Wilkes University

2016-2017

GRADUATE BULLETIN

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

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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ACADEMIC CALENDAR 2016 - 2017

Wilkes University
Wilkes-Barre, PA 18766
1-800-WILKES-U
www.wilkes.edu

Summer 2016

Pre-Session		
Classes Commence	Monday, May 23, 2016	8:00 a.m.
Classes End	Friday, June 10, 2016 (Including Final Examinations)	12:00 noon
First Day Session		
Classes Commence	Monday, June 13, 2016	8:00 a.m.
Classes End	Friday, July 15, 2016 (Including Final Examinations)	12:00 noon
Nine-Week Evening Session		
Classes Commence	Monday, June13, 2016 (No class July 4)	6:00 p.m.
Classes End	Tuesday, August 16, 2016 (Including Final Examinations)	10:00 p.m.
Second Day Session		
Classes Commence	Monday, July 18, 2016	8:00 a.m.
Classes End	Friday, August 19, 2016 (Including Final Examinations)	12:00 noon

Fall Semester 2016

Classes Commence	Monday, August 19, 2016	8:00 a.m.
Labor Day Recess Begins	Saturday, September 3, 2016	8:00 a.m.
Classes Resume	Tuesday, September 6, 2016	8:00 a.m.
Summer Commencement	Sunday, September 11, 2016	1:00 p.m.
Fall Recess Begins	Thursday, October 13, 2016	8:00 a.m.
Classes Resume	Monday, October 17, 2016	8:00 a.m.
Follow Thursday Class Schedule	Tuesday, November 22, 2016	.
Thanksgiving Recess Begins	Wednesday, November 23, 2016	8:00 a.m.
Classes Resume	Monday, November 28, 2016	8:00 a.m.
Follow Friday Class Schedule	Monday, December 12, 2016	
Classes End	Monday, December 12, 2106	5:00 p.m.
Final Examinations Begin	Monday, December 12, 2016	6:00 p.m.
Final Examinations End	Wednesday, December 21, 2016	4:30 p.m.
Intersession 2016-2017	Monday, December 26, 2016 to Friday January 13, 2017	
M.A.Creative Writing Residency on Wilkes Campus	Friday, January 6, 2017 Saturday, January 14, 2017	

Spring Semester 2017

Classes Commence	Tuesday, January 17, 2017	8:00 a.m.
Winter Commencement	Sunday, January 22. 2017	1:00 p.m.
Spring Recess Begins	Saturday, March 4, 2017	8:00 a.m.
Classes Resume	Monday, March 13, 2017	8:00 a.m.
Holiday Recess Begins	Thursday, April 13, 2017	8:00 a.m.
Classes Resume	Monday, April 17, 2017	8:00 a.m.
Follow Thursday Class Schedule	Tuesday, May 2, 2017	
Follow Friday Class Schedule	Wednesday, May 3, 2017	
Classes End	Wednesday, May 3, 2017	5:00 p.m.
Final Examinations Begin	Thursday, May 4, 2017	6:30 p.m.
Final Examinations End	Saturday, May 13, 2017	12:30 p.m.
Commencement	Saturday, May 20, 2017	TBA

Creative Writing Calendars and Schedules

CREATIVE WRITING ACADEMIC CALENDAR	**2016-2017**
On Campus Residencies	June 17-25, 2016, January 6-14, 2017
Weekender in Mesa, AZ	**2016:** January 22-24, March 4-6, April 22-24, June 3-5, July 8-10, August 19-21, October 21-23, and December 2-4
	2017: January 20-23, March -5, April 21-23, June 2-4, July 7-9, August 25-27, October 20-22, and December 1-3
Weekender in Wilkes Barre, PA	**2016:** January 8-10, February 26-28, April 8-10, May 20-22, June 17-19, August 12-14, October 14-16, and December 9-11
	2017: January 6-8, February 24-26, April 7-9, May 19-21, June 16-18, August 18-22, October 13-15, and December 8-10
Online Project Terms (all groups)	**2016:** February 1 - May 30, July 25 - November 28
	2017: January 30 - May 29, July 24 - November 27

Education Calendars and Schedules

SUMMER SEMESTER – 2016	
Doctoral Qualifying Examination (DQE)	May 7 (Saturday) 8:00-12:00
Summer Semester (7 weeks)	May 9 – June 26
Weekend classes begin	May 14 (Saturday) & May 15 (Sunday)
Summer Semester (12 weeks)	May 16 - August 7
Summer Semester (9 weeks)	June 6 – August 7
Summer Semester (7 weeks)	June 20 – August 7
Weekend classes end	August 6 (Saturday) & August 7 (Sunday)
Dissertation Proposal Defense Deadline	**August 5 (to make September IRB meeting) NOTE: No proposal defenses are scheduled in July**
Dissertation Defense Deadline	**August 5 (to defend for September graduation) NOTE: No defenses are scheduled in July**
ED 615 – Professional Seminar in Educational Leadership Residency – Fall Course	August 9 – 12 (Tuesday – Friday)
Doctoral Qualifying Examination (DQE)	August 13 (Saturday) 8:00-12:00
Summer Commencement	Sunday, September 11th - 1:00pm
FALL SEMESTER – 2016	
Fall Semester (9 weeks)	August 15 – October 16
Fall Semester (7 weeks)	September 6 - October 23
Fall Semester (14 weeks)	September 6 – December 11
Weekend Classes Begin	September 10 (Saturday) & September 11 (Sunday)
Weekday Classes Begin	September 12 (Monday)
Fall Semester (9 weeks)	October 10 – December 11
Fall Recess	October 13 – October 16 (Thursday-Sunday)
Fall Semester (7 weeks)	October 24 – December 11
Thanksgiving Recess – no classes	November 23 – November 27 (Wednesday-Sunday)
Weekend Classes End	December 10 (Saturday) & December 11 (Sunday)
Weekday Classes End	December 8 (Thursday)
Dissertation Proposal Defense Deadlines	**November 22 (to make last fall IRB meeting)**
	December 9 (to make first spring IRB meeting)
Dissertation Defense Deadline	**November 28 (to defend for fall semester degree completion)**
Doctoral Qualifying Examination (DQE)	Dec 10 (Saturday) 8:00-12:00
SPRING SEMESTER – 2017	
Spring Semester (9 weeks)	January 3 – March 5
Weekend Classes Begin	January 14 (Saturday) & January 15 (Sunday)
Weekday Classes Begin	January 16 (Monday)
Spring Semester (7 weeks)	January 16 – March 5
Spring Semester (14 weeks)	January 16 – April 23
Spring Semester (9 weeks)	February 19 – April 23
Spring Break – no classes	March 4 - March 12
Spring Semester (7 weeks)	March 6 – April 23
Spring Holiday Recess – no classes	April 13 – April 17th (Thursday – Monday)
Dissertation Defense Deadline	**April 14 (to defend for spring graduation)**
	NOTE: No dissertation defenses are scheduled over spring break
Dissertation Proposal Defense Deadline	**April 20 (to make last Spring IRB meeting)**
	NOTE: No dissertation defenses are scheduled over spring break
Weekday Classes End	April 20 (Thursday)
Weekend Classes End	April 22 (Saturday) & April 23 (Sunday) Doctoral Qualifying Examination (DQE)

