698 (either in one semester- for financial aid eligibility - or over two consecutive semesters) to fulfill their individual dissertation requirements under the advisement of their mentor and dissertation chair. This course is graded pass/fail.

Prerequisites: ED 697 Dissertation Proposal Seminar. Department permission required.

## ED 699. DISSERTATION MAINTENANCE

## ZERO CREDITS

Doctoral students are required to register for three billable credits of ED 699 each semester (fall and spring) to fulfill their individual dissertation research requirements under the advisement of their dissertation committee chair until the successful completion and defense of the dissertation. This course is not graded. Prerequisites: ED 698 Dissertation. Department permission required.

## COURSE DESCRIPTIONS FOR DOCTORATE OF EDUCATION IN EDUCATIONAL LEADERSHIP

### MAJOR AREAS OF STUDY

## K-12 ADMINISTRATION MAJOR COURSES \*

*Required Courses*

## 30 CREDITS

## ED 623. EDUCATIONAL TECHNOLOGY LEADERSHIP

## THREE CREDITS

This course will focus on how to organize and provide leadership in instructional technology programs, facilities and resource management, including technological in-service training programs. This course will also include the laws and regulations that govern the selection and utilization of media, sources for funding, and collaboration on development of a grant proposal. Required for M.S. program in Instructional Technology and Ed.D. program/K-12 Administration and Educational Technology majors.

## ED 625. PROFESSIONAL DEVELOPMENT &amp; SUPERVISION

## THREE CREDITS

This course concentrates on the development and supervision of faculty and staff. A range of models of supervision that can be applied in all educational institutions, such as clinical and differentiated supervision, will be examined for their effectiveness in improving instructional performance. Case studies will be utilized to gain understanding of supervision and evaluation processes. The management and design of induction and professional development programs will be analyzed. The laws and policies that govern these programs, as well as employee rights and termination procedures, will be studied. Required for Ed.D. program/K-12 Administration major.

## ED 627. ADVANCED ISSUES IN EDUCATIONAL LAW

## THREE CREDITS

This course focuses on the most current laws at both the state and federal levels and their impact on the operation of educational institutions for leaders. Both state and federal statutes will be examined with a focus on accurate analysis and interpretation of the law through case reviews. Law, legislation

## **Education**

and court decisions that may impact the rights and responsibilities of faculty, students and parents will be studied and analyzed. The course is structured to assist educational leaders in acquiring the knowledge and skills necessary to ensure that the management of their educational institution through adherence to the law produces a safe, efficient and effective learning environment for all students. Prerequisite: ED 518 School Law.

### **ED 628. HUMAN RESOURCE DEVELOPMENT AND LABOR NEGOTIATIONS THREE CREDITS**

This course examines the influences of major theories of personnel leadership on public and private education. Students will learn about the use of resource management, including labor laws, labor negotiation protocols, recruitment, personnel assistance and development, and evaluation procedures. Also, students will learn to develop and implement professional development programs that reflect teacher/faculty development research and strategies that include technology utilization, simulations of various HRD functions such as labor negotiations focusing on differing perspectives that impinge on the process of creating agreement, living with the agreement, and seeking a successor agreement. Required for Ed.D. program/K-12 Administration and Higher Education majors.

### **ED 629. STRATEGIC PLANNING FOR PUBLIC AND NON-PROFIT ORGANIZATIONS THREE CREDITS**

Students will learn about a variety of planning models, including the Pennsylvania Department of Education's Strategic Planning Model and the Strategy Change Cycle - a proven planning process used by a large number of organizations throughout the United States. Students will be provided detailed guidance on implementing the planning process and will acquire specific knowledge and skills to make the planning process work successfully in any organization. In addition, new information will be provided to students on creating public value, stakeholder analysis, strategy mapping, balanced scorecards, and collaboration. Finally, case study analysis and field assignments will serve as important component in this course. Required for Ed.D. program/K-12 Administration and Higher Education Administration majors.

### **ED 650. CURRICULUM, INSTRUCTION AND ASSESSMENT THREE CREDITS**

This course will examine cognitive theories of learning for all learners, with a particular focus on research-based practices in instruction for diverse learners in contemporary school settings. Educational leaders will gain a strong background in differentiated modes of instruction, along with the coaching skills needed to work with instructors as they strive to improve and expand their pedagogy to enhance student learning. Current methods of curriculum and program design, development and evaluation will be studied. Implications for supporting and sustaining high-quality instruction and learning will be addressed through the relationships and importance of coherence among curriculum, instruction, and assessment. Required for Ed.D. program/K-12 Administration major.

### **ED 652. SPECIAL EDUCATION ADMINISTRATION THREE CREDITS**

The content of this course is composed of professional problems; standards and procedures; the history of special education, special education philosophy, legal provisions, rules and regulations; major developments and trends at federal, state and local levels; services of other organizations and agencies. Required for Ed.D. program/K-12 Administration major

### **ED 654. SCHOOL FINANCE AND FACILITIES ADMINISTRATION THREE CREDITS**

The content of this course centers on administrative functions related to the management of school finance and facilities in educational institutions. Topics covered are budget planning related to facilities management, as well as resource allocation and scheduling to maximize the use of school facilities; school finance related to sources of revenue for capital projects and the impact of these projects on the allocation of resources, scheduling of programs, and use of personnel will be studied. Additional topics include management techniques, strategic planning approaches, building assessment, energy issues, technology in schools, community development and contract management. Required for Ed.D. program/K-12 Administration major.

**ED 658. ADVANCED STUDIES IN SCHOOL DISTRICT LEADERSHIP  
THREE CREDITS**

This course will prepare future school district leaders for complex situations and specialized functions that are performed as part of district oversight in the central office. Students will review their prior coursework in K-12 Administration by compiling and informally assessing their Internship Competency Portfolio to determine the focus areas for their superintendent internship. Required for Ed.D. program/K-12 Administration major.

Prerequisites: Completion of Ed.D. Leadership core and K-12 School Administration courses with the exception of ED 659.

**ED 659. SUPERINTENDENT INTERNSHIP (90 HOURS)  
THREE CREDITS**

This internship will include a minimum of 90 hours of field-based central office administrative experience. The candidate will engage in specific leadership tasks, behaviors and projects to achieve the program's competencies and document the attainment of these competencies through an Internship Competency Portfolio. Required for Ed.D. program/K-12 Administration major. Prerequisites: Completion of Ed.D. Leadership core and all K-12 School Administration courses.

**HIGHER EDUCATION MAJOR COURSES \***

***Required Courses*  
30 CREDITS**

**ED 627. ADVANCED ISSUES IN EDUCATIONAL LAW  
THREE CREDITS**

This course focuses on the most current laws at both the state and federal levels and their impact on the operation of educational institutions for leaders. Both state and federal statutes will be examined with a focus on accurate analysis and interpretation of the law through case reviews. Law, legislation and court decisions that may impact the rights and responsibilities of faculty, students and parents will be studied and analyzed. The course is structured to assist educational leaders in acquiring the knowledge and skills necessary to ensure that the management of their educational institution through adherence to the law produces a safe, efficient and effective learning environment for all students. Required for Ed.D. program/K-12 Administration and Higher Education Administration majors.

Prerequisite: ED 518 School Law

**ED 628. HUMAN RESOURCE DEVELOPMENT AND LABOR NEGOTIATIONS  
THREE CREDITS**

This course examines the influences of major theories of personnel leadership on public and private education. Students will learn about the use of resource management, including labor laws, labor negotiation protocols, recruitment, personnel assistance and development, and evaluation procedures. Also, students will learn to develop and implement professional development programs that reflect teacher/faculty development research and strategies that include technology utilization, simulations of various HRD functions such as labor negotiations focusing on differing perspectives that impinge on the process of creating agreement, living with the agreement, and seeking a successor agreement. Required for Ed.D. program/K-12 Administration and Higher Education majors.

**ED 629. STRATEGIC PLANNING FOR PUBLIC AND NON-PROFIT ORGANIZATIONS  
THREE CREDITS**

Students will learn about a variety of planning models, including the Pennsylvania Department of Education's Strategic Planning Model and the Strategy Change Cycle - a proven planning process used by a large number of organizations throughout the United States. Students will be provided detailed guidance on implementing the planning process and will acquire specific knowledge and skills to make the planning process work successfully in any organization. In addition, new information will be provided to students on creating public value, stakeholder analysis, strategy mapping, balanced scorecards, and collaboration. Finally, case study analysis and field assignments will serve as important component in this course. Required for Ed.D. program/K-12 Administration and Higher Education Administration majors.

## **Education**

### **ED 660. HIGHER EDUCATION INSTITUTIONS AND ADULT LEARNERS**

#### **THREE CREDITS**

This course engages doctoral students in an investigation of the history and development of higher education institutions, with emphasis on the adult learners who attend them. Included in this course is a comparative study of the philosophies, objectives and functions of various types of higher education institutions and the adult learning population in contemporary colleges and universities. The various settings in which adults learn and the variety of objectives adults have for learning are also studied. Required for Ed.D. program/Higher Education Administration major.

### **ED 662. FACULTY AND ACADEMIC GOVERNANCE IN HIGHER EDUCATION**

#### **THREE CREDITS**

The purpose of this course is to provide an intensive introduction to the organization and governance of American colleges and universities. It is designed to familiarize students with the faculty, academic and administrative contexts and organizational cultures within which they may work. The focus of study will include both individuals and groups (organizational behavior) and organizations themselves (organizational theory). Required for Ed.D. program/Higher Education Administration major.

### **ED 663. FACULTY DEVELOPMENT & CURRICULUM MANAGEMENT**

#### **THREE CREDITS**

This course will focus on faculty development related to scholarship, teaching, and service. The relationship between faculty development and curriculum, instruction, and assessment will be examined. Topics related to curriculum management will include syllabus development and program design, instructional delivery models, and assessment at the program and institutional levels, as well as the relationship of assessment to accreditation. Required for Ed.D. program/Higher Education Administration major.

### **ED 664. FINANCIAL MANAGEMENT IN HIGHER EDUCATION**

#### **THREE CREDITS**

The purpose of this course is to expose students to both theoretical and applied concepts of higher education financial management concepts and practices. Emphasis will be placed on developing familiarity with the financial terminology and competencies that are necessary for successful administrative performance within a higher education institution. Upon completion of the course, students should possess a greater understanding of the subject matter and inherent issues of higher education financial management. Required for Ed.D. program/Higher Education Administration major.

### **ED 665. INSTITUTIONAL ADVANCEMENT IN HIGHER EDUCATION**

#### **THREE CREDITS**

This course enables doctoral students to refine the knowledge, skills and dispositions needed to plan and execute sound and innovative approaches to advance the institution's mission by increasing private and public financial support, promoting awareness of the institution to key publics, and involving constituents in the life of the institution. Students will be involved in problem solving and decision-making related to institutional advancement. Traditional and evolving sources of financial support will be examined with an emphasis on grant writing. Required for Ed.D. program/Higher Education Administration major.

### **ED 668. STUDENT SERVICES AND ENROLLMENT MANAGEMENT IN HIGHER EDUCATION**

#### **THREE CREDITS**

This course examines the comprehensive nature of student affairs as a vital component in the evolving learner-centered environments of higher education. Theory and effective practice are used to guide the discussion, investigate the issues, and generate solutions. Students investigate and seek potential solutions to authentic problems facing leaders in student affairs, such as those concerning student enrollment management, student diversity, student induction, advising and counseling, placement testing, career development, residential life, food services, health services, student activities, Greek organizations, athletics, security and discipline. Required for Ed.D. program/Higher Education Administration major.

### **ED 669. INTERNSHIP IN HIGHER EDUCATION ADMINISTRATION (90 HOURS)**

#### **THREE CREDITS**

This internship is tailored to the needs and interests of the candidate in higher education and designed to familiarize students with at least three administrative service units within an institution

of higher education. A portfolio giving evidence of competencies covered, projects executed and evaluations will be submitted at the termination of the internship. Periodic meetings will be scheduled for evaluation, discussion and examination of technique and progress. Required for Ed.D. program/Higher Education Administration major.

#### EDUCATIONAL TECHNOLOGY MAJOR COURSES \*

Note: Courses with \* are required for Instructional Technology Specialist Certification. Courses designated with ✓ are required for the doctorate .

#### *Required From list below*

30 CREDITS

#### ED 623. EDUCATIONAL TECHNOLOGY LEADERSHIP \* ✓ THREE CREDITS

This course will focus on how to organize and provide leadership in instructional technology programs, facilities and resource management, including technological in-service training programs. This course will also include the laws and regulations that govern the selection and utilization of media, sources for funding, and collaboration on development of a grant proposal. Required for M.S. program in Instructional Technology and Ed.D. program/K-12 Administration and Educational Technology majors.

#### ED 632. COGNITION AND LEARNING THREE CREDITS

This course covers the fundamentals of perception, memory, thinking, and emotion that collectively comprise human learning. This foundation of learning is what instruction, administration, and technology must support to promote student achievement. The last twenty-five years of brain research into learning styles, motivation, and learning science will be used to deduce sound learning and teaching practices.

#### ED 633. MEDIA DESIGN FOR INSTRUCTION ✓ THREE CREDITS

This course will explore design and production of is designed to give specific and realistic examples of how different types of media and instructional technology can complement each other in the computer-age classroom. Emphasis will be given to the design and production of instructional materials using text, video, audio and computer-based and photographic formats for use in both distance learning and traditional classrooms instruction. . Required for Instructional Technology Program and Ed.D. program/Educational Technology major.

#### ED 635. INTEGRATING TECHNOLOGY FOR DIVERSE LEARNERS ✓ THREE CREDITS

The course will examine best practices for integrating technology into curricular planning and present models of instructional design for all learners. Required for Educational Technology major.

#### ED 637. SYSTEMS INFRASTRUCTURE & MANAGEMENT\* THREE CREDITS

Students will explore the design of present-day technology infrastructures. computer systems. Topics include computer architecture and hardware, telecommunications, networking and general operating systems. Required for ITS Certification.

#### ED 638. INFORMATION SECURITY\* THREE CREDITS

This course will cover the principles of With a focus on the educational environment, this course will discuss the principles of information security ,within the educational environment, the foundations of information security, building a clear understanding of the foundations of information security, theand the principles on which managerial strategy can be formulated and the technical solutions available to technology coordinators. Required for ITS Certification. Prerequisite: ED 637 Systems Infrastructure & Management.

## **Education**

### **ED 639. INTERNSHIP IN EDUCATION TECHNOLOGY LEADERSHIP THREE CREDITS**

Students will be required to complete field work as leaders in technology at the institutional level to demonstrate leadership competencies related to all aspects of instructional technology, the management and evaluation of technology, resource allocation and planning for existing and emerging technologies in the field. This course serves as a capstone for those seeking the Pennsylvania Instructional Technology Specialist certification and for those students completing major coursework in educational technology as part of their doctoral studies. Prerequisites: Acceptance into the Ed.D. Program and successful completion of Doctoral Qualifying Examination and major coursework

### **ED 640. INSTRUCTIONAL DESIGN AND DEVELOPMENT√ THREE CREDITS**

In this This course students will will explore basic principles of design and analyze various theories of instructional design through research and application. Required for Ed.D. Program/Educational Technology major.

### **ED 643. TRENDS AND INNOVATION IN INSTRUCTIONAL TECHNOLOGY√ THREE CREDITS**

This course will explore the present trends and future vision of technology as influenced by its reviews the intellectual foundations. and history of Instructional Technology practice as students explore the implications of current issues dealing with technology in education. Factors that are likely to influence the affect the future of Instructional technology the instructional technology, including developments of newer technologies, contributions of key leaders, and social, political and economic changes, will be explored, such as distance education and virtual environments. Required for Educational Technology major.

### **ED 644. GRAPHIC DESIGN FOR INSTRUCTION THREE CREDITS**

This course will focus on the design and production of instructional computer graphics and graphic presentations. Professional, design software will be used for creative and efficient layout, editing, processing and file handling. Fundamental layout organization through the use of grid with emphasis on color, fonts and simple drawing techniques will be incorporated into the course. The value of communication and information design with graphics in the learning process will be presented.

### **ED 645. TECHNOLOGY SUPPORTED ASSESSMENT THREE CREDITS**

Students will research and explore traditional methods of educational assessment and consider ways technology can be used to augment assessment to enhance best practices for teaching and learning.