Nursing Distance Education Calendars and Schedules

2016-17 Academic Year

Nurse Practitioner Programs
RN to MSN
MSN
post-graduate/APRN

	START DATE	END DATE
Summer 2016	May 23, 2016	August 14, 2016
Fall 2016	August 29, 2016	November 20, 2016
Spring 2017	January 18, 2017	April 15, 2017

Nursing Education, Nurse Executive, Nursing Informatics, DNP
RN to BSN
RN to MSN
MSN
DNP

	START DATE	END DATE
	July 4, 2016	August 28, 2016
	August 29, 2016	October 23, 2016
	October 24, 2016	December 18, 2016
	January 2, 2017	February 26, 2017
	February 27, 2017	April 23, 2017
	April 24, 2017	June 18, 2017
	July 3, 2017	October 22, 2017

Nursing Distance Education Calendars and Schedules

2016-17 Academic Year
DNP

	START DATE	END DATE
	July 4, 2016	August 28, 2016
	August 29, 2016	October 23, 2016
	October 24, 2016	December 18, 2016
	January 2, 2017	February 26, 2017
	February 27, 2017	April 23, 2017
	April 24, 2017	June 18, 2017
	July 3, 2017	October 22, 2017

Administrative Support Offices

Center for Continued Learning
(570) 408-4236
Second Floor, Weckesser Annex
169 South Franklin Street
FAX: (570) 408-7912

Graduate Education
(570) 408-4671
Lower Level, Breiseth Hall
139 South Franklin Street
FAX: (570) 408-4905

Graduate Admissions
(570) 408-4234 - Joanne A. Thomas, Director
(570) 408-3338 - Kristin Donati
(570) 408-4235 - Diane Duda
(570) 408-4404- Alexandria Duffney
(570) 408-5535- Stephanie Wasmanski

Lower Level, Breiseth Hall
139 South Franklin Street
FAX: (570) 408-7846

International Student Services
(570) 408-7854
Second Floor, Max Roth Center
FAX: (570) 408-3626

International Student Graduate Admissions
(570) 408-4235
Lower Level, Breiseth Hall
FAX: (570) 408-7846

School of Pharmacy
(570) 408-4280
First Floor, Stark Learning Center
160 South River Street
FAX: (570) 408-7828

Graduate Admissions

Ms. Joanne A. Thomas, Director
(570) 408-4234
1-800-WILKES U, ext. 4234
(1-800-945-5378)
www.wilkes.edu

Graduate Program Contacts

Business Administration (M.B.A.)

- Dr. Dean Frear - (570) 408-4715
- Ms. Karn Alessi - (570) 408-3204
- Dr. Anthony Liuzzo - (570) 408-4709 (Mesa)
- Ms. Spring Williams - (480) 878-4406 (Mesa)

Creative Writing (M.A.)

- Dr. Bonnie Culver - (570) 408-4527

Creative Writing (M.F.A.)

- Dr. Bonnie Culver - (570) 408-4527

Bioengineering (M.S.)

- Dr. Prahlad Murthy - (570) 408-4617

Electrical Engineering (M.S.E.E.)

- Dr. Prahlad Murthy- (570) 408-4617

Engineering Management (E.G.M.)

- Dr. Prahlad Murthy - (570) 408-4617

Mechanical Engineering (M.S.M.E.)

- Dr. Prahlad Murthy - (570) 408-4617

Graduate Education

- Dr. Grace Surdovel - (570) 408-3102

Art and Science of Teaching (M.S.)

- Ms. Anne Bulter - (570) 408-6814

Classroom Technology (M.S.)

- Dr. Grace Surdovel - (570) 408-3102

Early Childhood Literacy (M.S.)

- Ms. Anne Butler - (570) 408-6814

Educational Development & Strategies (M.S.)

- Ms. Kali Fedor - (570) 408-7015

Educational Leadership (Ed. D.)

- Dr. Karim Medico Letwinsky - (570) 408-5512

Educational Leadership (M.S.)

- Dr. Rhonda Rabbitt - (570) 408-3408

Middle Level Degree Program

- Ms. Anne Butler - (570) 408-6814

Instructional Media (M.S.)

- Dr. Grace Surdovel - (570) 408-3102

Instructional Technology (M.S.)

- Dr. Grace Surdovel - (570) 408-3102

Reading Specialist Certification (M.S.)

- Dr. Mary Kropiewnicki - (570) 408-6171

School Business Leadership (M.S.)

- Dr. Rhonda Rabbitt - (570) 408-3108

Secondary Education / Biology (M.S.)

- Dr. Michael A. Steele - (570) 408-4763

Secondary Education /Chemistry (M.S.)

- Dr. Hernando Trujillo - (570) 408-4637

Secondary Education / English

- Dr. Lawrence T. Kuhar - (570) 408-4532

Secondary Education / Mathematics (M.S.)

- Dr. V. Ming Lew - (570) 408-4844

Special Education (M.S.)/Autism

- Ms. Kali Fedor - (570) 408-7015

21st Century Teaching & Learning (M.S.)

- Ms. Anne Butler - (570) 408-6814

Teaching English as a Second Language (M.S.)

- Dr. Kimberly Niezgoda - (570) 408-4170

Mathematics (M.S.)

- Dr. Prahlad Murthy - (570) 408-4617

Nursing (M.S., DNP.)

- Dr. Kathleen Hirthler - (570) 408-5027

Pharmacy (Pharm. D.)

- Dr. Harvey A. Jacobs - (570) 408-4277

INTRODUCTION

Wilkes University

Our Mission

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

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

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

Institutional Student Learning Outcomes

Students will:

- Demonstrate a comprehensive understanding of appropriate theories, methods and standards specific to the field of study;
- Demonstrate appropriate application of the methods, skills and techniques specific to the field of study;
- Demonstrate the ability to engage in the process of systematic inquiry appropriate to the field of study;
- Demonstrate effective written communication skills in the field of study;
- Demonstrate effective oral communication skills in the field of study; and
- Demonstrate understanding of integrity and ethical practice.

Graduate Academic Calendars and Schedules

ACADEMIC CALENDAR 2016--2017	Approved 9-30-15	
PRE-SESSION		
Classes Commence	Monday, May 23, 2016	8:00 a.m.
Classes End	Friday, June 10, 2016 (INCLUDING FINAL EXAMINATIONS)	12:00 p.m.
FIRST DAY SESSION		
Classes Commence	Monday, June 13, 2016 (No class July 4th)	8:00 a.m.
Classes End	Friday, July 15, 2016 (INCLUDING FINAL EXAMINATIONS)	12:00 p.m.
NINE-WEEK EVENING SESSION		
Classes Commence	Monday, June 13, 2016 (No class July 4th)	6:00 p.m.
Classes End	Tuesday, August 16, 2016 (INCLUDING FINAL EXAMINATIONS)	10:00 p.m.
SECOND DAY SESSION		
Classes Commence	Monday, July 18, 2016	8:00 a.m.
Classes End	Friday, August 19, 2016 (INCLUDING FINAL EXAMINATIONS)	12:00 p.m.
FALL SEMESTER - 2016		
Classes Commence	Monday, August 29, 2016	8:00 a.m.
Labor Day Recess Begins	Saturday, September 3, 2016	8:00 a.m.
Classes Resume	Tuesday, September 6, 2016	8:00 a.m.
Summer Commencement	Sunday, September 11, 2016	1:00 p.m.
Fall Recess Begins	Thursday, October 13, 2016	8:00 a.m.
Classes Resume	Monday, October 17, 2016	8:00 a.m.
FOLLOW THURSDAY CLASS SCHEDULE	Tuesday, November 22, 2016	
Thanksgiving Recess Begins	Wednesday, November 23, 2016	8:00 a.m.
Classes Resume	Monday, November 28, 2016	8:00 a.m.
FOLLOW FRIDAY CLASS SCHEDULE	Monday, December 12, 2016	
Classes End	Monday, December 12, 2016	5:00 p.m.
Final Examinations Begin	Monday, December 12, 2016	6:00 p.m.
Final Examinations End	Wednesday, December 21, 2016	4:30 p.m.
INTERSESSION 2017	Monday, December 26, 2016 to Friday, January 13, 2017	
SPRING SEMESTER - 2017		
Classes Commence	Tuesday, January 17, 2017	8:00 a.m.
Winter Commencement	Sunday, January 22, 2017	1:00 p.m.
Spring Recess Begins	Saturday, March 4, 2017	8:00 a.m.
Classes Resume	Monday, March 13, 2017	8:00 a.m.
Holiday Recess Begins	Thursday, April 13, 2017	8:00 a.m.
Classes Resume	Monday, April 17, 2017	8:00 a.m.
FOLLOW THURSDAY CLASS SCHEDULE	Tuesday, May 2, 2017	
Classes End	Wednesday, May 3, 2017 (FOLLOW FRIDAY CLASS SCHEDULE)	5:00 p.m.
Final Examinations Begin	Thursday, May 4, 2017	6:30 p.m.
Final Examinations End	Saturday, May 13, 2017	4:30 p.m.
COMMENCEMENT	Saturday, May 20, 2017	TBD

Academic Information

Transfer Credits

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

A maximum of six credits toward a master's degree or 12-18 credits of post-master's graduate work for terminal degrees, completed at another U.S. regionally accredited university or college may be applied toward the requirements for the program specific degree. Acceptance into a graduate program is necessary before credits can be considered for transfer to the program of study. Students seeking to transfer courses from another institution may be requested to produce a course syllabus and coursework so that a final determination can be made. Academic officers who are agents of Wilkes University may review the syllabus to determine if the course contains graduate-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 University courses; or 4) courses taken as Pass-Fail, unless the "Pass" can be substantiated by the former institution as being equivalent to 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 respective program. Transferred academic work must have been completed within six years prior to the date of admission to the graduate program at Wilkes University 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, in order to transfer the credits into their respective program at the University, must complete a "Pre-Approval Form" prior to registering for the course. All completed forms for transfer of credits should be submitted to the respective department. An official transcript must be requested from the other institution as soon as it is available and should be sent to the Student Services Office.

A student cannot be approved for graduation until all transfer credits are approved by the respective program, an official transcript has been received at Wilkes University 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.

Appeal of Grade Policy

Communication necessary in the appeal process may be in person for on-campus students or via digital or video-conferencing technology for off-campus students.

Grades themselves are not generally grievable. More often students challenge grades based on a deviation from course policy or grading practices outlined in the course syllabus. 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 respective college or school. The appeal must be made by the end of the fourth week of the ensuing fall or spring semester. The Dean 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. 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 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, 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.

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 Admissions 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.

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 respective Graduate Program head.

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 and M.F.A. students only (except with special permission)

Degree Requirements

Students may be awarded the master's degree upon satisfactory completion 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, any required testing, and any other individual program requirements for admission).
2. Regular admission into a graduate program;
3. Satisfactory completion of all requirements for the degree to be completed within six calendar years following admission into the program of study. A student may request an extension to complete the degree beyond the six year limit. That request should be submitted in writing to the program director/ department chair no later than the semester before the six year limit. The respective college or school Dean will review the request and consult with appropriate parties (graduate program director, chairperson, or advisor) 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 program.

General Notes On Academic Standing and Dismissal

NOTE BEFORE READING THIS SECTION:

There may be more stringent programmatic requirements regarding this policy. Students should be sure to review the appropriate section of this bulletin pertaining to their respective program.

In order for a student to maintain good academic standing in graduate programs, the student must maintain a GPA of 3.0 or higher at and after the point of completing 9 credits in his/her respective program. The 9 credit probationary allowance provides a student the opportunity to demonstrate his/her academic

ability. After completing 9 credits, a graduate student whose GPA drops below a 3.0 will be dismissed from his/her respective program. Students who are dismissed may retake a course or courses as a non-degree student, which provides for the opportunity to replace one or more of their deficient grades. If the student is successful in moving his/her GPA above the 3.0 level, he/she may re-apply for acceptance into his/her program.

Only courses with grades below a 3.0 may be taken for grade replacement. If a student elects to take a course for grade replacement, the higher grade earned will be counted in the calculation of the GPA. For example, if a student earns a 2.0 and replaces the grade and earns a 2.5, the higher grade (2.5) would be used in the GPA calculation. Courses may be repeated for grade replacement only one time. Note: Students must also meet all degree requirements in addition to maintaining an acceptable GPA.

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

A student who is dismissed from the graduate program may request a review of the case by the Graduate Studies Committee . The request should be submitted in written form to the Dean of the appropriate college or school, who will coordinate with the Graduate Studies Committee.

Grading

Numerical grades are given for graduate work. Letter grade equivalents appear in the conversion table below:

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 must be endorsed by the instructor in the form of a written statement and submitted to the Registrar. There may be financial aid implications with a grade of "X" and with the conversion of the "X" to a 0.

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.
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. Thesis requirements vary from program to program. Students should consult with their thesis advisor and understand all thesis requirements for their individual program.
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 advisor, the thesis committee (if required), the Department Chairperson/program director, and the Dean of the respective college or school.
6. Student appeals to any provisions in this policy shall be to the Thesis Advisor, the Department, and finally to the Graduate Studies Committee.

Subsequently the accepted theses and dissertations will be archived, either in bound or in digital format. See the individual program requirements and fees for binding. For thesis binding fees, see section on Fees and Expenses

Regulations for Withdrawal

A student may withdraw from a course during the first week of the semester by informing the instructor, completing a withdrawal form that is co-signed by the student and the student's advisor, and submitting the signed form to the program and the Registrar's Office within the first week of the semester. For withdrawal after the first week, see program specific processes for withdrawal. 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. 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 Center, having it signed by the appropriate personnel, and returning it to the Student Services Center (or in Mesa, to a representative of the Student Services office) within within the tenth-week period. A grade of "0" 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 "0."

A "W" granted after the first week of the semester 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 after the tenth week 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.

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 will ensure that a committee, if required, is appointed. Students should refer to the program specific requirements on thesis, dissertation or scholarly projects.

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 appropriate college or school and the Office of Student Affairs. Appeals from the decisions of this Committee may be made in written form to the Provost.

Policies regarding student conduct and additional grievance procedures are published in the Wilkes University Graduate Student Handbook, which is available on the web site at www.wilkes.edu. Students enrolled at the Mesa Center for Higher Education must reference the Handbook for the Mesa site for information specific to Arizona.