### **ED 646. ADAPTIVE AND ASSISTIVE TECHNOLOGY IN EDUCATION√ THREE CREDITS**

This course will provide an awareness of contemporary adaptive and assistive technologies for students with disabilities in an inclusive setting.. Students will explore technology to support the needs of English Language Learners and the acquisition of a second language for all learners.. Required for Educational Technology major.

### **ED 647. WEB DESIGN AND DEVELOPMENT FOR LEARNING √ THREE CREDITS**

Students will apply the tools and skills of competent designers as they construct web-based learning activities. Contemporary web authoring tools will be used to develop web sites that motivate learners. Topics such as creative applications and project-based and inquiry-based learning will be



explored. Required for the Educational Technology major.

**ED 697. DISSERTATION PROPOSAL SEMINAR  
THREE CREDITS**

This seminar is for doctoral students to develop and refine ideas for the doctoral dissertation proposal. Students will utilize research resources, identify a research problem, select an appropriate research design for the given problem, and state the principles for analyzing and evaluating subsequent findings. This course should be taken during or after the last semester of course work in the doctoral program. Prerequisites: Acceptance into the Ed.D. program and successful completion of doctoral core and major coursework. Department permission required.

## BIOLOGY/SECONDARY EDUCATION

Michael A. Steele, Ph.D.  
Chairperson

### DEGREE REQUIREMENTS

Candidates for the degree of Master of Science in Education with a concentration in Secondary Education/Biology must take 18 hours of biology courses numbered 400 or above. Chemistry 361 and 362 may be taken for credit toward the biology component with the prior approval of the Chairperson of the Biology Department. Requirements for the education component of the Master of Science degree in Education with a major in biology, are listed under Education earlier in this bulletin.

**Special Notice:** Biology courses shown below are only offered during daytime class periods. Biology 466 and 468 are offered in alternate summers.

## BIOLOGY/SECONDARY EDUCATION COURSE DESCRIPTIONS

**BIO 406. INVERTEBRATE BIOLOGY  
FOUR CREDITS**

A study of the major invertebrate phyla with respect to their taxonomy, evolution, morphology, physiology and ecology. Lecture, three hours a week, laboratory, three hours a week. Laboratory fee: \$90. Offered in alternate years.

Prerequisites: Biology 121-122, 225-226, or permission of instructor.

**BIO 411. 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. Lecture, three hours a week; laboratory, three hours a week. Laboratory fee: \$90. Offered in alternate years.

Prerequisites: Biology 121-122, 225-226, or permission of instructor.

**BIO 412. 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. Lecture, three hours a week; laboratory, three hours a week. Laboratory fee: \$90. Offered in alternate years.

Prerequisites: Biology 121-122, 225-226, or permission of instructor.

**BIO 414. 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. Lecture three hours per week, laboratory three hours per week. Laboratory fee: \$90. Offered in alternate years.

Prerequisites: Biology 121-122.

## **Education**

### **BIO 421. MAMMALIAN PHYSIOLOGY**

#### **FOUR CREDITS**

This course examines the function of mammalian systems with regard to homeostasis, metabolism, growth and reproduction. Normal physiological processes as well as some pathophysiological situations are covered. The emphasis is on human physiology; however, other mammalian systems are discussed to demonstrate physiological adaptability to various environmental situations. Laboratory exercises include physiological experimentation in living systems and in computer simulations. Lecture: three hours; Laboratory: three hours. Laboratory fee: \$90. Offered in alternate years.

Prerequisites: Biology 121-122, 226, or permission of instructor.

### **BIO 423. 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 demonstrated. Lecture, three hours; laboratory, three hours per week. Laboratory fee: \$90. Offered in alternate years.

Prerequisites: Biology 121-122, 225-226, or permission of instructor.

### **BIO 425. 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. Lecture: three hours per week; Laboratory, three hours per week. Laboratory Fee: \$90.

Prerequisites: Biology 121-122, 225-226, or permission of instructor.

### **BIO 426. 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 patho-physiologic alterations of hypersensitivity phenomena in vertebrate animals and man. A background in microbiology, physiology, and biochemistry is advisable. Lecture, three hours a week; laboratory three hours a week. Laboratory fee: \$90. Offered in alternate years.

Prerequisites: Biology 121-122, 225-226, or permission of instructor.

### **BIO 427. 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 microorganisms. Lecture: three hours a week; Laboratory: three hours per week. Laboratory fee: \$90.

Prerequisites: Biology 121-122, Chemistry 231-232.

### **BIO 428. 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. Lecture, three hours; laboratory, three hours a week. Laboratory fee: \$90. Offered in alternate years.

Prerequisites: Biology 121-122, 225-226, or permission of instructor.

### **BIO 429. 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: Biology 121-122, 225-226; Chemistry 231-232, 233-234.

#### **BIO 430. 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 finger-printing, rational drug design, metabolic simulation and artificial intelligence. Offered online alternate spring semesters, with one assignment due each week.

#### **BIO 438. 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: Biology 121-122, 226; Chm 231-232.

#### **BIO 441. FRESHWATER ECOSYSTEMS**

##### **THREE CREDITS**

A study of the chemical, physical, and biological aspects of fresh water systems. Laboratory investigations will consist of in-depth analysis of local lakes and streams. Lecture, two hours a week; laboratory three hours a week. Laboratory fee: \$90. Offered in alternate years.

Prerequisites: Biology 121-122, 225-226, or permission of instructor.

#### **BIO 443. 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. Laboratory fee: \$90. Offered in alternate years.

Prerequisites: Biology 121-122, EES 230, or permission of instructor.

#### **BIO 444. ECOLOGY**

##### **FOUR CREDITS**

Ecology examines contemporary ecological thinking as it pertains to the interrelationship of organisms and their environments. Interactions at the population and community levels are emphasized. Lecture, three hours a week; laboratory, three hours a week. Laboratory fee: \$90. Offered in alternate years.

Prerequisites: Biology 121-122, 225-226, or permission of instructor.

#### **BIO 445. GENETICS**

##### **FOUR CREDITS**

Genetics will present treatment of genetics beyond the introductory level with particular emphasis on populational and molecular aspects of heredity. Topics will include plant and human genetics. Lecture, three hours a week; laboratory, three hours a week. Laboratory fee: \$90. Offered every fall.

Prerequisites: Biology 121-122, 225-226, or permission of instructor.

#### **BIO 446. ANIMAL BEHAVIOR**

##### **FOUR CREDITS**

This course emphasizes behavior as the response of an organism to physical and social environmental change, and covers the processes that determine when changes in behavior occur and what form they will take. Laboratories, using living local fauna, will demonstrate principles discussed in lecture. Lecture, three hours; laboratory, three hours a week. Laboratory fee: \$90. Offered in alternate years.

Prerequisites: Biology 121-122, 225-226, or permission of instructor.

## **Education**

### **BIO 461. PLANT FORM AND FUNCTION**

#### **FOUR CREDITS**

An introduction to the morphology, anatomy, cytology, and physiology of plants, with emphasis on the vascular plants. Structural and functional aspects of plants will be interpreted in relation to each other and within ecological and evolutionary contexts. Lecture, three hours per week; laboratory, three hours per week. Laboratory fee: \$90. Offered every fall.

Prerequisites: Biology 121-122, 225-226, or permission of instructor.

### **BIO 462. PLANT DIVERSITY**

#### **FOUR CREDITS**

A comprehensive survey of bryophytes, vascular plants and plantlike organisms (fungi and algae) emphasizing their structure, reproductive biology, natural history, evolution, and importance to humans. Lecture, three hours per week; laboratory, three hours per week. Laboratory fee: \$90. Offered every spring.

Prerequisites: Biology 121-122, 225-226, or permission of instructor.

### **BIO 466. 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.

Prerequisites: Biology 121-122, or permission of instructor. Offered in alternate years.

### **BIO 468. MEDICAL BOTANY**

#### **THREE CREDITS**

A specialized course that provides a scientifically based overview of the ways that plants affect human health. Topics include cultural and historical perspectives of plants and medicine, plants that cause human ailments, plants that cure human ailments, and psychoactive plants. Lecture, two hours per day for five weeks in alternate summers.

Prerequisites: Biology 121-122, 225, CHM 232, or permission of instructor.

### **BIO 498. TOPICS**

#### **VARIABLE CREDIT**

A study of topics of special interest not extensively treated in regularly offered courses.

Prerequisites: Biology 121-122, 225-226, or permission of instructor.

## **CHEMISTRY/SECONDARY EDUCATION**

Terese M. Wignot, Ph.D.

Chairperson

### **ADMISSION**

The applicant should have a baccalaureate degree from an accredited institution, with a minimum of 35 semester credit hours in chemistry. In addition, a year of physics and a working knowledge of calculus and differential equations are required. Students deficient in any of these areas may, at the discretion of the chemistry faculty, be granted provisional admission.

### **DEGREE REQUIREMENTS**

General requirements for the Master of Science in Education with a program in Secondary Education/Chemistry are listed under Education earlier in this bulletin. Specific chemistry requirements will be determined with the student's advisor in the chemistry department.

## **CHEMISTRY/SECONDARY EDUCATION COURSE DESCRIPTIONS**

### **CHM 421. ADVANCED INORGANIC CHEMISTRY**

#### **THREE CREDITS**

Introduction to ligand field theory; chemistry of the first transition series, organometallic, and pi acceptor compounds; mechanisms of inorganic reactions. Class three hours a week.

Prerequisites: CHM 222 and 252

### **CHM 423. ADVANCED INORGANIC CHEMISTRY LABORATORY**

#### **ONE CREDIT**

Synthesis of coordination and organometallic compounds, and spectroscopic characterization of the

products using modern laboratory techniques. Fee \$85.

Prerequisite: CHM 232

**CHM 461. BIOCHEMISTRY I  
THREE CREDITS**

This course is a study of the physical and chemical properties of proteins, nucleic acids, 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 462. BIOCHEMISTRY II  
THREE CREDITS**

This course is 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 Kreb's cycle, electron transport, gluconeogenesis, pentose phosphate, fatty acid metabolism and amino acid metabolism.

Prerequisite: CHM 232

**CHM 463. BIOCHEMISTRY LABORATORY  
ONE CREDIT**

Laboratory experiments that emphasize biochemical techniques used in isolation and characterization of macromolecules. Included in the course are various chromatographic techniques, electrophoresis, spectrophotometry and classic biochemical methods. Laboratory three hours a week. Pre-lab, one hour per week. Fee \$85.

Prerequisite: CHM 461 or permission of instructor

**CHM 498. TOPICS  
THREE CREDITS**

A study of topics of special interest not extensively treated in regularly offered courses.

Prerequisite: Permission of the instructor

## ENGLISH/SECONDARY EDUCATION

Lawrence T. Kuhar, Ph.D  
Chairperson

### DEGREE REQUIREMENTS

Candidates for the degree of Master of Science in Education with a concentration in Secondary Education/English must take 18 hours of English courses numbered 400 or above.

Requirements for the education component of the Master of Science in Education with a major in English are listed under Education earlier in this bulletin.

## ENGLISH/SECONDARY EDUCATION COURSE DESCRIPTIONS

**ENGLISH 431. STUDIES IN MEDIEVAL ENGLISH LITERATURE  
THREE CREDITS**

A study of English literature to 1500, exclusive of Chaucer.

**ENGLISH 432. STUDIES IN SIXTEENTH-CENTURY LITERATURE  
THREE CREDITS**

The study of texts produced by the English Renaissance, focused on the evolution of literary, dramatic and cultural works from about 1485 to 1603.

**ENGLISH 433. STUDIES IN SEVENTEENTH-CENTURY LITERATURE  
THREE CREDITS**

The study of seventeenth-century texts, focused on literary, dramatic, and cultural works from about 1603 to 1660.

**ENGLISH 434. STUDIES IN EIGHTEENTH-CENTURY LITERATURE  
THREE CREDITS**

Study of eighteenth-century authors and culture.

## **Education**

### **ENGLISH 435. STUDIES IN ROMANTIC LITERATURE THREE CREDITS**

Study of the chief poets and prose writers of the Romantic Period.

### **ENGLISH 436. STUDIES IN VICTORIAN LITERATURE THREE CREDITS**

Study of major writers, works, and topics of the Victorian era.

### **ENGLISH 440. STUDIES IN CHAUCER THREE CREDITS**

A study of selected major and minor works by Chaucer.

### **ENGLISH 442. STUDIES IN SHAKESPEARE THREE CREDITS**

A study of selected plays by Shakespeare.

### **ENGLISH 444. STUDIES IN MILTON THREE CREDITS**

A study of Milton's selected poetry and prose.

### **ENGLISH 450. STUDIES IN THE ENGLISH NOVEL THREE CREDITS**

Study of the novel in English, excluding American writers.

### **ENGLISH 451. STUDIES IN POSTMODERNISM THREE CREDITS**

A study of the major postmodern writers from the 1960s to the present.

### **ENGLISH 452. STUDIES IN THE AMERICAN NOVEL THREE CREDITS**

Study of the American novel from its eighteenth-century beginnings to the present day.

### **ENGLISH 453. STUDIES IN POSTCOLONIAL LITERATURE THREE CREDITS**

Study of colonial and postcolonial literature that examines the effects of British imperial pursuits and provides an overview of major issues within postcolonial studies.

### **ENGLISH 455. STUDIES IN THE MODERN NOVEL THREE CREDITS**

Study of twentieth-century texts focused on a particular theme or movement, as determined by instructor.

### **ENGLISH 458. STUDIES IN CONTEMPORARY FICTION THREE CREDITS**

A study in 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-modern themes and forms.

### **ENGLISH 461. STUDIES IN EARLY ENGLISH DRAMA THREE CREDITS**

Study of the drama from the tenth century to 1642; reading of plays by medieval and early modern dramatists exclusive of Shakespeare.

### **ENGLISH 463. RESTORATION AND 18TH CENTURY DRAMA THREE CREDITS**

Study of the drama from 1660-1780.

### **ENGLISH 465. STUDIES IN MODERN DRAMA THREE CREDITS**

Studies in major theatrical genres, themes, and playwrights of modern world drama through the mid-twentieth century.

### **ENGLISH 466. STUDIES IN AMERICAN OR BRITISH DRAMA THREE CREDITS**

A study of major American and/or British playwrights and movements, focus to be determined by

instructor.

**ENGLISH 468. STUDIES IN CONTEMPORARY DRAMA  
THREE CREDITS**

A study of major playwrights and theatrical movements in contemporary world drama from the mid-twentieth century to today.

**ENGLISH 470. STUDIES IN MODERN BRITISH POETRY  
THREE CREDITS**

Study of major British poetry of the twentieth century.

**ENGLISH 476. STUDIES IN MODERN AMERICAN POETRY  
THREE CREDITS**

Study of major movements and representative figures in modern American poetry.

**ENGLISH 494. LITERARY CRITICISM  
THREE CREDITS**

A study of literary theory and techniques of analysis.

**ENGLISH 495-496. INDEPENDENT RESEARCH  
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 that of a term paper is required. Prerequisite: Approval of Department Chairperson.

**ENGLISH 497. SEMINAR  
THREE CREDITS**

Presentations and discussions of selected topics. Prerequisite: Approval of department chairperson.

**ENGLISH 498. TOPICS  
THREE CREDITS**

The study of a special topic in language, literature, or criticism.

## **HISTORY/SECONDARY EDUCATION**

Lawrence T. Kuhar, Ph.D  
Chairperson

### **DEGREE REQUIREMENTS**

Candidates for the degree of Master of Science in Education with a concentration in Secondary Education/History must take 18 hours of history courses numbered 400 or above.

Requirements for the education component of the Master of Science in Education with a major in history are listed under Education earlier in this bulletin.

## **HISTORY/SECONDARY EDUCATION COURSE DESCRIPTIONS**

**HISTORY 421. AMERICAN CULTURAL AND SOCIAL HISTORY  
THREE CREDITS**

An examination of differences and divisions within American society through such topics as social movements, demographic trends, gender, ethnicity and class, effect of industrialization and immigration, cultural expressions, religion, and the family.

**HISTORY 424. AMERICAN ECONOMIC HISTORY  
THREE CREDITS**

A survey of the evolution of the American economy from colonial dependency to modern industrial maturity. Emphasis will be placed upon the development of the United States as an industrial world power since about 1850.

**HISTORY 425. DIVERSITY IN PENNSYLVANIA HISTORY  
THREE CREDITS**

A study of the history of the Commonwealth with particular focus on ethnic and racial diversity.

## **Education**

### **HISTORY 428. HISTORY OF THE FOREIGN POLICY OF THE UNITED STATES**

#### **THREE CREDITS**

A selective treatment of major themes in American foreign policy from the founding of the Republic to the present.

### **HISTORY 429. AMERICAN WOMEN'S HISTORY**

#### **THREE CREDITS**

A study of the role, status, and culture of women in America beginning with the First Americans and European contact up to the present time.

### **HISTORY 431. COLONIAL AMERICA**

#### **THREE CREDITS**

Discovery, exploration and settlement; development of social, political, religious and intellectual institutions; independence and political reorganization.

### **HISTORY 432. THE NEW NATION**

#### **THREE CREDITS**

A study of America's social, cultural, economic and political development in the first generations of nationhood, 1783-1840.

### **HISTORY 433. VICTORIAN AMERICA**

#### **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.

### **HISTORY 434. THE UNITED STATES, 1900-1945**

#### **THREE CREDITS**

The emergence of the United States as a world power and the corresponding development of its political, economic, social, and religious institutions.

### **HISTORY 435. THE UNITED STATES SINCE 1945**

#### **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 postwar world and how changing conditions over the past 40 years have altered this role.

### **HISTORY 441-442. HISTORY OF GREAT BRITAIN AND THE BRITISH EMPIRE AND COMMONWEALTH**

#### **THREE CREDITS EACH SEMESTER**

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.

### **HISTORY 445. HISTORY OF NORTHEASTERN EUROPE**

#### **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.

### **HISTORY 446. HISTORY OF THE BALKANS**

#### **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.

### **HISTORY 448. HISTORY OF RUSSIA**

#### **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.



**HISTORY 452. THE RENAISSANCE AND REFORMATION  
THREE CREDITS**

Within the political and economic framework of the period, study will be made of the culture of the Renaissance, the religious reform and conflicts resulting from the crisis in the sixteenth century.

**HISTORY 453. AGE OF ABSOLUTISM  
THREE CREDITS**

The political, social, economic, intellectual, and cultural development of Europe and dependencies from 1600 to ca. 1750.

**HISTORY 454. THE ERA OF THE FRENCH REVOLUTION AND NAPOLEON  
THREE CREDITS**

A study of the structure of the Ancient Regime and an examination of the causes, events, and consequences of the French Revolution culminating in the Napoleonic Empire.

**HISTORY 455. EUROPE IN THE NINETEENTH CENTURY  
THREE CREDITS**

A study of the political, social, and cultural development of Europe from the Congress of Vienna to World War I.

**HISTORY 456. EUROPE, 1900 - 1960  
THREE CREDITS**

Against a background of the internal and international developments of the leading powers, the class will study the origins and results of the two World Wars.

**HISTORY 457. THE WORLD SINCE 1945  
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.

**HISTORY 467. HISTORY OF MODERN INDIA  
THREE CREDITS**

A study of the political, social, and economic development of the Indian sub-continent since 1500.

**HISTORY 476. WORLD WAR II  
THREE CREDITS**

Consideration of the causes of the war, military strategy and tactics, diplomatic interests of the participants, and resulting Cold War problems.

**HISTORY 495-496. 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.

**HISTORY 497. SEMINAR  
ONE TO THREE CREDITS**

Presentations and discussions of selected topics. (May be repeated for credit) Prerequisite: Approval of the instructor is required.

**HISTORY 498. TOPICS  
THREE CREDITS**

Special topics in history. This course will be offered from time to time when interest and demand justify it.

## MATHEMATICS/SECONDARY EDUCATION

V. Ming Lew, Ph.D.,  
Chairperson

For information, see Mathematics section on page 134 later in this bulletin.



**ENGINEERING**

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## **ENGINEERING AND PHYSICS**

Rodney S. Ridley, Sr., Ph.D, Division Director

### **MASTER OF SCIENCE IN ELECTRICAL ENGINEERING (M.S.E.E.)**

Thyagarajan Srinivasan, Ph.D., Program Director

Courses are available days and evenings.

#### **ADMISSION REQUIREMENTS**

Applications are invited from individuals who possess a B.S. degree in Electrical Engineering from an accredited institution. Applicants not meeting the requirements may be provisionally admitted and will be required to take sufficient undergraduate courses to make up deficiencies.

To be considered for admission, the applicant must submit the following minimum requirements:

1. Submit to the Graduate Admissions Office a completed graduate application for admission with payment of appropriate application fee
2. Submit two letters of recommendation from previous academic faculty and/or from current or previous supervisors, if employed.
3. Demonstrate satisfactory performance as an undergraduate by providing a complete set of official undergraduate transcripts.
4. International students: Refer to page 10 for additional admissions requirements.

#### **DEGREE REQUIREMENTS**

Thirty (30) credit hours are required for the M.S.E.E. degree. These include the following:

12 credits      EE 403, EE 405, EE 414, and EE 460

18 credits      Students should choose either the thesis or the non-thesis option. In either case at least two courses (for 6 credits) must be chosen from the following: EE 442, EE 445, EE 465, and EE 471. Other courses may be chosen from graduate level courses in EE/CS and an approved course from the Business Administration program.

Non-thesis option: 3 credits of EE 590 are required. Students should submit a well-documented report to the department.

Thesis option: Six credits of thesis (EE 590) are required. The thesis shall be defended in an open forum. Three faculty members constitute a Thesis Committee with the Thesis Advisor as Chair.

Students who opt to complete a thesis may select from posted research topics or proposed areas of interest of the faculty and submit a proposal of their thesis to the Department. Final decision of topic and advisor will be taken by the Department in accordance with Department guidelines. Ordinarily, these topics will touch on one or more of the following areas: Communication, Navigational Systems; Computers, Digital Systems; Microelectronics; Microwaves and Antennas; Power, Control Systems; Software Engineering. Some of the highly specialized and state-of-the-art laboratories available for students include Communications, Thick-Film Processing, Microelectronics, Microwaves, Antennas, Machines and Controls, Digital Design.

Both full- and part-time students are limited to a maximum of three thesis credits in any single semester.

The minimum acceptable grade point average is 3.0. (See Grade Regulations.)

Advanced standing or transfer credit is limited to six (6) graduate credits. Petitions should be submitted to the Engineering and Physics Division and should document minimum competency defined as relevant graduate course work at an accredited institution with an earned minimum grade of 3.0 (0-to-4 scale) or equivalent expertise.

#### **FINANCIAL AID**

A limited number of assistantships are available for full-time students. Applicants should possess superior academic qualifications and provide good scores in the GRE (General and Engineering).

## **ELECTRICAL ENGINEERING COURSE DESCRIPTIONS**

Students will be advised of the course offerings, sequencing, and prerequisites upon admission. The faculty advisor will be in a position to recommend courses to the student taking into account the time-table and the necessary prerequisites.

The 500-level courses are restricted to students who have achieved candidate status or by written permission of the instructor. All 400-level courses require a background based on 300-level courses or the equivalent of the B.S. degree.

### **EE 403. COMPUTATIONAL TECHNIQUES IN ELECTRICAL ENGINEERING THREE CREDITS**

Application of MATLAB, LabView, and PSPICE to solve problems in electrical engineering topics. Software design, implementation methodologies, software engineering, and procedural and data abstraction. Implementation methodology is based on object-oriented programming techniques using LabView CVI (compiler). Students work on real-world design problems of increasing complexity. These will include graphical user interfaces (GUIs), event models, exception handling and multithreading. One Hour lecture and three hour lab per week

Prerequisites: Graduate standing

### **EE 405. ADVANCED LABORATORY EXPERIENCE FOR GRADUATE STUDENTS THREE CREDITS**

Laboratory and related analytical experience in different disciplines within electrical engineering, including but not limited to, electrical measurements, mechatronics, digital design, electromagnetics, and communications systems. Real-world design problems will be assigned. Three hour lab per week.

Prerequisite: Graduate standing

### **EE 410. LINEAR SYSTEM THEORY THREE CREDITS**

Linear spaces and linear operators; input-output systems and state variables; linear dynamical equations and impulse response matrices; controllability, observability and their applications to minimal realizations; state feedback controllers and observers; multivariable systems.

### **EE 414. MODERN CONTROL SYSTEMS THREE CREDITS**

Mathematical modeling of linear and non-linear systems. Block diagram, signal flow graph, and state-space representation. Time response, stability, and steady-state error analysis. Root-locus and frequency response techniques. Controller and observer design. Optimal and robust control.

Prerequisite: Graduate standing

### **EE 415. DIGITAL CONTROL SYSTEMS DESIGN THREE CREDITS**

Review of design and compensation of control systems. State space analysis of continuous-time and discrete-time systems; discrete-time observations, control and feedback; digital regulators design; digital tracking systems design; controlling continuous-time systems.

Prerequisite: EE 414

### **EE 416. ROBOT VISION THREE CREDITS**

Image formation and image sensing; binary images; geometrical and topological properties; reflectance map; photometric stereo, shape, and shading; motion field and optical flow; extended Gaussian images; picking parts out of bin.

Prerequisite: First course in Robotics

### **EE 418. CONTROLS AND KINEMATICS IN NAVIGATION THREE CREDITS**

Theory of kinematics with application to terrestrial navigation using inertial instrumentation. Accelerometer, gyroscope, stable platform and inertial mechanizations. Space stable, local level and strapdown navigator configurations and error analysis. Integrated navigation using complementary and Kalman filter techniques.

## **Engineering**

Prerequisites: EE 318, EE 460

### **EE 421. POWER SYSTEM ANALYSIS THREE CREDITS**

Review of power generation schemes. Transmission line calculations and power system representation; network solution by matrix transformations; symmetrical components; symmetrical and unsymmetrical fault analysis of power systems; load flow analysis.

Prerequisite: EE 321

### **EE 425. POWER ELECTRONICS THREE CREDITS**

SCR characteristics; turn-on and turn-off mechanisms; SCR connections; power and switching devices, including UJT, triac and special devices; AC power control: full-wave control, half-wave control, and phase control; line-commutated converters and inverters; chopper circuits; applications.

Prerequisite: EE 252, EE 321

### **EE 432. ELECTROMAGNETIC FIELDS AND WAVES THREE CREDITS**

Maxwell's equations; energy and momentum in the electromagnetic field; plane, cylindrical, and spherical waves; boundary conditions; cylindrical waveguides; cavity resonators; scattering by a sphere and other geometries.

Prerequisite: EE 337

### **EE 435. MICROSTRIP CIRCUIT DESIGN THREE CREDITS**

A review of TEM mode transmission line theory. Static TEM parameters and design; discontinuities in microstrip and coupled microstrip lines; design examples of passive microstrip elements; narrowband and wideband microwave amplifiers.

Prerequisite: EE 335/EE 337

### **EE 436. ANTENNA THEORY AND DESIGN THREE CREDITS**

Electromagnetic vector potentials; Green's functions; radiating systems; image theory; reciprocity; directional arrays; linear and broadboard antennas; moment method; aperture antennas; microstrip antennas, and antenna synthesis.

Prerequisite: EE 337

### **EE 441. DIGITAL SYSTEMS DESIGN THREE CREDITS**

Advanced topics in digital design; combinational and sequential circuit modeling, fault modeling, digital design testing and testability, design to test principles, and basic concepts in fault tolerant design.

Prerequisite: EE 241

### **EE 442. 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 hour lecture and one two-hour laboratory a week. Fee: \$65. (same as CS 429)

Prerequisite: EE 345

### **EE 444. 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. (same as CS 426)

Prerequisite: CS 227

### **EE 445. 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. (same as CS 445)

Prerequisite: EE 241

**EE 446. COMPUTER ARCHITECTURE****THREE CREDITS**

A study of the design, organization, and architecture of computers, ranging from the microprocessors to the latest "supercomputers." (same as CS 430)

Prerequisite: EE 242 or EE 342

**EE 451. OPTO-ELECTRONICS****THREE CREDITS**

Electromagnetic theory; propagation of rays; propagation of optical beams in homogeneous and guiding media; optical resonators; interaction of radiation and atomic systems; theory of laser oscillators; some specific laser systems; second-harmonic generation and parametric oscillation; electrooptic modulation of lasers; optical radiation interaction of light and sound; propagation, modulation, and oscillation in optical dielectric waveguides; laser applications; fiber optics and couplers.

Prerequisite: EE 337

**EE 460. STOCHASTIC PROCESSES IN ENGINEERING****THREE CREDITS**

Review of probability. Random variables and random processes; functions of one and two random variables; expectations; moments and characteristic functions; correlation and power spectra; stationary and nonstationary processes, harmonic analysis of random processes.

**EE 461. DIGITAL COMMUNICATIONS****THREE CREDITS**

Sampling theory; analog pulse modulation; time-division multiplexing; baseband digital transmission; bandlimited digital PAM systems; synchronization techniques; PCM, PCM with noise, DPCM and DM; digital multiplexing; error correction and detection; linear block codes; convolutional codes; bandpass digital transmission; coherent and noncoherent binary systems; quadrature carrier and M-ary systems; information theory.

Prerequisites: EE 361, EE 460

**EE 465. DIGITAL SIGNAL PROCESSING****THREE CREDITS**

Z transforms; Fourier transforms; discrete Fourier transforms; sampling theorem; analog filter approximations; digital filter realizations and topological properties; analysis and design of recursive (IIR) filters and non-recursive (FIR) filters; fast Fourier transforms.

Prerequisite: EE 252

**EE 471. ADVANCED SOLID STATE DEVICES****THREE CREDITS**

Review of semiconductor fundamentals. Physics, fabrication technologies, and operational characteristics of a variety of solid-state structures including p-n junctions, bipolar transistors, thyristors, metal semiconductor contacts, JFET and MESFET, MIS and CCD, MOSFET, microwave and photonic devices including IMPATT, BARITT, TED, LED, semiconductor lasers, photodetectors, and solar cells.

Prerequisite: EE 271

**EE 474. INTEGRATED CIRCUIT DESIGN****THREE CREDITS**

Model calculations, transfer characteristics and use of SPICE for MOS devices and circuits; basic logical units; integrated systems fabrication including scaling, channel properties, yield statistics, design rules and choice of technology; data and control flow including clocks, registers and PLA'S; design implementation from circuit topology to patterning geometry and wafer fabrication; CAD; overview of LSI and VLSI systems; architecture and design of system controllers; system timing (SPICE); physical aspects of computational systems; ASICs memories and other logical circuits.

Prerequisites: EE 241, EE 271

## **Engineering**

### **EE 481. ADVANCED MICROELECTRONICS LAB**

#### **THREE CREDITS**

Theoretical and practical aspects of techniques utilized in the fabrication of semiconductor devices. Techniques of wet chemistry; deposition and diffusion; advanced concepts of contamination control; defect-free processing and gettering; complete characterization including junction penetration, resistivity, and oxide thickness. Switching speed, junction characteristics, leakage and gain, ion implantation, and method of fabrication. Extensive use of process simulation programs such as SUPREM. Fee: \$65.

Prerequisite: EE 271

### **EE 482. ADVANCED COMMUNICATION AND ANTENNA LAB**

#### **THREE CREDITS**

Characterization and measurement of microwave devices and systems; emphasis on antenna design and testing; utilization of the network analyzer and spectrum analyzer; antenna pattern measurements; communication link design; computer-aided design of active and passive microwave circuits; touchstone, optical signal generation and modulation. Fee: \$65.

Prerequisite: EE 335

### **EE 498. TOPICS IN ELECTRICAL ENGINEERING**

#### **THREE CREDITS**

Selected topics in electrical engineering. These may include one or more of the following: control systems, information theory, signals and noise measurements, communication systems, navigational systems, network design and synthesis, solid state, quantum electronics, magnetic and non-linear circuits, digital and analog systems, computer systems, medical engineering, power systems and generation. May be repeated for credit.

### **EE 510. OPTIMAL FILTERING THEORY**

#### **THREE CREDITS**

Review of stochastic processes; stochastic integrals and differential equations; Wiener filtering; discrete Kalman filter; applications and additional topics on discrete Kalman filtering; continuous Kalman filter; discrete smoothing and prediction; additional topics on Kalman filtering.

Prerequisites: EE 410, EE 460

### **EE 514. OPTIMAL CONTROL THEORY**

#### **THREE CREDITS**

The calculus of variations and the minimum principle; optimal control of discrete-time systems; optimal control of continuous-time systems; dynamic programming; models of dynamic systems; optimal estimation; stochastic neighboring optimal control.