Anti-Hazing Policy

Wilkes University does not condone hazing of any kind. Hazing, is defined as follows:

any action or situation which recklessly or intentionally endangers the mental or physical health or safety of a student or which willfully destroys or removes public or private property for the purpose of initiation or admission into or affiliation with, or as a condition for continued membership in, any organization operating under the sanction of or recognized as an organization by an institution of higher education. The term shall include, but not be limited to, any brutality of a physical nature, such as whipping, beating, branding, forced calisthenics, exposure to the elements, forced consumption of any food, liquor, drug or other substance, or any other forced physical activity which could adversely affect the physical health and safety of the individual, and shall include any activity which would subject the individual to extreme mental stress, such as sleep deprivation, forced exclusion from social contact, forced conduct which could result in extreme embarrassment, or any other forced activity which could adversely affect the mental health or dignity of the individual, or any willful destruction or removal of public or private property. For purposes of this definition, any activity as described in this definition upon which the initiation or admission into or affiliation with or continued membership in an organization is directly or indirectly conditioned shall be presumed to be "forced" activity, the willingness of an individual to participate in such activity notwithstanding.

This policy applies to all University organizations, groups and individuals and is equally applicable on and off campus.

Any alleged act of hazing brought to the attention of University officials will be fully investigated and those individuals and/or groups accused will be brought before the University's Student Affairs Cabinet for adjudication.

Anyone found in violation of the Hazing Policy will be subject to disciplinary action.

The severity of the sanctions will depend on the circumstances surrounding the violation. Disciplinary action by the University will be in addition to any penalties impose by civil authorities for violations of state law.

Graduate Disciplinary Process Flowchart

- Incident/Alleged policy violation takes place.
- Report submitted to Student Affairs for investigation.
- No policy violation or suspect found. End of process.
- Investigation finds policy violation and alleged suspect.
- Conference held with alleged violator

- Charges and sanctions agreed upon by Assoc. Dean of Student Affairs (or designee for off-campus locations) and alleged violator. End of process.
- Assoc. Dean of Student Affairs (or designee for off-campus locations) and alleged violator do not agree upon charges and sanctions.
- Process is determined
- Administrative hearing held by the Assoc. Dean of Student Affairs (or designee for off-campus locations), if the policy violation does not appear to warrant dismissal or suspension from the University.
- Graduate Studies Committee, if the policy violation could result in dismissal or suspension from the University.
- Decision is made regarding the violation/sanction.
- Student is determined not to be in violation of a University policy. End of process.
- Student is found guilty of violation and accepts the sanction imposed. End of process.
- Student is found guilty of violation and does not accept sanctions.
- Student requests an appeal of the decision through the Office of the Provost
- The appeal is denied. The process ends.
- The appeal request is approved.
- The Office of the Provost reviews the case.
- The original decision is upheld. End of Process.
- It is discovered that there was :
    - Procedural error;
    - New evidence;
    - Inappropriate sanction.
- The case returns to the original Graduate Studies Committee group or another group, as determined by the Dean of the respective school or college, based on findings.

Grievance Policy/Internal Complaint Procedure

The purpose of this policy is to serve as a guide for students who wish to file a complaint about any aspect of Wilkes University's operations/policies/procedures or about the actions of any student, visitor, or employee of Wilkes University. This policy is to be implemented only when dealing with circumstances not covered by existing academic or student conduct procedures.

Procedures and Guidelines

1. Complaints, other than those being filed against persons, should be directed, in writing, to the appropriate Administrator (Director/Dean)/Department Chair/Faculty Member). It is the responsibility of that person to address the situation and, if possible, see that it is corrected. This must be done within a reasonable amount of time which will of course, depend upon what must be done to rectify the situation. The Administrator (Director/Dean)/Department Chair/Faculty Member should inform the student in writing of the measures that were taken or are being taken to address the issue. If a student does not receive a response from the Administrator, Department Chair, Faculty Member within two weeks from the date of originally filing the complaint, the student may then bring the complaint to the appropriate Vice President or the Provost.
2. Complaints being filed against a person, should be directed, in writing, to that person's immediate supervisor. If it is a sexual harassment complaint the procedures, outlined in the Sexual Harassment Policy should be followed. If the complaint is not one of sexual harassment, then it is the responsibility of the supervisor to address the issue with the respondent. The supervisor must inform the student, in writing, of the measures that were taken or are being taken to address the issue. If the student does not receive a response from the supervisor within two weeks from the date of originally filing the complaint, the student may then bring the complaint to the appropriate Vice President or Provost.
3. In all instances of a student filing a complaint, the student must be assured in writing that no adverse action will be taken against the student for filing a complaint.
4. All documentation regarding a complaint, as well as its disposition, must be securely stored in the office of the person who received the complaint and acted upon it. These records must be maintained for a period of six (6) years from the date final action was taken on said complaint.
5. If a student feels that a response to a complaint is unacceptable and/or unreasonable, the student may bring the complaint to the immediate supervisor of the person who initially acted in response to the matter. If a student does not receive a response from that supervisor within two weeks from the date of originally filing the complaint with that person, the student may then bring the complaint to the appropriate Vice President or Provost.

Additional Notice to Arizona residents enrolled at Wilkes University

If the complaint cannot be resolved after exhausting the institution's grievance procedure, the student may file a complaint with the Arizona State Board for Private Postsecondary Education. The student must contact the State Board for further details. The State Board address is 1400 W. Washington Street, Room 260, Phoenix, AZ 85007, phone # 602-542-5709, website address: www.azppse.gov

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 on the Office of the Registrar/Recorder page of the web site at www.wilkes.edu.

Transcripts

Transcripts are provided by the Registrar's Office (1-800-WILKESU). 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 Registrar's Office, located at Capin Hall, 1st floor or at the front desk in the Mesa Center for Higher Education must present valid photo identification.

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.

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 Accreditation Council for Business Schools and Programs (ACBSP), and the graduate programs leading to the Master of Science Degree in Nursing and the Doctor of Nursing Practice (DNP) are 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.

The baccalaureate degree in nursing/master's degree in nursing/Doctor of Nursing Practice/, and post graduate APRN certificate programs at Wilkes University are accredited by the Commission on Collegiate Nursing Education.

Wilkes University is also licensed by the Arizona State Board for Private Postsecondary Education to operate in the state of Arizona

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 respective college or school. Award letters are then sent to the individual or individuals who have been named as graduate assistants.

Criteria for Selecting Graduate Assistants

1. Candidates must have regular admission to a program or be a 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. Candidates must complete the Graduate Assistant on-line application process.
4. Candidates must demonstrate the ability and willingness to perform the duties outlined in the job posting and those assigned by the Director/Department Chair of the respective program.

Center for Continued Learning

Margaret Petty, Director

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. 5615.

Center for Global Education and Diversity

The Center for Global Education and Diversity fosters Wilkes' mission of educating students "in a constantly evolving and multicultural world." The Center has the office of Diversity Initiatives and International Student Services and the Intensive English Program

Each area of the Center advises and advocates for students from underrepresented groups,international students who have come to the US to study at Wilkes and non-native speakers of English. The Center brings diversity and a global perspective to the Wilkes community by sponsoring campus- wide programs to develop a broader understanding of the world and providing support in matters of diversity, internationalization, and globalization. The Center is an important resource and support for all areas of the University.