Prerequisite: EE 410

### **EE 516. ROBOTICS AND ARTIFICIAL INTELLIGENCE**

#### **THREE CREDITS**

Prospects for knowledge-based robots; robots and artificial intelligence; expert systems and knowledge-based languages; production-rule expert systems; search techniques; heuristic graph searching; AND/OR graphs; first order predicate logic; future prospects for knowledge-based robots.

Prerequisite: First course in Robotics

### **EE 521. COMPUTER AIDED ANALYSIS OF POWER SYSTEMS**

#### **THREE CREDITS**

Bus impedance and bus admittance matrices; sparsity programming and triangular factorization. Load-flow studies; Gauss, Gauss-Seidel, Newton-Raphson methods. Approximate, fast and special-purpose load-flow studies. Optimal dispatch: equal incremental cost rule; gradient dispatch; optimal reactive power dispatch methods.

Prerequisite: EE 421

### **EE 535. MICROWAVE CIRCUITS**

#### **THREE CREDITS**

Microwave networks; S-parameters and stability considerations; characterization of transmission line structures and discontinuities; models of microwave solid state devices; measurement techniques for modeling; design synthesis; optimization and analysis of microwave integrated circuits; numerical methods.

Prerequisite: EE 435



**EE 541. MICROPROCESSOR-BASED SYSTEMS DESIGN  
THREE CREDITS**

Brief review of directions in microprocessor development: single chip microcomputers, Reduced Instruction Set Computers (RISCs), and Multiple Data Stream processors; hardware and software aspects of the design of microprocessor-based systems; architecture and design of multiple computer and parallel processing systems; cache memory techniques and issues; bus standards and interfacing. Prerequisite: EE 342

**EE 560. DETECTION AND ESTIMATION THEORY  
THREE CREDITS**

Probabilistic signal detection and parameter estimation theory. Decision criteria, performance, likelihood, Bayes and parameter estimation; random processes, detection and estimation of white and nonwhite Gaussian noise. Kalman and Wiener filters. Prerequisite: EE 460

**EE 561. COMPUTER COMMUNICATION NETWORKS  
THREE CREDITS**

Data/computer communication network structures; the structure and function of network protocols; data link control procedures; multiple-access protocols; wideband data transmission media; functions and characteristics of devices used in computer communications; analysis of data/computer networks. Prerequisite: EE 461

**EE 562. OPTICAL COMMUNICATION  
THREE CREDITS**

Structure and waveguiding fundamentals of optical fibers; signal degradation in optical fibers; optical sources and their characteristics; power launching and coupling; photodetectors; optical receiver operation; coherent and non-coherent detection; analysis and design of optical transmission links. Prerequisites: EE 432, EE 461

**EE 565. DIGITAL IMAGE PROCESSING  
THREE CREDITS**

Scenes, images and digital pictures; linear operations on pictures; discrete picture transforms; random variables and random fields; visual perception. Sampling using array of points and orthonormal functions; quantization; Karhunen-Loeve, Fourier, Hadamard, and cosine compression; predictive block truncation, error-free compression; rate-distortion function. Enhancement: gray scale modification, sharpening and smoothing; restoration: inverse least-squares and recursive filtering, constrained deconvolution. Prerequisite: EE 460

**EE 568. MODERN NAVIGATION SYSTEMS  
THREE CREDITS**

Overview of electronic navigation systems: Global Positioning Systems (GPS); application and status; concept and operation; accuracy and propagation consideration; GPS receiver; signal structure, integration principles for navigation systems; Kalman filtering; differential GPS. Prerequisites: EE 418, EE 460

**EE 571. MODERN SOLID STATE DEVICES AND DESIGN  
THREE CREDITS**

Semiconductor fundamentals at an advanced level. Silicon and GaAs, MOS devices; processing details; performance limitations; process design for given device specifications; limitations due to fabrication techniques; quantum phenomena in a variety of modern high performance devices; microwave semiconductor devices; integrated circuit design; VLSI design; computer aids for process and circuit design. Prerequisite: EE 471

**EE 590. PROJECT/THESIS  
One to six credits**

Students have the option to select a 6-credit or a 3-credit project to meet the degree requirement. Topics will touch on one or more of the following areas: Communications, Navigational Systems; Computers, Digital Systems; Microelectronics; Microwaves and Antennas; Power, Control Systems; and Software Engineering. Three faculty members constitute a Faculty Committee with the

## Engineering

Project/Thesis Advisor as Chair. The project/thesis shall be presented in an open forum.

### EE 598. ADVANCED TOPICS IN ELECTRICAL ENGINEERING THREE CREDITS

Advanced topics in electrical engineering. These may include one or more of the following: control systems; navigational systems; information theory; signals and noise measurements; communication systems; network design and synthesis; solid state; quantum electronics; magnetic and non-linear circuits; digital and analog systems; computer systems; medical engineering; power systems and generation. May be repeated for credit.

## MASTER OF SCIENCE IN ENGINEERING OPERATIONS AND STRATEGY

Hisham Abu-Nabaa, M.S. Program Director

The Master of Science in Engineering Operations and Strategy (EOS) is a 36 credit-hour program that integrates 12 credit hours of required MBA program content with 24 hours of graduate engineering and elective content. The EOS program is committed to the successful development of the upward-bound technical talent in industry. Entering students enjoy a curricular breadth and flexibility unique to Wilkes University because of leadership development strengths in the Sidhu School of Business.

Program emphases include decision processes, systems modeling, uncertainty analysis and risk assessment. Graduates will learn to effectively address and communicate the growing complexities of organizational performance and decision processes as they prepare for leadership roles in production flow, logistics, demand forecasting, project planning, and quality improvement.

### ADMISSION REQUIREMENTS

An ABET-accredited baccalaureate Engineering degree is preferred but not required. Applicants with other four-year degree preparations (e.g. BS or BA) may meet entrance requirements once the necessary foundation content is satisfied. Entry standards include the following:

- a. *Experience*  
Post-baccalaureate industrial/professional work experience preferred.
- b. *Application:*  
Submitted with payment of appropriate application fee. (International students: Refer to the International Students section of this bulletin for additional admission requirements).
- c. *Academic Preparation-Official Transcripts are Required:*
  - Demonstrate satisfactory performance as an undergraduate as evidence with a complete set of official undergraduate transcripts to be submitted to the Graduate Admissions Office.
  - To be accepted on a regular basis, candidates for the EOS degree must have obtained a cumulative GPA of at least 3.0 Prospective students with a GPA of less than 3.0 may be conditionally accepted into the EOS program. To be reclassified to regular status, the conditionally accepted student must attain no less than a 3.0 for each of the first six credit hours of graduate coursework taken. Failure to maintain the minimum 3.0 in any course will result in dismissal of the conditionally accepted student.
  - Applicants not holding an ABET-accredited undergraduate or graduate engineering degree must demonstrate or accrue the following preparation prior to enrolling in EOS courses:
    - Mathematics: 12 hours (calculus, differential equations and statistics, or approved equivalent)
    - Engineering economy or equivalent; 3 hours
    - Science (chemistry and/or physics): 12 hours of approved coursework
    - Engineering: 12 hours of approved coursework
    - Demonstrated ability with computer programming and/or numerical analysis techniques
  - Applicants holding neither an accredited engineering (ABET) nor business (ACBSP, AACSB) degree must demonstrate sufficient professional competency as stipulated in the MBA admission requirements.
- a. *Professional Recommendations*

Applicants must submit two letters of professional recommendation.

**DEGREE REQUIREMENTS**

The Masters of Science Degree in Engineering Operations and Strategy requires a minimum of thirty-six (36) credit hours consisting of twenty-seven (27) credits in CORE courses and nine (9) elective credit hours.

*Required Courses*

EOS 510, EOS 515, EOS 520, EOS 525, EOS 530, MBA 500, MBA 513, MBA 532, & MBA 540.

Elective Options: EOS students have three options for distributing the remaining 9 hours of graduate elective credit:

1. Thesis option: 6 hrs thesis (EOS 590 & 591) plus 3 hrs approved elective coursework (EOS/EE/CSE/MBA).
2. Industry project option: 3 hrs project (EOS 580 & 581) plus 6 hrs approved elective coursework (EOS/EE/CSE/MBA).
3. 9 hours coursework distributed as follows: EOS/EE - 3 hrs; EOS/EE/CSE/MBA - 6 hrs.

**ENGINEERING OPERATIONS AND STRATEGY COURSE DESCRIPTIONS****EOS 510. ENGINEERING PROJECT DECISION PROCESSES  
THREE CREDITS**

Projects are assessed with respect to uncertainty (revenues, expenses, product/process performance) and risk. Cash flows are evaluated to estimate present values and quantify risks associated with various decision alternatives. Topics include depreciation strategies, make/purchase/rent choices, break-even and benefit/cost assessments, and decision analysis with imperfect information. Required of all EOS students. Three hours lecture per week.

**EOS 515. QUALITY PROCESSES FOR DESIGN AND PRODUCTION  
THREE CREDITS**

Applicable quality techniques are presented within the context of research, new product development, plant operations, product support, and risk reduction. Students will learn how to articulate objectives, identify desired outcomes and establish suitable metrics for performance management. Required of all EOS students. Three hours lecture per week.

**EOS 520. OPERATIONS ANALYSIS AND RESOURCE ALLOCATION  
THREE CREDITS**

Students will assess production flows and space/equipment/resource utilization for purposes of reducing production bottlenecks while maintaining/increasing facility utilization. Various quantitative analysis and optimization methodologies will be covered for solving linear and nonlinear optimization problems. Simulation and graphical approaches will be utilized to assess solution performance. Required of all EOS students. Three hours lecture per week.

**EOS 525. PROJECT ANALYSIS AND RESOURCE ALLOCATION  
THREE CREDITS**

A study of critical issues in the management of engineering projects including proposal development, mobilization, scope change, completion and termination. Performance metrics are considered in planning and tracking project cost, schedule, and resource requirements with CPM/PERT algorithms. Case discussions and a term project are included in the course. Required of all EOS students. Three hours lecture per week.

**EOS 530. STOCHASTIC MODELS IN ENGINEERING MANAGEMENT  
THREE CREDITS**

A review of engineering analytical methods and their application in strategic decision environments. Required case studies will require techniques such as Monte Carlo simulation, risk assessment, and failure modeling as the suitability and application of several engineering analytical approaches to operational analysis of business/industry decision processes. Required of all EOS students. Three hours lecture per week.

## **Engineering**

### **EOS 580. GRADUATE PROJECT CONTINUUM**

#### **ONE - THREE CREDITS**

EOS students may elect a three-credit-hour industry-based project option. The student, working with industry, will select a project topic derived from an existing need/interest in industry under the guidance of a faculty project advisor selected by mutual agreement of the student and faculty member. When the project is completed and approved by the Project Advisor, bound copies of the approved report will be filed in the department office and in Farley Library for record. A grade will be awarded each semester the student is enrolled in EOS 580. At project completion, a completion grade will be awarded by converting one credit-hour of EOS 580 to one credit-hour of EOS 581 (Graduate Project Completion). EOS 580 credit does not apply toward meeting degree requirements until a grade for EOS 581 is recorded. Only two hours of credit for EOS 580 may apply toward EOS degree requirements (although the student may enroll in a total of more than two credit hours of continuum if project completion extends to additional semesters).

### **EOS 581. GRADUATE PROJECT COMPLETION**

#### **ONE CREDIT**

Recorded with grade by converting one credit-hour of EOS 580. Occurs upon completion of the graduate project, receipt of Project Advisor approval, and submittal of approved copies to the department office and Farley Library for binding and record.

### **EOS 590. THESIS CONTINUUM**

#### **ONE - SIX CREDITS**

EOS students may elect the six-credit-hour thesis option under the guidance of a Thesis Advisor who chairs the Thesis Committee. The Committee is comprised of three members; at least two members (including the Advisor) must be Wilkes faculty members. When the thesis is complete and has been defended with Committee approval in an open forum, bound copies of the approved thesis will be filed in the department office and in Farley Library for record. A continuum grade will be awarded each semester the student is enrolled in Continuum. A completion grade will be awarded by converting one credit-hour of EOS 590 Graduate Thesis Continuum to one credit-hour of EOS 591 Graduate Thesis Completion. EOS 590 credit does not apply toward meeting degree completion until a grade for EOS 591 is recorded. Only five hours of credit for EOS 590 may apply toward EOS degree requirements (although the student may enroll in a total of more than five hours of continuum if thesis completion extends to additional semesters).

### **EOS 591. GRADUATE PROJECT COMPLETION**

#### **ONE CREDIT**

Recorded with grade by converting one credit-hour of EOS 590. Occurs after successful defense of the Graduate Thesis before a Thesis Committee in an open forum, and after approved copies have been submitted to the department office and Farley Library for binding and record.

# MATHEMATICS

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## MATHEMATICS

V. Ming Lew, Ph.D., Chairperson

### MASTER OF SCIENCE IN MATHEMATICS MASTER OF SCIENCE IN EDUCATION

The courses of study are intended for:

1. Those with an undergraduate degree in a traditional mathematics major who wish to make the transition to applied mathematics/computer science. For the degree in mathematics, a student who has met admission requirements can take up to half of the required 30 credits in computer science.
2. Current or prospective teachers of mathematics who wish to enhance their training in either educational methodology or in mathematics/computer science itself.
3. Those who plan to continue their studies beyond the master's level in either mathematics or computer science.

### ADMISSION

To be considered for admission, the applicant must submit the following minimum requirements:

1. Submit a completed graduate application for admission with payment of appropriate application fee
2. Submit two letters of recommendation from previous academic faculty and/or from current or previous supervisors, if employed.
3. Demonstrate satisfactory performance as an undergraduate by providing a complete set of official undergraduate transcripts.

### Master of Science in Mathematics

Applicants are expected to have had undergraduate courses in each of the following three areas: linear algebra/matrix theory, advanced calculus or real variables, and abstract algebra. Students deficient in one or more of these areas may still be admitted into the program, but are required to make up all deficiencies early in their graduate studies.

### Master of Science in Education

Admission requirements for the Department of Education are described under the header "Secondary Education" earlier in this bulletin.

### DEGREE REQUIREMENTS

#### 1. **Master of Science in Mathematics**

Candidates for the degree of Master of Science in Mathematics must complete thirty credits in approved courses offered by the Department of Mathematics and Computer Science numbered 400 or above. Of these thirty credits, at least six credits shall be 500-level courses.

There is a thesis option available whereby a student can work toward the completion of a written thesis under the direction of their faculty advisor. At most, six of the required thirty credits may be earned through thesis work. Students electing a thesis option should consult the Office of Graduate Studies and Continued Learning for details regarding thesis-preparation guidelines.

#### 2. **Master of Science in Education**

Candidates for the degree of Master of Science in Education with a concentration in Secondary Education/Mathematics must complete thirty credits of approved courses offered by either the Department of Mathematics/Computer Science or the Department of Education. Of these thirty credits, eighteen (18) credits shall be in approved courses offered by the Department of Mathematics and Computer Science. Requirements for the Education component of the Master of Science degree in Education with a concentration in Secondary Education/Mathematics are listed under the Education section earlier in this bulletin.

### SPECIAL FEATURES OF THE PROGRAM

The department makes every effort to make the programs available to part-time as well as full-time students.

## COMPUTER SCIENCE COURSE DESCRIPTIONS

### CS 419. 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 the features of programming languages through their implementation in interpreters. Offered in the spring semester of even years when demand warrants.  
Prerequisite: CS 227 (Computer Data Structures).

### CS 421. SIMULATION AND DATA ANALYSIS THREE CREDITS

Methods of handling large data bases including statistical analysis and computer simulations. The emphasis will be upon discrete simulation models with a discussion of relevant computer languages, SLAM, GPSS, and/or SIMSCRIPT. Offered in the fall semester of odd years when demand warrants.  
Prerequisites: CS 125 (or the equivalent programming experience) and one semester of calculus.

### CS 423. 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. Offered in the spring semester of odd years when demand warrants.  
Prerequisites: MTH 231 (Discrete Mathematics) and CS 126 (or the equivalent programming experience).

### CS 424. 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. Offered every fall.  
Prerequisite: File management experience in COBOL.

### CS 425. DATABASE MANAGEMENT THREE CREDITS

Practical experience in solving a large-scale computer problem including determination of data requirements, appropriate data organization, data manipulation procedures, implementation, testing and documentation. Offered in the fall semester of odd years.  
Prerequisite: CS 126 or permission of the instructor.

### CS 426. 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. (Cross-listed with EE 444) Offered in the fall semester of odd years.  
Prerequisite: CS 227 (Computer Data Structures).