Services provided include:

- support for students from underrepresented groups such as women, ethnic and religious minorities, gay/lesbian/transsexual/transgender, and individuals with disabilities
- support for international students, faculty, and staff
- the Intensive English Program (IEP) for non native English speakers who need to improve their English language skills
- multicultural programming
- reserving the Savitz Multicultural Lounge in the Henry Student Center

Staffing for the Center:

- Georgia Costalas, Executive Director; Director of International Student Services
- Kimberly Niezgoda, Director for ESL Services
- Erica Acosta, Associate Director for Diversity Initiatives
- Jonathan Summers, Associate Director for International Student Services
- Crystal Cools, Assistant Director of International Student Services

The Center is located in the Max Roth Center at the corner of S. Franklin and W. South Streets. The Center's staff may be reached at (570) 408-7854. Off campus students may access the services of the Center by calling or e-mailing Georgia Costalas at georgia.costalas@wilkes.edu.

Financial Aid

Loans

Financial assistance for which the recipient assumes the obligation to repay the amount of the funds received. Most educational loans provide for payment of principal and interest to begin sometime after the student graduates or stops attending an approved institution on at least a half-time basis.

Federal Direct 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.

Federal Direct Stafford Loans

The Federal Direct Stafford Loan is a federal program that enables students to borrow money from the Department of Education. It is available to graduate students who are enrolled on at least a half-time basis. Graduate students may apply for $20,500 per academic year.

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

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 fixed interest rate.

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

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.

Institutional and Financial Assistance Information

Wilkes University subscribes to the belief that the primary responsibility for financing the cost of higher education rests with the student and his or her family, but Wilkes remains committed to providing resources to make the cost of earning a degree affordable. Toward that end, the University maintains an extensive program of loans.

Financial assistance for qualified students is awarded in the form of financial aid packages, which consist of loans. All students are encouraged to apply for financial assistance.

Students with questions about financial aid or students seeking applications for financial aid should contact the Student Services Center or Admissions Office representative at the nearest Wilkes office. More detailed information regarding the financial aid programs and requirements is included in the Consumer's Guide to Financial Aid, Costs, and Charges at Wilkes University, which is also available at the Financial Aid Office and on the Wilkes University Web Site (or this link).

Financial Aid Application Procedures

NOTE: Students must be regularly accepted for admission at the University before their application for financial aid will be considered.

1. Complete the Free Application for Federal Student Aid (FAFSA).
2. Students who wish to participate in the Federal Direct Stafford Loan or the Federal Direct Grad PLUS Program or both must also complete the appropriate promissory note application.
3. Send an email to onestop@wilkes.edu indicating the following:
   - that you are registered for 6 or more credits and the start dates for your classes.
   - that you have successfully completed the FAFSA
   - the amount of financial aid you are applying for.

Financial Assistance Programs - Summary*

Federal Direct Stafford Loan	• Contact a Wilkes University Student Service Center representative at the office nearest you. • FAFSA - Free Application for Federal Student Aid • First time borrowers must complete Federal Student Loan Master Promissory Note (MPN) and Student Loan Entrance Counseling: https://studentloans.gov/myDirectLoan/index.action

Renewal of Financial Aid

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

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

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 (Stafford Loan and Grad PLUS Loans) adjusted based on the percentage of the semester completed prior to the withdrawal. That is, students will be entitled to retain the same percentage of the federal financial aid received as the percentage of the semester completed. This percentage is calculated by dividing the number of days in the semester (excluding breaks of five days or longer) into the number of days completed prior to the withdrawal (excluding breaks of five days or longer). The date of withdrawal will be the date the student begins the withdrawal process at the Registrar's Office unless attendance in class is documented after that date; in that case, the last date of documented attendance will be the official date of withdrawal. (See section on Withdrawals in this Bulletin.)

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

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

1. Federal Direct Unsubsidized Stafford Loans
2. Federal Direct Grad PLUS Loans.

Please note that students who receive a refund of financial aid prior to withdrawing from the University may owe a repayment of federal financial aid funds received. Students will be contacted by a Sudent Services Center representative 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.

Financial Information

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:

1. Enrollment in the Monthly Payment Option plan (discussed below);
2. 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 classified 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.

Graduate and Professional Program Tuition and Program-Specific Fees

Master's Programs Tuition and Fees

M.A. in Creative Writing And M.F.A. in Creative Writing	$660 per credit hour
Application Fee	$36
Acceptance Deposit	$250 (one-time fee)
General University Fee	$72 per credit hour
Thesis Reader Fee	$300 (one-time fee)
M.B.A.	$852 per credit hour
M.S.Ed.*	$454 per credit hour
M.S. In Bioengineering	$932 per credit hour
M.S. in Engineering Management	$852 per credit hour
M.S.E.E.	$932 per credit hour
M.S.M.E.	$932 per credit hour
M.S. (Mathematics, Mathematics Education)	$932 per credit hour
M.S. (Nursing)	$648 per credit hour

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	$6,264 per semester
Bioengineering Program Fee	$100 per credit hour
Engineering Lab Fee	$110 per class
General Fee	$72 per credit hour
Graduation Fee	$165 (charged to all graduating students in their last semester)
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 at 141 South Main Street 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 payment is received from their employer.

Doctoral and Professional School (Pharmacy) Tuition and Fees

EDUCATION (Ed.D)

Ed.D.*	$624 (2016-17 Academic Year)
Application Fee	$45

NURSING (DNP)

Tuition (on campus)	$872 per credit hour
Tuition (online)	$935 per credit hour
Technology Fee	$50 per credit hour

PHARMACY (Pharm.D.)

First Professional (Pharmacy School) Tuition and Fees:

Full-time Tuition (12-18 credits)	$16,976 per semester
General University Fee	$811 per semester

Monthly Payments

Wilkes has developed an interest-free, Installment Payment Plan. Upon receipt of invoice you must enroll online by selecting Installment Payment Plan under the Student Services tab on the Wilkes portal.

Payment of Charges

Prior to the beginning of each semester, invoices listing all current semester charges and approved financial aid are available online to all registered students. All payments can be mailed directly to Wilkes University - Student / P.O. Box 824696 / Philadelphia, PA 19182-4696. Electronic check, Discover, Master Card, Visa and American Express payments can be made on the Wilkes University web site. A 2.75% convenience fee will be added to all credit card payments. This fee will appear as a Vendor Service Fee Charge on your statement. Please be aware that school districts/employers may not reimburse this convenience fee. Please check with your SD/employer. Credit Card payments are not accepted by phone. Any questions concerning charges and payments should be directed to (570) 408-2000 option 2 or 1-800-WILKESU extension 2000 option 2 or you can email billing@wilkes.edu. Payments can be made by check or cash in person at the Bursar's Office located at 32 W South Street in Wilkes-Barre.

MESA
In addition to the above mailing address, students in Mesa, may make payments by check at 245 W. 2nd Street, Mesa, AZ 85201. Discover, MasterCard and American Express payments can be made on the Wilkes University web site (www.wilkes.edu). Any questions concerning charges or payments should be directed to 1-800-WILKESU extension 6372.