### CS 427. 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. Offered in the spring semester of odd years when demand warrants.  
Prerequisite: CS 227 (Computer Data Structures).

### CS 428. ALGORITHMS THREE CREDITS

Theoretical analysis of various algorithms. Topics are chosen from sorting, searching, selection, matrix multiplication and multiplication of real numbers, and various combinational algorithms. Offered in the fall semester of even years.  
Prerequisite: CS 227 (Computer Data Structures) and MTH 202 (Set Theory and Logic).

## **Mathematics**

### **CS 430. COMPUTER ARCHITECTURE**

#### **THREE CREDITS**

A study of the design, organization, and structure of computers, ranging from the microprocessors to the latest "supercomputers." Offered in the spring semester of odd years.

Prerequisite: CS 230 (Machine Language).

### **CS 434. 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. Offered every spring.

Prerequisite CS 324 (Systems Analysis) and CS 128 (Unix).

### **CS 435. 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 a DBMS in an organization. Offered in the spring semester of even years when demand warrants.

Prerequisite: CS 325 (Database Management).

### **CS 440. 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. Offered in the fall semester of odd years when demand warrants.

Prerequisite: CS 128 (Unix) and programming experience in a high-level language.

### **CS 450. 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 object-oriented languages. Offered in the spring semester of odd years when demand warrants.

Prerequisite: CS 227 (Computer Data Structures).

### **CS 455. 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, medium access sublayer and LAN; various routing protocols; Transmission Control Protocol (TCP) and Internet Protocol (IP) for internetworking. Offered in the spring semester of even years when demand warrants.

Prerequisite: CS 227 (Computer Data Structures).

### **CS 460. 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, goal programming. (Cross-listed with MTH 460) Offered in the spring semester of even years.

Prerequisite: Programming experience in a high-level language and completion of the first-year calculus sequence.

### **CS 463. OPERATIONS RESEARCH**

#### **THREE CREDITS**

A survey of operations research topics such as decision analysis, inventory models, queueing models, dynamic programming, network models, heuristic models, and non-linear programming. (Cross-listed with MTH 463) Offered in the spring semester of odd years.

Prerequisite: Programming experience in a high-level language and completion of one semester of calculus.



**CS 464. 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 464) Offered when demand warrants.

Prerequisites: MTH 211 (Differential Equations) and programming experience in a high-level language.

**CS 467. COMPUTER GRAPHICS  
THREE CREDITS**

Introduction to equipment and techniques used to generate graphical representations 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. Offered in the fall semester of even years when demand warrants.

Prerequisite: CS 227 (Computer Data Structures).

**CS 483. WEB DEVELOPMENT  
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. Offered every spring.

Prerequisites: CS 283 (Web Development I) and CS 325 (Database Management).

**CS 495-496. INDEPENDENT STUDY IN COMPUTER SCIENCE  
THREE CREDITS**

Individual study in a chosen area of computer science under the supervision of a faculty member. May be repeated for credit.

Prerequisite: Approval of Department Chair.

**CS 498. TOPICS IN COMPUTER SCIENCE  
VARIABLE CREDIT**

Study of one or more special topics in computer science. May be repeated for credit provided a different topic is selected.

## **MATHEMATICS COURSE DESCRIPTIONS**

**MTH 411. 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 years.

**MTH 413. FUNCTIONS OF SEVERAL VARIABLES  
THREE CREDITS**

A modern treatment of calculus of functions of several real variables. Topics include: Euclidean spaces, differentiation, integration and manifolds leading to the classical theorems of Green and Stokes. Offered when demand warrants.

Prerequisites: MTH 214 (Linear Algebra) and MTH 311 (Real Analysis).

**MTH 414. COMPLEX ANALYSIS  
THREE CREDITS**

Complex functions, limit, continuity, analytic functions, power series, contour integration, Laurent expansion, singularities and residues. Offered when demand warrants.

**MTH 431. ABSTRACT ALGEBRA I  
FOUR CREDITS**

A rigorous study of elementary number theory, groups, rings, and fields. Offered in the fall semester of odd years.

**MTH 432. ABSTRACT ALGEBRA II  
THREE CREDITS**

A continuation of Mathematics 331 (Abstract Algebra I). Includes the study of polynomial rings, ideals, field extensions and Galois Theory. Offered when demand warrants.

## **Mathematics**

Prerequisite: MTH 331 or MTH 431 (Abstract Algebra).

### **MTH 442. TOPOLOGY THREE CREDITS**

An introduction to point-set topology, including a study of metric spaces, topological spaces, countability and separation axioms, compactness, connectedness, product spaces. Offered when demand warrants.

Prerequisite: MTH 411 (Real Analysis) or consent of instructor.

### **MTH 443. GEOMETRY THREE CREDITS**

A study of selected topics from Euclidean and non-Euclidean geometry. Offered in the fall semester of even years.

### **MTH 451. PROBABILITY AND MATHEMATICAL STATISTICS I THREE CREDITS**

Random variables, probability distributions, expectation and limit theorems, confidence intervals. Offered every fall.

### **MTH 452. 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 years when demand warrants.

Prerequisite: MTH 451 or consent of instructor.

### **MTH 454. STATISTICAL METHODOLOGY THREE CREDITS**

This course emphasizes applications, using statistical computer packages (SPSS, JMP or BMDP) 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, including logistic regression. Offered in the spring semester of even years when demand warrants.

Prerequisite: MTH 351 or MTH 451 or consent of instructor.

### **MTH 460. 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, goal programming. (Cross-listed with CS 460) Offered in the spring semester of even years.

Prerequisite: Programming experience in a high-level language and completion of the first-year calculus sequence.

### **MTH 461. APPLIED MATHEMATICS I THREE CREDITS**

Intended for physical science and engineering students. Topics include inner product spaces, operator algebra, eigenvalue problems, Sturm-Liouville theory, Fourier series and partial differential equations. Offered in the fall semester of odd years when demand warrants.

### **MTH 462. 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 years when demand warrants.

### **MTH 463. OPERATIONS RESEARCH THREE CREDITS**

A survey of operations research topics such as decision analysis, inventory models, queueing models, dynamic programming, network models, heuristic models, and non-linear programming. (Cross-listed with CS 463) Offered in the spring semester of odd years.

Prerequisite: Programming experience in a high-level language and completion of one semester of calculus.

**MTH 464. 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 CS 464) Offered when demand warrants.

Prerequisites: MTH 211 (Differential Equations) and programming experience in a high-level language.

**MTH 470. READINGS IN MATHEMATICS  
THREE CREDITS**

Individual 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.

Prerequisite: Consent of Mathematics Department Chair. May be repeated for credit if a different topic is selected.

**MTH 511. MEASURE AND INTEGRATION  
THREE CREDITS**

Measures, measurable functions, integration, convergence theorems, product measures, signed measures. Offered when demand warrants.

Prerequisite: MTH 442 or consent of instructor.

**MTH 513. FUNCTIONAL ANALYSIS  
THREE CREDITS**

Topics include: Banach spaces,  $L_p$ -spaces, Hilbert spaces, topological vector spaces, and Banach algebras. Offered when demand warrants.

Prerequisites: MTH 411 and a course in linear algebra.

**MTH 532. MODERN ALGEBRA  
THREE CREDITS**

A study of group theory (including the Sylow Theorems and solvable groups); ring theory (including the Noetherian rings and UFDs); modules, tensor algebra, and semi-simple rings.

Prerequisites: MTH 331, MTH 431, and a course in linear algebra or consent of instructor. Offered when demand warrants.

**MTH 542. ALGEBRAIC TOPOLOGY  
THREE CREDITS**

Polyhedra, simplicial homology theory, cohomology rings, and homotopy groups.

Prerequisite: MTH 442. Offered when demand warrants.

**MTH 498/598. TOPICS IN MATHEMATICS  
THREE CREDITS**

A study of topics of special interest. It may be a continuation and intensive study of topics begun in an upper-level course in analysis, topology, algebra, or probability. May be repeated for credit if a different topic is selected.

Prerequisite: Consent of instructor

**MTH 590. THESIS WRITING  
UP TO SIX CREDITS**

Each student can work toward the completion of a written basis under the direction of their faculty advisor. May be repeated for up to six credits.

Prerequisite: Consent of Department Chair.

**NURSING**

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## **NURSING**

Mary Ann Merrigan, Ph.D., R.N., Chairperson  
Deborah K. Zbegner D.N.Sc., C.R.N.P.-R.N.-C. and  
Bridgette W. Zielinski Ph.D., R.N., Co-Directors

### **MASTER OF SCIENCE WITH MAJOR IN NURSING**

#### **PURPOSE**

The purpose of the graduate program in Nursing at Wilkes University is to prepare advanced practice nurses as Clinical Nurse Specialists in either gerontological nursing or psychiatric mental health nursing, in nursing management, or in nursing education. An advanced practice nurse is a registered nurse who is prepared at the master's or doctoral level for nursing practice. This multidisciplinary program provides a foundation for doctoral study in nursing and continued professional development.

Graduates of the program are eligible to write the certification examination for Clinical Nurse Specialist by the American Nurses Credentialing Center (ANCC) upon completion of the requirements.

This program is fully accredited by the Commission on Collegiate Nursing Education (CCNE).

Each student's program of study is planned to meet each individual's personal goals and professional requirements.

#### **PROGRAM OUTCOMES**

1. Synthesize advanced knowledge of nursing and related disciplines in the development of advanced practice nursing for the roles of the Clinical Nurse Specialist, Nurse Manager, or Nurse Educator.
2. Develop expertise as an advanced practice nurse in the role of Clinical Nurse Specialist, Nurse Manager, or Nurse Educator.
3. Develop skills and abilities to assume the role of the Advanced Practice Nurse.
4. Evaluate nursing research for its applicability to advanced practice nursing.
5. Evaluate applicable knowledge and concepts in nursing to deal with the complexities of a dynamic society.
6. Participate in life long learning as a part of advanced practice nursing.

#### **ADMISSION REQUIREMENTS**

In addition to the requirements of the Graduate Division, admission to the Master's Program in nursing requires:

1. Graduation from an approved baccalaureate program in nursing.
2. Licensure as a Registered Nurse.
3. One year of clinical experience.
4. A GPA from the original program of 3.0 or higher on a 4.0 scale.
5. An undergraduate statistics course.
6. An undergraduate research course.
7. Evidence of health assessment skills.
8. A statement of professional goals. These goals should relate to the goals of the graduate program in nursing at Wilkes.
9. Two letters of recommendation.
10. Personal interview

A student whose background is judged to be deficient in any area will be evaluated individually and a program plan that will remedy the deficiency will be developed. Courses to remedy such deficiency do not carry graduate credits.

## Nursing

### THE CURRICULUM (36/37 CREDITS)

#### *The Core (18 Credits)*

N501:	Theoretical Foundations of Nursing	3 credits
N502:	Application of Advanced Nursing Research	3 credits
N504:	Advanced Role Development in Nursing	3 credits
N505:	Current Perspectives in Nursing Health Care and Models of Care	3 credits
N533:	Pharmacotherapeutics for Advanced Practice Nursing	3 credits
N590:	Scholarly Project	3 credits

#### *Gerontological Advanced Practice Core (18 Credits)*

N406:	Advanced Health Assessment	3 credits
N511:	Perspectives on Aging	3 credits
N506:	Advanced Practice in Gerontological Nursing I	3 credits
N515:	Advanced Practice in Gerontological Nursing II	3 credits
N530:	Pathophysiology for Advanced Practice	3 credits
N508:	Leadership and Advanced Practice Nursing	3 credits

#### *Psychiatric Mental Health Advanced Practice Core (19 Credits)*

N406:	Advanced Health Assessment	3 credits
N525:	Psychopathology of Acute and Chronic Mental Illness	4 credits
N526:	Clinical Modalities in Advanced Psychiatric Mental Health Nursing Practice	3 credits
N527:	Family Systems Theory I	3 credits
N535:	Advanced Practice in Psychiatric Mental Health Nursing I	3 credits
N536:	Advanced Practice in Psychiatric Mental Health Nursing II	3 credits

#### *Nurse Management Core (21 Credits)*

MBA 5011:	Foundations of Financial Accounting	1 credit
MBA 5012:	Foundations of Managerial Accounting	1 credit
MBA 5013:	Foundations of Finance	1 credit
MBA 5021:	Foundations of Management	1 credit
MBA 5022:	Foundations of Marketing	1 credit
MBA 5023:	Foundations of Law	1 credit
MBA 5031:	Foundations of Macroeconomics	1 credit
MBA 5032:	Foundations of Microeconomics	1 credit
MBA 5033:	Foundations of International Business	1 credit
MBA 5041:	Foundations of Statistics	1 credit
MBA 5042:	Foundations of Operations Management	1 credit
MBA 5043:	Foundations of MIS	1 credit
N406:	Advanced Health Assessment	3 credits
N530:	Pathophysiology for Advanced Practice	3 credits

#### *Elective Courses (Select 3 Credits)*

MBA 512:	Business Research Design and Methods	3 credits
MBA 513:	Operations Management	3 credits
MBA 520:	Marketing Management	3 credits
MBA 532:	Managerial Economics	3 credits
MBA 540:	Financial Management	3 credits
MBA 560:	Financial and Managerial Accounting	3 credits
MBA 580:	Business Issues in a Dynamic Environment	3 credits
MBA 537:	Global Business Experience	3 credits
MBA 554:	Organizational Diagnosis, Development and Change	3 credits
MBA 555:	Human Resources Law and Compensation	3 credits
MBA 576:	Managing Health Care Systems	3 credits

MBA 577:	Advanced Topics in Health Care Management	3 credits
<b><i>Nursing Education Core (21 Credits)</i></b>		
N406:	Advanced Health Assessment	3 credits
N530:	Pathophysiology for Advanced Practice	3 credits
N540:	The Nursing Curriculum: Development and Implementation	3 credits
N541:	Teaching Methodologies and Strategies in Nursing	3 credits
N542:	Evaluation in Nursing Education	3 credits
N544:	Clinical Practice in Education I	3 credits
N545:	Clinical Practice in Education II	3 credits

## PROFESSIONAL MASTER'S PROGRAM

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 Master of Science Degree with a major in Nursing. (THIS IS NOT AN ADVANCED PRACTICE DEGREE.)

The program is designed for students who already hold a baccalaureate degree in a discipline other than nursing. Completion of the requirements for this master's level 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 experience in the humanities, social studies and sciences. It is based on the development of the individual throughout the life cycle.

The curriculum flows from both the University's and the Department's philosophies and addresses the nursing needs of the region 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 the completion of the prerequisite courses, the program can be completed in three sessions.

Graduates of the Professional Master's Program will be 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. A *pass-through* Bachelor of Science degree will be entered on the student's transcript upon completion of all clinical nursing courses.

### ADMISSIONS:

Students are only admitted for Fall Terms.

Admissions Deadline: April 15.

To be considered for admission, the applicant must successfully complete the following minimum requirements:

1. Submit a completed graduate application for admission with payment of appropriate application fee
2. Submit two letters of recommendation from previous academic faculty and/or from current or previous supervisors, if employed.
3. Demonstrate satisfactory performance as an undergraduate by providing a complete set of official undergraduate transcripts. Applicants must have received a baccalaureate degree from an accredited institution with a minimum undergraduate GPA of 3.0.
4. A 3-credit Elementary Statistics course and two semesters of Anatomy and Physiology and one semester of Microbiology, with a related laboratory experience in each of these courses, are required.
5. Applicants must take the Nurse Entrance Test (NET) from Educational Resources, Inc. and achieve a composite score at the 50th percentile or better in each of the following: Essential Math Skills, Science Reading Comprehension, and Written Expression.
6. Applicants must complete a self-study Medical Terminology module (details and information provided by the Nursing Department).

## Nursing

- Applicants whose native language is not English or who hail from non-English speaking countries must submit satisfactory results on the TOEFL.
- Nutrition, a co-requisite course, is to be completed no later than the students' first semester in the Professional Master's Program.
- Statement of professional goals.
- Personal interview.
- Two letters of recommendation

### LENGTH OF PROGRAM

- The total number of credits to complete the Professional Master's Program, beyond the pre- and co-requisite requirements, is 48.
- The program can be completed in three full-time semesters.

### GRADING

A	= 4.0	= 90-100%;	Academic achievement of superior quality
B+	= 3.5	= 85-89%;	Academic achievement of good quality
B	= 3.0	= 80-84%;	Academic achievement of acceptable quality in meeting graduation requirements
F	= 0.0	= below 80%;	Failure. No graduate course credit.

### ACADEMIC PROGRESSION

Any grade below 80 in a nursing course is a failure. A student who is unsuccessful in a nursing course is ineligible to continue in, and may not return to, the Professional Master's Program.

### RECOMMENDED COURSE SEQUENCE FOR PROFESSIONAL MASTER'S PROGRAM

#### *First Semester*

NSG 401	Nursing Practice I	12
NSG 505	Current Perspectives in Nursing Health Care and Policy Models of Care	3
		<hr/>
		15 credits

#### *Second Semester*

NSG 402	Nursing Practice II	12
NSG 406	Adv. Health Assessment	3
NSG 498	Pharmacotherapeutics and Clinical Decision-Making in Nursing I	2
		<hr/>
		17 credits

#### *Third Semester*

NSG 403	Nursing Practice III	12
NSG 502	Application of Advanced Nursing Research	3
NSG 498	Pharmacotherapeutics and Clinical Decision-Making in Nursing II	1
		<hr/>
		16 credits

Clinical hours will be distributed among acute, chronic, and community settings. Opportunities for practice and application of classroom knowledge are included in each clinical nursing course. Regional cooperating agencies offer a variety of settings for nursing practice. In addition, an on-campus Clinical Nursing Simulation Center, equipped with audio-visual and computer-assisted instructions materials, is used to augment learning.

### PROGRAM OUTCOMES

- Synthesize knowledge from the humanities, the physical and social sciences, nursing theory, and applied research as a basis for professional practice.
- Use the nursing process to prevent illness and promote, maintain, and/or restore health to clients.
- Function within the legal and ethical parameters of professional roles in managing health care with clients.



4. Collaborate, as a member of the health team, with individuals, families, and communities.
5. Use research in nursing practice.
6. Demonstrate the clinical competencies of a beginning, self-directed professional practitioner.
7. Enter advanced practice programs to earn a specialty practice degree or certificate.

#### THE CURRICULUM (48 CREDITS)

N401:	Nursing Practice I	12 credits
N402:	Nursing Practice II	12 credits
N403:	Nursing Practice III	12 credits
N406:	Advanced Health Assessment	3 credits
N505:	Current Perspectives in Nursing Health Care and Models of Care	3 credits
N502:	Application of Advanced Nursing Research	3 credits
N498:	Pharmacotherapeutics and Clinical Decision-Making in Nursing (second and third semesters)	3 credits

### R.N.-M.S. PROGRAM

#### PURPOSE

This accelerated program is designed for the experienced, practicing registered nurse who plans to continue nursing studies through the master's level and does not hold a baccalaureate degree. Adjustments of the undergraduate requirements permit rapid progress into the graduate level. The Master's Program remains intact and prepares an advanced practice nurse. Program plans are individualized for each student. Time to complete the program is related to the applicability of transfer credit as well as the number of credits taken in any semester.

An interview with the Program Director is required prior to entry into the program. Formal admission to Wilkes University is necessary and will include evaluation of transfer credits.

#### ADMISSIONS:

To be considered for admission, the applicant must successfully complete the following minimum requirements:

1. Submit a completed graduate application for admission with payment of appropriate application fee
2. Submit official transcripts showing graduation from an accredited nursing program.
3. Licensure as a Registered Nurse.
4. One year of clinical experience prior to clinical courses.
5. A GPA from the original program of 3.0 on a 4.0 scale.
6. A statement of professional goals.
7. Two letters of recommendation.
8. Personal Interview.
- 9.

### POST-MASTER'S DEGREE CERTIFICATE PROGRAMS IN ADULT PSYCHIATRIC-MENTAL HEALTH NURSING, GERONTOLOGICAL NURSING, NURSING MANAGEMENT, OR NURSING EDUCATION

#### PURPOSE

This program is designed for professional nurses who have earned a Master's Degree in Nursing and who seek further education in order to qualify as a Clinical Nurse Specialist in Gerontological Nursing, Adult Psychiatric-Mental Health Nursing, Nursing Management, or Nursing Education. No degree will be awarded.

#### ADMISSION CRITERIA

- Master's degree with a major in nursing from a program approved by either The National League for Nursing (NLN) or The Commission on Collegiate Nursing Education (CCNE).

## Nursing

- GPA 3.0 on a 4.0 scale
- Current registered nurse license.
- Two years of recent professional experience in nursing.
- Personal interview.
- Completed application for admission to Graduate Studies, including academic transcripts.
- Two letters of reference from health care professionals attesting to the candidate's clinical expertise.
- Statement of professional goals.

### REQUIREMENTS

#### *Gerontological Advanced Practice Courses (21 Credits)*

N406:	Advanced Health Assessment	3 credits
N508:	Leadership and Advanced Practice Nursing	3 credits
N511:	Perspectives on Aging	3 credits
N506:	Advanced Practice in Gerontological Nursing I	3 credits
N515:	Advanced Practice in Gerontological Nursing II	3 credits
N530:	Pathophysiology for Advanced Practice	3 credits
N533:	Pharmacotherapeutics for Advanced Practice Nursing	3 credits*

#### *Psychiatric Mental Health Advanced Practice Courses (22 Credits)*

N406:	Advanced Health Assessment	3 credits
N508:	Leadership and Advanced Practice Nursing	3 credits
N525:	Psychopathology of Acute and Chronic Mental Illness	4 credits
N526:	Clinical Modalities in Advanced Psychiatric Mental Health Nursing Practice	3 credits
N527:	Family Systems Theory I	3 credits
N528:	Family Systems Theory II	3 credits
N535:	Advanced Practice in Psychiatric Mental Health Nursing I	3 credits
N536:	Advanced Practice in Psychiatric Mental Health Nursing II	3 credits
N533:	Pharmacotherapeutics for Advanced Practice Nursing	3 credits*

\* To meet this requirement students must take N533 or have completed a 3-credit advanced pharmacotherapeutics course within the past five years. Courses completed prior to the five-year limit must be accompanied by evidence of at least three hours of continuing education in advanced pharmacotherapeutics for each year surpassing the five-year limit.

#### *Nursing Management (24 Credits)*

MBA 5011:	Foundations of Financial Accounting	1 credit
MBA 5012:	Foundations of Managerial Accounting	1 credit
MBA 5013:	Foundations of Finance	1 credit
MBA 5021:	Foundations of Management	1 credit
MBA 5022:	Foundations of Marketing	1 credit
MBA 5023:	Foundations of Law	1 credit
MBA 5031:	Foundations of Macroeconomics	1 credit
MBA 5032:	Foundations of Microeconomics	1 credit
MBA 5033:	Foundations of International Business	1 credit
MBA 5041:	Foundations of Statistics	1 credit
MBA 5042:	Foundations of Operations Management	1 credit
MBA 5043:	Foundations of MIS	1 credit
N406:	Advanced Health Assessment	3 credits
N530:	Pathophysiology for Advanced Practice	3 credits
N533:	Pharmacotherapeutics for Advanced Practice Nursing	3 credits*

#### *Elective Courses (Select 3 Credits)*

MBA 512:	Business Research Design and Methods	3 credits
MBA 513:	Operations Management	3 credits
MBA 520:	Marketing Management	3 credits
MBA 532:	Managerial Economics	3 credits

MBA 540:	Financial Management	3 credits
MBA 560:	Financial and Managerial Accounting	3 credits
MBA 580:	Business Issues in a Dynamic Environment	3 credits
MBA 537:	Global Business Experience	3 credits
MBA 554:	Organizational Diagnosis, Development and Change	3 credits
MBA 555:	Human Resources Law and Compensation	3 credits
MBA 576:	Managing Health Care Systems	3 credits
MBA 577:	Advanced Topics in Health Care Management	3 credits

\*To meet this requirement students must take N533 or have completed a 3-credit advanced pharmacotherapeutics course within the past five years. Courses completed prior to the five-year limit must be accompanied by evidence of at least three hours of continuing education in advanced pharmacotherapeutics for each year surpassing the five-year limit.

### ***Nursing Education Core (24 Credits)***

N406:	Advanced Health Assessment	3 credits
N530:	Pathophysiology for Advanced Practice	3 credits
N533:	Pharmacotherapeutics for Advanced Practice Nursing	3 credits*
N540:	The Nursing Curriculum: Development and Implementation	3 credits
N541:	Teaching Methodologies and Strategies in Nursing	3 credits
N542:	Evaluation in Nursing Education	3 credits
N544:	Clinical Practice in Education I	3 credits
N545:	Clinical Practice in Education II	3 credits

\*To meet this requirement students must take N533 or have completed a 3-credit advanced pharmacotherapeutics course within the past five years. Courses completed prior to the five-year limit must be accompanied by evidence of at least three hours of continuing education in advanced pharmacotherapeutics for each year surpassing the five-year limit.

## NURSING COURSE DESCRIPTIONS

**NOTE: Students in practicum courses must carry personal liability insurance.**

### **NURSING 401. NURSING PRACTICE I**

#### **12 CREDITS**

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 Nursing Learning Center and selected clinical agencies.

Hours weekly: 9 hours class; 12 hours clinical

### **NURSING 402. NURSING PRACTICE II**

#### **12 CREDITS**

Building on the foundation of Nursing 401, 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 in the Nursing Learning Center and selected clinical agencies.

Hours weekly: 7 hours class; 15 hours clinical

Prerequisites: NSG 401, 505

### **NURSING 403. NURSING PRACTICE III**

#### **12 CREDITS**

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 class; 18 hours clinical practice

Prerequisites: NSG 401, 402, 406, 4981, 505

## **Nursing**

### **NURSING 406. ADVANCED HEALTH ASSESSMENT**

#### **THREE CREDITS**

This course presents an overview of the full and comprehensive health assessment of the adult client. Emphasis on multiple aspects of assessment, including physical, functional, and mental health assessment along with transcultural variations, will prepare the student for advanced practice nursing. Students are given the opportunity to practice their assessment skills in a laboratory component.

Prerequisite: Graduate standing or permission of instructor.

### **NURSING 498. PHARMACOTHERAPEUTICS AND CLINICAL DECISION-MAKING IN NURSING**

#### **2 MODULES**

#### **(2 CREDIT/1 CREDIT) 3 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.

### **NURSING 501. THEORETICAL FOUNDATIONS OF NURSING SCIENCE**

#### **THREE CREDITS**

This course emphasizes the systematic process of theory development in nursing. The role of traditional science in relation to other ways of knowing is explored. Students will describe, analyze, and evaluate current theories of nursing. The relationship of research and practice to theory is discussed.

Prerequisite: Graduate standing.

### **NURSING 502. APPLICATION OF ADVANCED NURSING RESEARCH**

#### **Three credits**

This course builds on knowledge and skills developed in undergraduate research and statistics courses. Skills in the analysis and evaluation of nursing research are further developed. Students analyze the contributions of the empirical approach to the development of nursing science. Selected research designs and methodologies which are used to advance nursing knowledge are examined. Students are given the opportunity to critique and synthesize current research for its application to an identified problem in nursing practice.

Prerequisite: Undergraduate Statistics

### **NURSING 504. ADVANCED ROLE DEVELOPMENT IN NURSING**

#### **THREE CREDITS**

Examines the role development process and its applicability to the advanced practice role in nursing. The historical, theoretical, and conceptual basis of role development, advanced practice, and evaluation are explored. A framework for practice, which includes the sub-roles of direct care provider, educator, researcher, manager and consultant, is examined.

Prerequisite: Graduate Standing.

### **NURSING 505. CURRENT PERSPECTIVES IN NURSING HEALTH CARE AND MODELS OF CARE**

#### **THREE CREDITS**

Analysis of issues relative to advanced nursing practice. Assessment of proposed approaches to the resolution of issues, based on current literature and research findings, is done collaboratively in a seminar format.

Prerequisite: Graduate standing

### **NURSING 506. ADVANCED PRACTICE IN GERONTOLOGICAL NURSING I**

#### **THREE CREDITS**

Students use theories from nursing and other sciences to plan, manage, and evaluate direct care services provided to older adults and their families in community settings. Clinical experience focuses on case management, including advanced assessment, diagnosis, planning and evaluation as it relates to health promotion and maintenance in this population. Opportunities for interdisciplinary experience and collaborative practice are provided. The seminar component of the course is designed to develop clinical decision-making skills through case study presentations and extend the theoretical and research base of advanced clinical practice. (Seminar plus 250 clinical practice hours)

Prerequisites: NSG 406, 501, 511, and 504 (may be taken concurrently)

**NURSING 508. LEADERSHIP AND ADVANCED PRACTICE NURSING  
THREE CREDITS**

This course provides an opportunity for students to discuss theoretical foundations of leadership and management as they relate to the multifaceted role of the advanced practice nurse. The health care environment, with its ongoing changes in organization and financing, is impacted by changes in health policy, regulatory processes, and quality measures. The understanding of this content will prepare the student to provide quality cost-effective care, to participate in the design and implementation of care in a variety of health care systems, and to assume a leadership role in the managing of human, fiscal, and physical care resources.

Prerequisites: NSG 504 or graduate standing with permission of the instructor

**NURSING 511. PERSPECTIVES ON AGING  
THREE CREDITS**

Human development from adulthood through old age is analyzed from a multidisciplinary perspective. The interrelationship of physical, psychological, and social processes of aging is analyzed. Holistic assessment of aging, including the interaction between an aging society and the subsequent increase in chronic health problems as they impact on social resources and health care delivery, is emphasized.

Prerequisite: Graduate standing

**NURSING 515. ADVANCED PRACTICE IN GERONTOLOGICAL NURSING II  
THREE CREDITS**

Students use theories from nursing and other sciences to plan, manage and evaluate direct care services provided to frail older adults and their families in institutional and community settings. Clinical experience focuses on case management, including advanced assessment, diagnosis, planning and evaluation as it relates to the management of acute conditions and complex chronic health problems. Opportunities for interdisciplinary experiences and collaborative practice are provided. The seminar component of the course is designed to develop clinical decision-making skills through case study presentations and to extend the theoretical and research base of advanced clinical practice. (Seminar plus 250 clinical practice hours)

Prerequisites: NSG 406, 501, 511, and 504 (may be taken concurrently)

**NURSING 525. PSYCHOPATHOLOGY OF ACUTE AND CHRONIC MENTAL ILLNESS  
FOUR CREDITS**

This course explores the development of mental illness in adults with an emphasis on growth and development issues, psychopathological processes, diagnostic criteria, and treatment of individuals with these illnesses pertinent to advanced nursing practice.

Prerequisite: Graduate standing or the permission of the instructor.

**NURSING 526. CLINICAL MODALITIES IN ADVANCED PSYCHIATRIC MENTAL HEALTH NURSING  
PRACTICE  
THREE CREDITS**

This course provides a foundation in the major systems of therapy for individuals and groups used in advanced psychiatric mental health nursing and other disciplines engaged in mental health practice. Focus will be on therapeutic modalities such as brief psychotherapy, group processes and practices, milieu therapy and crisis intervention as they relate to advanced nursing practice in mental health.

Prerequisite: Graduate standing

**NURSING 527. FAMILY SYSTEMS THEORY I  
THREE CREDITS**

This course examines the process of human development in the context of the family relationship system. A theoretical framework for understanding this process and the therapeutic methods that derive from it are presented. Orientation to various methods and techniques of family therapy is provided.

Prerequisite: Graduate standing or the permission of the instructor

**NURSING 530. PATHOPHYSIOLOGY FOR ADVANCED PRACTICE  
THREE CREDITS**

The course presupposes an understanding of human anatomy and physiology at an undergraduate level. At an advanced practice level the course will explore pathophysiology, assessment, and diagnosis of adults with selected episodic / chronic health problems

## **Nursing**

### **NURSING 531. MENTAL HEALTH IN THE ELDERLY**

#### **THREE CREDITS**

This elective course presents an overview of mental health and aging that is grounded in an integrated biopsychosocial approach to human behavior. Designed to bring professionals up to date on society's approach to the basic issues that confront those in the field of aging, it features exploration of issues related to prevention, recognition, and management of major psychiatric disorders affecting the elderly in a variety of settings. Content includes tools for assessment of mental health and functional status and responses to problematic behaviors. Research related to course topics will be evaluated in terms of its applicability to clinical practice.