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

To make online payments, follow these simple steps.

- Log on to www.mywilkes.wilkes.edu
- Enter your Wilkes username and password
- Click on the 'Student Services' tab
- Click on 'Pay on Account' and follow the steps to make a payment.
- Be sure to print your receipt before you log out of the system.

Students who do not know their Wilkes username and password should contact the Help Desk at 570-408-4357 or 11-800-WILKES-U ext. 4357. For more information about tuition payment options and the new TouchNet e-bill pay service

Students may consult with the Financial Aid Director, (or at off campus sites, with the financial aid representative) 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.

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.

Refund Schedule*

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

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

Refunds

Tuition Refund Policy

1. Non- participation students who are dropped from a course for not satisfying the requirement for initial course participation are refunded 100 percent of the course tuition.
2. The following schedule applies to learners in all credit bearing programs for all terms that follow traditional, accelerated and online formats.
3. Students who request an exception to the tuition refund policy due to extenuating circumstances should submit a request in writing to the Tuition Refund Appeals Committee for review

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.

Tuition and Fees

Students have several options for making tuition payments to Wilkes.

Prior to the beginning of each semester, invoices listing all current semester charges and approved financial aid are available online to all registered students. All payments can be mailed directly to Wilkes University - Student / P.O. Box 824696 / Philadelphia, PA 19182-4696. Electronic check, Discover, Master Card, Visa and American Express payments can be made on the Wilkes University web site. A 2.75% convenience fee will be added to all credit card payments. This fee will appear as a Vendor Service Fee Charge on your statement. Please be aware that school districts/employers may not reimburse this convenience fee. Please check with your SD/employer. Credit Card payments are not accepted by phone. Any questions concerning charges and payments should be directed to (570) 408-2000 option 2 or 1-800-WILKESU extension 2000 option 2 or you can email billing@wilkes.edu. Payments can be made by check or cash in person at the Bursar's Office located at 32 W South Street in Wilkes-Barre.

MESA - In addition to the above mailing address, students in Mesa, may make payments by check at 245 W. 2nd Street, Mesa, AZ 85201. Electronic Check, Discover, MasterCard, Visa and American Express payments can be made on the Wilkes University web site (www.wilkes.edu). Any questions concerning charges or payments should be directed to 1-800-WILKESU extension 6372.

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

To make online payments, follow these simple steps.

- Log on to www.mywilkes.wilkes.edu
- Enter your Wilkes username and password
- Click on the 'Student Services' tab
- Click on 'Pay on Account' and follow the steps to make a payment.
- Be sure to print your receipt before you log out of the system.

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Students who do not know their Wilkes username and password should contact the Help Desk at 570-408-4357 or 11-800-WILKES-U ext. 4357. For more information about tuition payment options and the new TouchNet e-bill pay service, view our Frequently Asked Questions (FAQ).

Several plans have been developed to assist students who do not have the cash in hand financial means to pay their respective bill all at once, and it is suggested that these plans be considered when special assistance is needed. Students may consult with the Financial Aid Director, (or at off campus sites, with the financial aid representative) 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 2016-2017 academic year, which officially begins with the Summer Session, 2016* 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

General Information

Housing and Dining

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 Office of Residence Life to determine space availability.

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

For casual dining, the Rifkin Cafe is located on the first floor of the Henry Student Center, and Colonel Gambini's Cafe is also 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).

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. For off-campus and on-line students, including Mesa. AZ, a full selection of textbooks, supplies, and logo merchandise is available for purchase on the Barnes & Noble web site.

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 or contact them by e-mail at carol.bosack@wilkes.edu.

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.

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.

Students enrolled at the Mesa Center for Higher Education should contact the Student Service Desk for details on how to access local health services. Services are rendered through relationship with local health care providers and students will be referred as needed, however it is important for students to have insurance coverage.

Library Services

Contact: John Stachacz, Dean of the Library and Information Technology

Eugene S. Farley Library

The Eugene S. Farley Library, named in honor of the first president of Wilkes University, is located on the corner of South Franklin and West South Streets. It is one of the largest resource libraries in the region, with more than 200,000 volumes of books and bound journals, 11,000 electronic books, over 60 journals and newspaper subscriptions, 60,000 full text online journals, microforms, instructional audio-video materials, and a growing collection of classic films on DVD. The library has fine collections in English and American literature, history, the sciences, and mathematics, and sizable collections in other academic disciplines reflected in the University curriculum.

Also housed in the library are the University Archives, four special collections, rooms, and a SMART classroom. Students have access to 68 desktop computers, fourteen wireless laptops and forty iPads that can be used anywhere within the libraries wireless environment. Farley Library is home to the newly constructed Alden Learning Commons, a technology rich learning environment that has four enclosed group study rooms, twenty open group study areas that can accommodate groups of one to six students, the University Writing Center, and the Information Technology Computer Clinic and Help Desk.

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

Telephone: (570) 408-4250.

Farley Library Regulations

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

Farley Library Services

1. Reference Assistance: Professional staff is available for assisting students in their research endeavors.
2. Library Orientation: Group library orientation can be arranged for students upon request.
3. Bibliographic Instruction: Specific instruction in the use of library collections and reference tools is available for students upon request of the instructor.
4. Interlibrary Loan: This service is provided for students, faculty, and staff to supplement research needs. Inquire at the Reference Department for details.
5. Media Services: Media staff will have audiovisual equipment needed for classroom usage delivered to sites on campus. At least a 24-hour notice is required. Videos and DVDs may be reserved one week in advance of the expected need. The Library Media Room (Room 002) is also available, on a first-come, first-served basis, for classes or events.
6. Reserve Materials: Collateral course reading materials placed on reserve by faculty are maintained at the Circulation Desk.
7. Photocopying facilities for printed materials and micro materials are available in the library. A color copier is located on the first floor. Users are reminded to observe the restrictions placed on photocopying by the U.S. copyright law. The law and interpretive documents are available at the Circulation Desk.
8. Online searching of auxiliary databases is available by appointment through the Reference Department to support faculty research.

Music Collection

Darte Hall, on the corner of South River and West South Streets, houses a separate collection of music scores and recordings. For information about accessing materials housed in the music collection, call (570) 408-4420 or 1-800-WILKESU Ext 4420.

Pharmacy Information Center (Pharmacy Library)

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

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

Telephone: (570) 408-4286.

PIC Regulations

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

PIC Services

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

Parking On Campus

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).

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 prop-erty 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 (UCOM Parkade) or from the Student Services representative at the Mesa Center for Higher Education during regular hours of operation. A fee of $30 will be charged to the student's account.

Wilkes University's ID Card distribution point is located at the University Service Center, 1st Floor, 148 S. Main Street (UCOM Parkade) or in Mesa, Arizona at the Mesa Center for Higher Education Wilkes University Student Services Desk.

Graduate Admission

Graduate Admissions

Graduate admission requirements vary based upon program of study. For all programs, an applicant must have received a baccalaureate degree from a regionally accredited institution and must have satisfactorily completed a minimum of coursework in designated areas, specific prerequisite courses dependent upon the field of advanced study. For specific information, students should review the specific program of interest found in detailed sections of this bulletin.