### **NURSING 533. PHARMACOTHERAPEUTICS FOR ADVANCED PRACTICE NURSING**

#### **THREE CREDITS**

This course explores the basic concepts of clinical pharmacokinetics and their application in drug regime design and monitoring. Pharmacotherapy for major diseases is emphasized. The course provides the student with a strong background in pharmacological agents and basic pharmacological principles. The course highlights major drug categories, purpose of action, common interactions and contraindications. Nursing and pharmacy practice faculty work collaboratively to provide the student with case studies that allow students to demonstrate their understanding of applied pharmacotherapy within the parameters of advanced practice nursing.

### **NURSING 535. ADVANCED PRACTICE IN PSYCHIATRIC MENTAL HEALTH NURSING I**

#### **THREE CREDITS**

Supervised advanced psychiatric mental health nursing practice is undertaken with adults and/or older adults and their families in a variety of settings. Theories and practice are integrated to address the process of assessment and diagnosis of functional and dysfunctional patterns of behaviors; the formation of initial intervention strategies; and implementation of treatment and case management of psychiatric clients. A minimum of 15 hours of practice and 3 hours of small group supervision is required each week. (Total: 250 practice hours)

Prerequisites or co-requisites: NSG 525, 526, and 527

### **NURSING 536. ADVANCED PRACTICE IN PSYCHIATRIC MENTAL HEALTH NURSING II**

#### **THREE CREDITS**

Supervised advanced psychiatric mental health nursing practice is undertaken with adults and/or older adults and their families in a variety of settings. The focus is on the refinement and development of clinical interventions. Outcome evaluation, termination and professional role development are emphasized. A minimum of 15 hours of practice and 3 hours of small group supervision is required each week. (Total: 250 practice hours)

Prerequisites or co-requisites: NSG 528, 533, and 535

### **NURSING 540. THE NURSING CURRICULUM: DEVELOPMENT AND IMPLEMENTATION**

#### **THREE CREDITS**

This course provides a foundation to understand the core of knowledge of educational processes which undergird nursing education. Competencies needed by nurse educators are explored; principles, philosophies and theories of learning, curriculum development, professional socialization, and accreditation as well as legal requirements for nursing programs are discussed. The relationship between curricular design and accreditation standards is described.

Prerequisite: NSG 501 or graduate standing

### **NURSING 541. TEACHING METHODOLOGIES AND STRATEGIES IN NURSING**

#### **THREE CREDITS**

Building on knowledge of curriculum and learning, approaches to classroom and clinical teaching are explored. Learning outcomes as they relate to instructional teaching/learning interventions are developed. The use of instructional technology is included.

Prerequisite: NSG 540 or graduate standing

### **NURSING 542. EVALUATION IN NURSING EDUCATION**

#### **THREE CREDITS**

Evaluation methodologies from selection of applicants through the meeting of graduation requirements will be explored. Testing strategies and test reliability will be discussed. Classroom and clinical achievement will be included. Faculty evaluation as well as student measurement will be discussed.

Prerequisite: Graduate standing

**NURSING 544. CLINICAL PRACTICE IN EDUCATION I  
THREE CREDITS**

Nursing 544 and 545 are practicum courses that provide an opportunity to actively participate in a faculty role within an educational setting. The first semester will focus on classroom teaching; the second semester will focus on teaching in a clinical setting. One hundred hours of practice are required in each semester. (Seminar plus 100 practice hours)

Prerequisites/co-requisites: Nursing 540, 541, 542

**NURSING 545. CLINICAL PRACTICE IN EDUCATION II  
THREE CREDITS**

Nursing 544 and 545 are practicum courses that provide an opportunity to actively participate in a faculty role within an educational setting. The first semester will focus on classroom teaching; the second semester will focus on teaching in a clinical setting. One hundred hours of practice are required in each semester. (Seminar plus 100 practice hours)

Prerequisite: Nursing 544

**NURSING 590. SCHOLARLY PROJECT  
THREE CREDITS**

The student, under the guidance of a selected faculty member, will critique and synthesize relevant research and literature on a clinical problem in nursing. The student will explore interrelationships between ideas in a scholarly manner. Implications for advanced nursing practice will be addressed. Each student will present his/her project upon its completion.

Prerequisite: Consent of instructor

**NURSING 596-596. INDEPENDENT STUDY  
One to three credits**

Affords an opportunity for independent study of selected topics under faculty supervision.

Prerequisite: Permission of Department Chairperson or Program Director

**NURSING 598. TOPICS IN NURSING  
THREE CREDITS**

Advanced study of topics of special interest not extensively treated in regular courses.

Prerequisite: Graduate standing

**ELECTIVE COURSES**

In consultation with the advisor, the graduate student may choose any graduate course available in any program in the University.

See **Business Administration** for MBA course descriptions.

# PHARMACY

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## PHARMACY

Dean: Dr. Bernard W. Graham

Assistant Deans: Dr. Harvey Jacobs

Dr. Rhonda Waskiewicz

Chairperson, Department of Pharmacy Practice: Dr. Edward F. Foote      Faculty:  
Professors: Foote, Graham, Kibbe, Witczak

Associate Professors: Bohan, Jacobs, Kristeller, McManus, Trombetta, Wright

Assistant Professors: Bolesta, Bommareddy, J. Ference, K. Ference, Longyhore, McCune,  
Malinowski, Metka, Olenak, Patel, Roke-Thomas, Russell, VanWert, Welch

Instructors: Billek, Holt-Macey, Manning, 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

The mission of the Wilkes University School of Pharmacy is to educate and develop highly qualified professionals for the ever-changing science and practice of pharmacy.

We will accomplish this by:

- Providing an integrated curriculum that is dynamic, challenging and outcome-driven;
- Continually assessing, reevaluating and improving our programs and systems;
- Attracting, retaining and developing highly qualified faculty and staff;
- Optimizing the use of state-of-the-art technology in education, practice and research;
- Ensuring availability of competent, interactive and caring preceptors;
- Creating a strong mentoring culture for students, faculty and staff; and
- Supporting scholarly endeavors among faculty, staff and students.

### OUR VISION

Through excellence in teaching, mentoring and scholarship, our students and graduates will reach their highest potential in the science and practice of pharmacy.

If we achieve our vision, our students, faculty and/or graduates will:

- Be recognized for excellence in providing and advancing patient care
- Be major contributors to healthcare teams
- Be active participants/leaders in healthcare and/or other professional organizations
- Be highly sought after and retained by employers
- Seek out opportunities to continually develop themselves
- Seek leadership roles in the profession

## Pharmacy

- Be prepared to work in diverse practice settings
- Actively engage in the community and the profession
- Experience positive personal and professional relationships with each other
- Continue to be actively involved in the School throughout their careers
- Participate in guided research and professional activities
- Be admitted to preferred post-graduate programs
- Be published in peer-reviewed journals

### OUR VALUES

1. *Teaching.* This is primarily a teaching institution; the student is our reason for being here.
2. *Pharm.D.* Teaching resources are devoted primarily to preparing students for one degree: the Doctor of Pharmacy.
3. *Communications.* Our graduates will have solid communication skills. In order to be effective professionals they must be able to articulate their knowledge with health professionals, administrators and patients.
4. *Team Building.* The ability to work effectively as part of a health care team is considered critical.
5. *Interdisciplinary Approach.* Pharmacy does not have all of the answers to health care or even pharmacy care problems. The broader perspectives of other academic disciplines are actively sought in curricular design and teaching.
6. *Small Size.* We are a small school and intend to remain small. Meaningful faculty-student interaction is valued. The size of each entering pharmacy class is limited to 65 students.
7. *Technology and Future Orientation.* Our facilities, curriculum and faculty are focused upon training practitioners for the 21st century. Emphasis is placed upon new technologies, as this is a major foundation for future pharmacy practice.
8. *Research and Practice.* Research and practice are valued primarily as they support our commitment to educational excellence and faculty development and are valued as they affect patient care and/or lead to the advancement of science.

### ACCREDITATION

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

*The six-year Pharmacy Program at Wilkes consists of two components. The first is the two-year Prepharmacy Program and the second is the Professional Program.*

### 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 into the Professional Program (Enrollment limit: 65)*

To be admitted into the Professional Program of the School of Pharmacy, a student must have either enrolled in and successfully completed the Prepharmacy Program at Wilkes University or have submitted a successful application to the School of Pharmacy.

### 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 prepharmacy 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 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 Prepharmacy Guaranteed Seat Students able to claim a seat. Of the remaining seats, approximately 66% are available on an academically competitive basis to Wilkes students with overall and prerequisite GPAs above a 3.0. The remaining 33% seats will be 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 must complete and be enrolled at Wilkes University for two full-time, consecutive semesters before enrollment AND 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 these criteria will result in classification as a "Transfer" student.

#### HOW TO APPLY

To obtain a School of Pharmacy application, you may call or write:

School of Pharmacy  
 Wilkes University  
 Wilkes-Barre, PA 18766  
 (570) 408-4280  
 1-800-WILKESU ext. 4280  
 pharm@wilkes.edu

The application is also available on the web at: [www.wilkes.edu/pharm/](http://www.wilkes.edu/pharm/)

*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 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 the Pharmacy Prerequisite Courses listed below by the end of the spring term 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 of 3.00 in the Pharmacy Prerequisites listed below for preferential consideration (non-Wilkes student). Non-Wilkes students with overall GPAs less than 3.00 will be considered for admission on a lower priority;
- obtain a grade of C (2.0) or better in each of the Pharmacy Prerequisite Courses listed below; ***Prerequisite grades 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 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 Pharmacy Program 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 PREREQUISITES

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 Calculus

One semester (3 credits) of Statistics

One semester (4 credits) of General Physics with lab

One semester (3 credits) of Microeconomics

One semester (3 credits) of Oral Communications

#### 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.

## Pharmacy

### ACADEMIC 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 a 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 further progress in the School. More inclusive policies, including but not limited to 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.

### EXPERIENTIAL CURRICULUM COMPONENT

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

- possess professional liability insurance,
- have documentation of immunizations,
- pass a physical examination,
- be certified in Basic Cardiac Life Support and Basic First Aid,
- possess an active Pennsylvania Pharmacy Intern License, and
- pass a drug test.

**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 semester. In addition, students will complete a 2-week (80 hour) IPPE III during the summer after the P-2 year. In the third professional year (P-3) of the professional program, the curriculum includes a two-semester course in service learning (longitudinal care), and 40 hours of IPPE IV. These P-2 and P-3 experiences are in the Wilkes-Barre/Scranton area, but are away from campus.

The fourth professional year (the P-4 year) of the professional program is devoted to Advanced Pharmacy Practice Experience (APPE). Each student will be assigned to 1 six-week rotation, plus 6 five-week rotations, some of which may be at some distance from the Wilkes-Barre area. As much as possible, The School of Pharmacy will assist in locating safe, affordable housing for clerkships. Since patient care is a continuous activity, some experiences may be conducted outside of regular school/business hours. Note also that APPE start and end dates do not adhere to the regular university calendar. The student is responsible for paying all transportation and housing costs for 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 their Doctor of Pharmacy degree. Graduation is dependent on successful completion of all required and elective course requirements in the School of Pharmacy (see Progression Requirements) AND completion of all General Education Requirements mandated by Wilkes University.

A student entering the Professional Program with a bachelor's degree from a four-year accredited 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 Programs are encouraged to complete the General Education Requirements prior to beginning the Professional 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 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 only intended to acknowledge the academic achievement of students completing four years of university-level education.

Pharmacy licensure is governed by state law. All states require graduation from an accredited School or College of Pharmacy. Additional requirements for licensure should be requested from the state in which licensure is sought. It is the student's responsibility to fulfill all requirements for the state in which they seek licensure. Students must contact that State Board of Pharmacy for all appropriate paperwork. For further information, please contact the Dean's Office in the School of Pharmacy.

Please note: Effective Fall 2008, applicants for a Pennsylvania pharmacist license must submit to the Board office a criminal history record check. The criminal history record check covering the 10-year period preceding application must be obtained from the state police. Individual reports must be submitted for all states in which an applicant has lived in the last 10 years and for all states in which the applicant has not lived but in which criminal charges have been brought during the last 10 years. The Dean's office of the School of Pharmacy will provide updates to students when the State Board of Pharmacy provides more details.

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

## THE DOCTOR OF PHARMACY PROGRAM REQUIRED COURSES AND RECOMMENDED COURSE SEQUENCE FOR PROFESSIONAL PROGRAM

### P-1 FALL SEMESTER

PHA 301	Found. of Pharm. Practice I	2
PHA 308	Pharm. and Health Care Delivery	3
PHA 311	Pharmaceutics I	4
PHA 313	Pharm. Calculations	1
PHA 327	Medical Microbiology	4
PHA 331	Anatomy/Physiology I	4
		18

### P-1 SPRING SEMESTER

PHA 302	Pharmaceutical Care Lab I	1
PHA 304	Found. of Pharm. Practice II	2
PHA 310	Clinical Research Design	3
PHA 312	Pharmaceutics II	4
PHA 332	Anatomy & Physiology II	4
PHA 365	Medical Biochemistry	4
		18

## Pharmacy

### P-1 SUMMER

PHA 335 Intro. Pharmacy Practice Exp (IPPE I) I

2

### P-2 FALL SEMESTER

PHA 401	Pharmacy Care Lab II	1
PHA 405	Pharmaceutical Care Systems	2
PHA 411	Biopharm/Clinical Kinetics	4
PHA 421	Pharmacotherapeutics I	2
PHA 423	Pharmacotherapeutics II	2
PHA 425	Pharmacotherapeutics III	3
	Professional Elective	3
		<hr/>
		18

### P-2 SPRING SEMESTER

PHA 402	Pharmaceutical Care Lab III	1
PHA 410	Biotechnology/Immunology	3
PHA 412	Mgt. of Pharm. Operations	3
PHA 426	Pharmacotherapeutics IV	2
PHA 428	Pharmacotherapeutics V	4
PHA 430	Pharmacotherapeutics VI	2
PHA 440	IPPE II	1
	Elective	2-3
		<hr/>
		17-18

**P-2 SUMMER**

PHA445 Intro. Pharmacy Practice Exp (IPPE III) III

**P-3 FALL SEMESTER**

PHA 501	Pharmaceutical Care Lab IV	1
PHA 503	Longitudinal Care I	1
PHA 505	Pharmacy Law	2
PHA 509	Economic Evaluation of Pharm.	3
PHA 521	Pharmacotherapeutics VII	2
PHA 523	Pharmacotherapeutics VIII	4
PHA 525	Pharmacotherapeutics IX	2
	Professional Elective	2-3
		<hr/>
		17-18

**P-3 SPRING SEMESTER**

PHA 502	Pharmaceutical Care Lab V	1
PHA 504	Longitudinal Care II	1
PHA 526	Pharmacotherapeutics X	2
PHA 528	Pharmacotherapeutics XI	2
PHA 530	Pharmacotherapeutics XII	4
PHA 532	Alternative Medicine/Nutrition	3
PHA 555	IPPE IV	1
	Professional Elective	2-3
		<hr/>
		16-17

**P-4 ADVANCED PHARMACY PRACTICE EXPERIENTIAL YEAR**

The APPE portion of the curriculum consists of 7 rotations in various settings. Rotation #1 is 6 weeks in duration. Rotations #2-7 are 5 weeks in duration.

There are four required APPE rotations.

PHA 510	Medicine	6 weeks	6
PHA 511	Ambulatory Care	6 weeks	6
PHA 512	Community Practice	6 weeks	6
PHA 513	Rural Practice	6 weeks	6
Elective	Advanced Pharmacy Practice Experiences	2 @ 6 weeks	12
			<hr/>
			36

## PHARMACY COURSES



## INTRODUCTORY PHARMACY EXPERIENCE (IPPE)

## Pharmacy

### PHA 335. INTRODUCTORY PHARMACY EXPERIENCE (IPPE) TWO CREDITS

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. ***Prerequisite: Successful completion of P-1 year.***

PHA 440. INTRODUCTORY PHARMACY PRACTICE EXPERIENCE II

ONCE CREDIT

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.