It is expected that candidates for admission shall have maintained average or above-average performance during their undergraduate years and thus demonstrate a capacity for successfully completing graduate work. Certain programs require a specific undergraduate grade point average for admission.

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.

Application

Those interested in graduate programs offered at Wilkes University may apply on-line at www.wilkes.edu/applyonline. On campus, graduate admissions is located in the lower level of Breiseth Hall, Suite 002. You may contact the office by calling 800-WILKESU Extension 4235 or in Mesa, ext. 6372.

All students, whether degree-seeking or not, must complete 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. Depending on the program of study and the opportunity to seek financial aid, a high school transcript may also be required. Students applying for Graduate Education programs must submit a copy of their teaching certificate for most, but not all, programs. (See specific program requirements). Some 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, or other appropriate organization. Additional admission requirements vary based upon 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 special admission to the program pending processing of their application. 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.

Students enrolling at the Mesa Center for Higher Education must also submit a completed Enrollment Agreement at least three (3) business days prior to the start of class.

Arizona Three-Day Cancellation: An applicant who provides written notice of cancellation within three days (excluding Saturday, Sunday and federal and state holidays) of signing an enrollment agreement is entitled to a refund of all monies paid. No later than 30 days of receiving the notice of cancellation, the school shall provide the 100% refund.

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 Graduate Admissions and the program director.

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

Degree-Seeking Students

Regular admission is granted to students who have completed all requirements of the application process and who have demonstrated an acceptable level of academic work in their undergraduate degree program, including meeting program-specific, minimum GPA requirements and demonstrating preparedness for work at the graduate level in their field of specialization.

Provisional admission is granted to students who have not satisfied general or academic admissions requirements including missing documentation or insufficient prerequisite coursework for regular admission. Some graduate programs may allow a provisionally admitted student to begin graduate work before or simultaneously with completion of admissions deficiencies. Individual programs will determine the maximum number of graduate credits a provisional student may complete. Upon completion of the designated, maximum number of graduate credits, a provisionally admitted student will either be granted regular admission or denied admission into a graduate program. Under extraordinary circumstances a student may petition the Program Director or Chair of the Department, as applicable, for an extension to the number of allowable credits.

Conditional admission is granted to students who have demonstrated inadequate scores or academic performance, including failure to meet the minimum GPA requirement. To change to regular status, the conditionally admitted student must maintain a satisfactory GPA, as determined by the specific department of study, during the first X credit hours (typically six credits.)

Rejection will be used in cases when a student fails to meet the general or academic admissions requirements of the individual program of study.

Cancellation. Applicants who have not fully completed the admission process, and who have not yet started taking academic classes, will have one year to complete their application file. Should the process not be completed within that timeframe, the application will be cancelled one year after the date of application.

Additionally, students who have completed the admission process and received a decision, but have not yet started taking academic courses, will have their applications cancelled one year after the date of acceptance. Students who are still interested in an academic program thereafter will be required to reapply to the program.

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

International Students

Wilkes University's growing global perspective and commitment to education in an evolving and multicultural world is illustrated by the increasing number of students from abroad who enter Wilkes' programs. On campus the International Graduate Admissions office is located in the lower level of Breiseth Hall or by phone at 1-800-WILKESU Extension 4235.

All Graduate international students are welcome to apply with the following materials:

- A completed online application (www.wilkes.edu/applyonline)
- An official university transcript evaluated by course by via World Education Services (WES) for all undergraduate and graduate work completed outside of the U.S.
- Official results of the Test of English as a Foreign Language (TOEFL) or International English Language Testing System (IELTS) if the language of instruction for the applicant's undergraduate degree was not English
- Statement of financial verification (bank or government statement) indicating that the application or the applicant's sponsor has on account a sum of money sufficient to pay tuition, room, board, and expenses for one academic year
- A copy of the picture page of applicant's passport

Applicants are also required to submit necessary materials to satisfy individual program admission requirements, which can be found in their respective sections in the bulletin.

Electronic copies of application materials are not permitted. Applicants are required to submit all application materials to:

Wilkes University
Graduate Admissions
84 W South Street
Wilkes-Barre, PA 18766

Students who attended a college/university outside of the US are required to submit a course-by-course evaluation of their foreign transcripts to be considered for admission. Evaluations must be received from the evaluation company, not the student, in order to be considered official. Wilkes University accepts course-by-course evaluations from the following companies: World Education Services, Educational Credential Evaluators,Educational Perspective, Global Language Services, or Josef Silny & Associates, Inc., International Education Consultants. Students who attended a college/university within the US must submit an official transcript to Wilkes University from the college/university. Please contact the institution's registrar's office to submit a transcript request. Transcripts must be received from the college/university, not the student, in order to be considered official.

All international student applicants whose native language is not English and who come from non-English speaking countries must take the TOEFL (Test of English as a Foreign Language) or the IELTS (International English Language Testing System) exam and submit the results of this test with the application for admission or provide proof that their language of instruction was English.

Sufficient Scores for Graduate Work are as follows:

TOEFL Paper Based	550
TOEFL Computer Based	213
TOEFL Internet Based	79
IELTS	6

International Students are required to submit a statement of financial verification (bank or government statement) indicating that that the prospective student or student's sponsor have on account a sum of money sufficient to pay tuition, room, board, and expenses for one academic year. It is generally required that each international student also submits 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.

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. Students should complete their

application file by June 15 for admission in the fall semester and by November 15 for admission in the spring semester. Students who apply for programs that allow you to start in summer should complete their application by March 1.

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.

The Form I-20A will only be issued after the application process is complete and the student has been admitted to the institution.

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 Services Requirements

All international students must attend the mandatory two-day orientation with International Student Services of the Center for Global Education and Diversity before they begin their graduate studies. The ISS staff serve as advisors on non-academic matters to all international students. Services include assistance with visa and other immigration issues; assistance and advice on personal issues; orientation to life in the United States and the American educational system. ISS staff assist students in dealing with U.S. and foreign government agencies, other campus offices and departments, and the community. These services are available to all international students, non-immigrants and immigrants alike.

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 for an exemption. 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.

Notice of Nondiscrimination

Wilkes University offers equal opportunities in all admission and employment policies, practices and programs. Wilkes is committed to providing a welcoming environment for all members of our community and to ensuring that all educational and employment decisions are based on individuals' abilities and qualifications. Consistent with this principle, and in compliance with Title IX of the Education Amendments of 1972, Americans with Disabilities Act of 1990 and all other applicable laws, Wilkes University does not discriminate on the basis of race, color, religion, gender, gender identification and expression, sexual orientation, national or ethnic origin, age, disability, marital status, domestic partnership status or status as a veteran in any policies, practices or programs including, but not limited to: employment policies and practices; education and admission policies; scholarship/loan programs, athletics, and extracurricular activities.

Any questions or concerns should be addressed to the University's Title IX Coordinator:

Joseph Housenick

Human Resources Director
Wilkes University
84 West South Street
Wilkes-Barre, PA 18766
T (570)408-4631
joseph.housenick@wilkes.edu

OR

Deputy Coordinator:
Philip Ruthkosky, Ph.D
Associate Dean for Student Affairs
Wilkes University
84 West South Street
Wilkes-Barre, PA 18766
T (570)408-4108
philip.ruthkosky@wilkes.edu

In addition, students who are enrolled at the Mesa, Arizona site can contact:

Dr. Bonnie Culver
Interim Dean, Mesa Location
Mesa Center for Higher Education
245 West 2nd Street
Mesa, AZ 85201
Toll-free: 800-WILKESU ext. 6372 (MESA)

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 non-degree-seeking application, 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 Master's Programs in order to determine which courses are required for a specific M.S. in Education degree or Letter of Endorsement at Wilkes.