***Prerequisite: P-2 standing.***

## Pharmacy

### PHA 445. INTRODUCTORY PHARMACY PRACTICE EXPERIENCE III

#### TWO CREDITS

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 pharmacist. The course is two full-time weeks (80 hours) of experience. ***Prerequisite:*** ***Successful completion of P-2 year.***

**PHA 555. INTRODUCTORY PHARMACY PRACTICE EXPERIENCE****ONE CREDIT**

This course will provide introductory practice experience to students in two health care settings: home health and long-term care. Students will have an independent approach to learning and gain a broader understanding of these settings and the role that pharmacists may play. ***Prerequisite: 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 21st 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. ***Prerequisite: P-1 standing.***

**PHA 302, 401, 402, 501, 502. PHARMACEUTICAL CARE LAB I - V****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: \$30. ***Prerequisite: 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. ***Prerequisite: P-1 standing or consent of 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. ***Prerequisite: MTH 150 or equivalent and P-1 standing or consent of instructor.***

**PHA 311 & PHA 312. PHARMACEUTICS I & II****FOUR CREDITS EACH**

The study and application of physico-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/Recitation: Three hours per week. Fee: \$80 ***Prerequisite: P-1 standing or***

## Pharmacy

*consent of instructor. 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. ***Prerequisite: P-1 standing or consent of instructor.***

### PHA 327. MEDICAL MICROBIOLOGY

FOUR CREDITS

An overview of microbiology with special emphasis on pathogenic microbiology. Lecture: Three hours per week. Laboratory: Three hours per week. Fee: \$80. Cross listed with BIO 327. ***Prerequisite: P-1 standing or consent of instructor.***

### PHA 331 & PHA 332. MEDICAL ANATOMY & 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. Laboratory/Recitation: Three hours per week. Discussion/Recitation: two hours per week. Fee: \$80. ***Prerequisite: P-1 standing or consent of instructor. PHA 331 is a prerequisite for PHA 332.***

### PHA 405. PHARMACEUTICAL CARE SYSTEMS: DESIGN & 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/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.

***Prerequisite: PHA 331, 332, 365 or consent of instructor.***

### PHA 411. BIOPHARMACEUTICS & 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.

***Prerequisite: PHA 311, PHA 312 or consent of 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 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 of 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 prerequisite to 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 & 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.

***Prerequisite: PHA 308 and PHA 310 or consent of instructor.***

PHA 532. ALTERNATIVE MEDICINE AND NUTRITION  
THREE CREDITS

This course gives an overview of various alternative/contemporary medicine practices; homeopathy, herbal therapy, chiropractic, acupuncture, acupressure, body massage, ayurvedic, and shamanic practices. This course will also give an overview on the concept and practice of nutrition: parenteral and enteral nutrition. Lecture: Three hours.

***Prerequisite: PHA 331, 332, 365 or consent of instructor.***

## PHARMACY ELECTIVE COURSES

PHA 395-396. INDEPENDENT STUDY  
ONE - SIX CREDITS

Independent study and research for advanced students in the field of the major under the direction of a staff member.

***Prerequisites: Approval of 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 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, laboratory six hours per week. Fee: \$80.

***Prerequisites: PHA 311 and PHA 312 and permission of instructor.***

PHA 495-496. INDEPENDENT STUDY  
ONE - SIX CREDITS

Independent study and research for advanced students in the field of the major under the direction

## Pharmacy

of a staff member.

***Prerequisites: Approval of department chairperson.***

PHA 595-596. INDEPENDENT STUDY

ONE - SIX CREDITS

Independent study and research for advanced students in the field of the major under the direction of a staff member.

Prerequisites: Approval of department chairperson.



**PHA 534. INTRODUCTION TO HOSPITAL PHARMACY PRACTICE**

**TWO CREDITS**

This course introduces a student to the practice of pharmacy within a hospital setting. The student will be introduced to the history of, management of, clinical services within, and career options in a hospital pharmacy. The student will need to complete a hospital site visit, a formulary evaluation, and a Drug-Use Evaluation (DUE). Didactic and active learning techniques will be employed throughout the course.

## **Pharmacy**

### **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 PHARMOCOTHERAPY

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. *Prerequisite: P-3 Standing*

## Pharmacy

### PHA 540. COMPREHENSIVE DIABETES MANAGEMENT

#### TWO 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/exams.

**Prerequisite:** *P-3 standing or permission of instructor.*

### 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: \$80.

### 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 426.*

### PHA 552. PRINCIPLES OF BIOORGANIC AND MEDICINAL CHEMISTRY

#### THREE CREDITS

This will be an introductory course whose aims 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:** *CHEM 231-232, PHA 327, 365.*

## PHARMACOTHERAPEUTIC MODULES

(PHA 421, 423, 425, 426, 428 430, 521, 523, 525, 526, 528, and 530) - 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.

PHA 421. PHARMACOTHERAPEUTICS I: PRINCIPLES OF PHARMACOLOGY & MEDICINAL CHEMISTRY  
TWO CREDITS

PHA 423. PHARMACOTHERAPEUTICS II: PRINCIPLES OF PHARMACOTHERAPEUTICS  
TWO CREDITS

*Prerequisite: PHA 421.*

PHA 425. PHARMACOTHERAPEUTICS III: SELF-CARE AND DERMATOLOGY\*  
THREE CREDITS

PHA 426. PHARMACOTHERAPEUTICS IV: GASTROINTESTINAL DISORDERS\*  
TWO CREDITS

PHA 428. PHARMACOTHERAPEUTICS V: INFECTIOUS DISEASES\*  
FOUR CREDITS

PHA 430. PHARMACOTHERAPEUTICS VI: HEMATOLOGY, JOINT DISORDERS, SURGERY\*  
TWO CREDITS

PHA 521. PHARMACOTHERAPEUTICS VII: PULMONARY DISORDERS\*  
TWO CREDITS

PHA 523. PHARMACOTHERAPEUTICS VIII: CARDIOVASCULAR DISORDERS\*  
FOUR CREDITS

PHA 525. PHARMACOTHERAPEUTICS IX: RENAL DISORDERS\*  
TWO CREDITS

PHA 526. PHARMACOTHERAPEUTICS X: ENDOCRINE DISORDERS & WOMEN'S HEALTH ISSUES\*  
TWO CREDITS

PHA 528. PHARMACOTHERAPEUTICS XI: NEOPLASTIC DISEASES\*  
TWO CREDITS

PHA 530. PHARMACOTHERAPEUTICS XII: CENTRAL NERVOUS SYSTEM DISORDERS\*  
FOUR CREDITS

*\*PHA 423 is prerequisite to PHA 425-530.*

## Pharmacy

### ADVANCED PHARMACY PRACTICE EXPERIENCE (APPE)

#### PHA 510. GENERAL MEDICINE ADVANCED PHARMACY PRACTICE EXPERIENCE FIVE-SIX CREDITS

Integration of basic pharmacy related concepts to the delivery of pharmaceutical care in general medicine practice. Clinical practice: Forty hours per week for a total of six weeks.

***Prerequisite: P-4 standing.***

#### PHA 511. AMBULATORY CARE ADVANCED PHARMACY PRACTICE EXPERIENCE FIVE-SIX CREDITS

Integration of basic pharmacy related concepts to the delivery of pharmaceutical care in ambulatory care settings. Clinical practice: Forty hours per week for a total of six weeks.

***Prerequisite: P-4 standing.***

#### PHA 512. COMMUNITY ADVANCED PHARMACY PRACTICE EXPERIENCE FIVE-SIX CREDITS

Integration of basic pharmacy related concepts to the delivery of pharmaceutical care in community practice settings. Clinical practice: Forty hours per week for a total of six weeks.

***Prerequisite: P-4 standing.***

PHA 513. HEALTH SYSTEM ADVANCED PHARMACY PRACTICE EXPERIENCE  
FIVE-SIX CREDITS

Integration of advanced pharmacy related concepts to the delivery of pharmaceutical care in the health system setting. Clinical practice: Forty hours per week for five to six weeks.

***Prerequisite: P-4 standing.***

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PHA 599 A, B, C. ELECTIVE ADVANCED PHARMACY PRACTICE EXPERIENCE ROTATIONS  
FIVE-SIX CREDITS

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 six weeks.

***Prerequisites: PA standing.***



## PHARMACOTHERAPEUTIC MODULES

(PHA 421, 423, 425, 426, 428 430, 521, 523, 525, 526, 528, and 530) - 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

PHA 421 Pharmacotherapeutics I: Principles of Pharmacology & Medicinal Chemistry  
Two credits

PHA 423 Pharmacotherapeutics II: Principles of Pharmacotherapeutics  
Two credits  
Prerequisite: PHA 421.

PHA 425 Pharmacotherapeutics III: Self-Care and Dermatology\*  
Three credits

PHA 426 Pharmacotherapeutics IV: Gastrointestinal Disorders\*  
Two credits

PHA 428 Pharmacotherapeutics V: Infectious Diseases\*  
Four credits

PHA 430 Pharmacotherapeutics VI: Hematology, Joint Disorders, Surgery\*  
Two credits

PHA 521 Pharmacotherapeutics VII: Pulmonary Disorders\*  
Two credits

PHA 523 Pharmacotherapeutics VIII: Cardiovascular Disorders\*  
Four credits

PHA 525 Pharmacotherapeutics IX: Renal Disorders\*  
Two credits

PHA 526 Pharmacotherapeutics X: Endocrine Disorders & Women's Health Issues\*  
Two credits

PHA 528 Pharmacotherapeutics XI: Neoplastic Diseases\*  
Two credits

PHA 530 Pharmacotherapeutics XII: Central Nervous System Disorders\*  
Four credits

\* PHA 423 is prerequisite to PHA 425-530.

# ACADEMIC CALENDAR 2009 - 2010

Wilkes University  
Wilkes-Barre, PA 18766  
1-800-WILKES-U  
www.wilkes.edu

## ***Summer 2009***

### ***Pre-Session***

Classes Commence	Monday, May 18, 2009	8:00 a.m.
Classes End	Friday, June 15, 2009 (Including Final Examinations)	12:00 noon

### ***First Day Session***

Classes Commence	Monday, June 8, 2009	8:00 a.m.
Classes End	Friday, July 10, 2009 (Including Final Examinations)	12:00 noon

### ***Nine-Week Evening Session***

Classes Commence	Monday, June 8, 2009	6:00 p.m.
Classes End	Tuesday, August 11, 2009 (Including Final Examinations)	10:00 p.m.

### ***Second Day Session***

Classes Commence	Monday, July 13, 2009	8:00 a.m.
Classes End	Friday, August 14, 2009 (Including Final Examinations)	12:00 noon

## ***Fall Semester 2009***

Classes Commence	Monday, August 31, 2009	8:00 a.m.
Labor Day Recess Begins	Friday, September 4, 2009	5:00 p.m.
Classes Resume	Tuesday, September 8, 2009	8:00 a.m.
Summer Commencement	Sunday, September 13, 2009	1:00 p.m.
Fall Recess Begins	Wednesday, October 14, 2009	10:00 p.m.
Classes Resume	Monday, October 19, 2009	8:00 a.m.
Thanksgiving Recess Begins	Tuesday, November 24, 2009 (Follow Thursday Class Schedule)	10:00 p.m.

Classes Resume	Monday, November 30, 2009	8:00 a.m.
Classes End	Monday, December 14, 2009 (Follow Friday Class Schedule)	5:00 p.m.

Final Examinations Begin	Monday, December 14, 2009	6:00 a.m.
Final Examinations End	Wednesday, December 23, 2009	4:30 p.m.

## ***Intersession 2010***

M.A.Creative Writing Residency	Wednesday, January 4, 2010 to Friday, January 15, 2010 Friday, January 1, 2010 to Saturday, January 9, 2010	
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## ***Spring Semester 2010***

Classes Commence	Monday, January 18, 2010	8:00 a.m.
Spring Recess Begins	Friday, March 5, 2010	5:00 p.m.
Classes Resume	Monday, March 15, 2010	8:00 a.m.
Holiday Recess Begins	Wednesday, March 31, 2010	10:00 p.m.
Classes Resume	Tuesday, April 6, 2010	8:00 a.m.

### ***Special Note***

Classes End	<b><i>Tuesday, May 4, 2010</i></b> (Follow Thursday Class Schedule) Wednesday, May 5, 2010	5:00 p.m.
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	( <i>Follow Friday Class Schedule</i> )	
Final Examinations Begin	Friday, May 7, 2010	8:00 a.m.
Final Examinations End	Saturday, May 15, 2010	4:30 p.m.
<b>Commencement</b>	Saturday, May 22, 2010	1:00 p.m.

## COLLEGE OF GRADUATE AND PROFESSIONAL STUDIES

(570) 408-4235  
 1-800-WILKES U, ext. 4235  
 (1-800-945-5378)  
[www.wilkes.edu](http://www.wilkes.edu)

Mr. William Jones, Assistant Dean, College of Graduate and Professional Studies (570) 408-4462  
 Ms. Kathleen Houlihan, Director, Graduate Program Admissions (570) 408-3235  
 Ms. Erin Drew, Director of the Sovereign Center for Leadership and Management Training (570) 408-4253

## ADMINISTRATIVE SUPPORT OFFICES

### Center for Continued Learning

(570) 408-4235  
 Lower Level, Breiseth Hall  
 139 South Franklin Street  
 FAX: (570) 408-7846

### Graduate Education

(570) 408-4671  
 Lower Level, Breiseth Hall  
 139 South Franklin Street  
 FAX: (570) 408-4905

### Graduate Office

(570) 408-4235  
 Lower Level, Breiseth Hall  
 139 South Franklin Street  
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### Graduate Studies-Admissions

(570) 408-4229 -Maria Roman  
 (570) 408-4238- Joshua Savitski  
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 139 South Franklin Street  
 FAX: (570) 408-7846

### International Student Advisor

(570) 408-4107  
 Second Floor, Conyngham Hall  
 130 South River Street  
 FAX: (570) 408-7811

### School of Pharmacy

(570) 408-4280  
 First Floor, Stark Learning Center  
 160 South River Street  
 FAX: (570) 408-7828

### Student Services Center

(*Financial Aid, Registration, Student Accounts, Transcripts*)  
 (570) 408-2000  
 University Center on Main  
 169 South Main Street

## PROGRAM CONTACTS FOR GRADUATE AND PROFESSIONAL STUDIES

<i><b>Program</b></i>	<i><b>Contact</b></i>	
Business Administration (M.B.A.)	Dr. Anthony L. Liuzzo	(570) 408-4709
	Ms. Karen M. Kaleta	(570) 408-3204
Creative Writing (M.A.)	Dr. Bonnie Culver	(570) 408-4527
Creative Writing (M.F.A.)	Dr. Bonnie Culver	(570) 408-4527
Electrical Engineering (M.S.E.E.)	Dr. Thyagarajan Srinivasan	(570) 408-4811
Engineering Operations and Strategy (M.S.E.O.S.)	Mr. Hisham Abu-Nabaa	(570) 408-4892
	Ms. Maria Roman	(570) 408-4229
Graduate Education	Ms. Kristine Pruett	(570) 408-4676
Classroom Technology (M.S.)	Ms. Barbara J. Moran	(570) 408-4672
Early Childhood Literacy (M.S.)	Dr. Kathleen Makuch	(570) 408-4667
Educational Development & Strategies (M.S.)	Ms. Renee Kotz	(570) 408-4674
Educational Leadership (Ed. D.)	Dr. Mary Kropiewnicki	(570) 408-6171
Educational Leadership (M.S.)	Dr. Rhoda B. Tillman	(570) 408-4677
Instructional Media (M.S.)	Ms. Karena Zdeb	(570) 408-7841
Instructional Technology (M.S.)	Ms. Victoria M. Glod	(570) 408-4678
School Business Leadership (M.S.)	Ms. Kristine Pruett	(570) 408-4676
Secondary Education / Biology (M.S.)	Dr. Michael A. Steele	(570) 408-4763
Secondary Education /Chemistry (M.S.)	Dr. Terese M. Wignot	(570) 408-4267
Secondary Education / English & History (M.S.)	Dr. Lawrence T. Kuhar	(570) 408-4532
Secondary Education / Mathematics (M.S.)	Dr. V. Ming Lew	(570) 408-4844
Special Education (M.S.)	Dr. Kristin C. Bewick	(570) 408-4562
Superintendent Certification Program	Dr. Mary Kropiewnicki	(570) 408-6171
21st Century Teaching & Learning (M.S.)	Dr. Kathleen Makuch	(570) 408-4667
Teacher Leadership and Instructional Coaching (Letter of Endorsement)	Dr. Kathleen Makuch	(570) 408-4667
Mathematics (M.S.)	Dr. V. Ming Lew	(570) 408-4844
Nursing (M.S.)	Dr. Deborah A. Zbegner	(570) 408-4086
Professional Masters	Dr. Bridgette W. Zielinski	(570) 408-4078
Pharmacy (Pharm. D.)	Dr. Harvey A. Jacobs	(570) 408-4277

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