Special Non-Degree Students

Individuals who are interested in completing credits for transfer to another university or for personal enrichment need to submit a non-degree-seeking application and a copy of their undergraduate transcript. The non-degree-seeking application will be cancelled after the maximum number of six non-degree credits has been completed. Permission to complete coursework as a non-degree student is at the discretion of the individual department.

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/$165.00 graduation fee) during the beginning of the final term before graduation. Students should consult with their advisor if they have any questions regarding the process.

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.

UNIVERSITY PERSONNEL

Academic Departments

College of Arts, Humanities, & Social Sciences

Division of Behavioral and Social Sciences, Dr. Kyle L. Kreider, Chair
Department of Communication Studies, Dr. Mark D. Stine, Chair
Division of Global History, Dr. John H. Hepp and Dr. Diane Wenger, Co-Chairs
Division of Humanities, Dr. Mischelle B. Anthony, Chair
Department of Integrative Media and Art, Mr. Eric A. Ruggiero, Chair
Division of Performing Arts, Dr. Steven Thomas, Chair

College of Science & Engineering

Air and Space Studies, Lt. Col. John Baum, Chair
Division of Biology and Health Sciences, Dr. Michael A. Steele, Chair
Department of Chemistry, Dr. Donald Mencer, Chair
Department of Electrical Engineering and Physics, Dr. John Hepp, Interim Chair
Department of Environmental Engineering and Earth Sciences, Dr. Sid P. Halsor, Chair
Department of Mathematics and Computer Science, Dr. Barbara Bracken, Chair
Department of Mechanical Engineering and Engineering Management, Dr. Henry Castejon, Chair

Creative Writing

Creative Writing Program, Dr. Bonnie Culver, Director
Mr. Bill Schneider, Associate Director

Office of the Vice President for Student Affairs

PAUL S. ADAMS (1979), Vice President for Student Affairs
B.A., M.S. Wilkes, Ph.D. Pennsylvania

MARK R. ALLEN (1986), Dean of Students
B.S., M.A. SUNY, Oneonta

GRETCHEN YENINAS, Associate Dean of Student Affairs

PHILIP RUTHKOSKY (1999), Associate Dean, Student Development
B.S., M.B.A. Scranton, Ph.D.Penn State

University College

THOMAS J. THOMAS (1982), Executive Director, University College
B.S. East Stroudsburg, M.S. Wilkes

Athletics

ADELENE MALATESTA (1989), Director of Athletics
B.S. Slippery Rock, M.Ed. East Stroudsburg

Center for Global Education and Diversity

GEORGIA COSTALAS (2008), Executive Director, Center for Global Education and Diversity
B.A. Barnard, M.A. Columbia, M.A. Western Carolina

School of Education

Graduate Department of Education, Dr. Karim Letwinsky, Chair
Undergraduate Department of Education, Dr. Diane Polachek, Chair

The Jay S. Sidhu School of Business and Leadership

Department of Finance, **Accounting and Management,** Dr. Jennifer J. Edmonds, Chair
Department of Entrepreneurship, **Leadership and Marketing,** Dr. Ge Grace Xiao, Chair
Department of the Business Programs of Arizona, Dr. Anthony Liuzzo, Chair

The Nesbitt College of Pharmacy

School of Pharmacy

Department of Pharmaceutical Sciences, Dr. Zbigniew Witczak, Chair
Department of Pharmacy Practice, Dr. Edward F. Foote, Chair

The School of Nursing

Undergraduate Nursing Department, Dr. Susan J. Malkemes, Chair
Graduate Nursing Department, Dr. Kathleen A. Hirthler, Chair

Administration

PATRICK F. LEAHY (2012), President
B.A. Georgetown, M.B.A., M.I.L.R. Cornell, Ed.D. Pennsylvania Graduate School of Education

ANNE A. SKLEDER (2014), Senior Vice-President/Provost
B.S. University of Pittsburgh, M.A., Ph.D. Temple University

PAUL S. ADAMS (1979), Vice President for Student Affairs
B.A., M.S. Wilkes, Ph.D. Pennsylvania

LOREN D. PRESCOTT (2008), Vice President for Finance and Support Operations
B.A. University of Washington, LL.M. Florida College of Law, J.D. Willamette University College of Law

THOMAS S. MACKINNON (2015), Vice President for Advancement
B.A. Fordham University

DAVID RHODES (2016), Interim Vice President for Enrollment Services
B.A. Theil College, M.S. Heidelberg University

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

B.A. Alderson-Broaddus College

JACK CHIELLI (2005), Associate Vice-President & Executive Director of Marketing Communications
B.A. Roger Williams University, M.A. Wilkes University

JOSEPH HOUSENICK (2008), Chief Human Resources Officer
Kings College

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GERALD A. MOFFATT
ROBERT A. MUGFORD '58
WILLIAM PERLMUTH '51
MARY RHODES '77
EUGENE ROTH '57
STEPHEN SORDONI
WILLIAM TREMAYNE '57
NORMAN WEISS

Correspondence Directory

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

Patrick F. Leahy, President
General Institutional Policy
(570) 408-4000

Anne A. Skleder, Senior Vice President/Provost
Curriculum and Academic Affairs
(570) 408-4200

Susan A. Hritzak, Registrar
Readmission, registration, graduation audit, and academic records of currently enrolled and former students
(570) 408-4859

David Rhodes, Interim Director for Enrollment
Admission to Wilkes Undergraduate Program, visits to the campus, tours, and interviews
(570) 408-4405

Chanel Greene Poronchiak, Director of Financial Aid
Financial aid and scholarships
(570) 408-4512

Paul S. Adams, Vice President for Student Affairs
Student Affairs, readmission

(570) 408-4114

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

Janet M. Kobylski, Controller
Student accounts and other financial matters for new and enrolled students
(570) 408-4501

Executives Emeriti

Date of award of emeritus status noted in parentheses.

J. MICHAEL LENNON (2002)
Vice President for Academic Affairs, Emeritus, Ph.D. Rhode Island

EUGENE MANGANELLO (2002)
Director of Human Resources Management, Emeritus, B.A. Wilkes

PAUL O'HOP (2002)
Vice President of Business Affairs and Auxiliary Enterprises, Emeritus, M.B.A. George Washington

Faculty

In alphabetical order, with date of appointment following the name.

JEFFREY R. ALVES (1997), Allan P. Kirby, Jr., Distinguished Professor of Free Enterprise and Entrepreneurship and Dean, The Sidhu School of Business and Leadership
B.S. Air Force Academy, M.B.A. Southern Illinois, Ph.D. Massachusetts (Amherst)

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

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

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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 skills, and leadership capabilities of early and mid-career professionals from many disciplines, functions, and jobs in order to enhance their success at work, adding value both for the student and for the organizations with which the student is associated. The MBA Program 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 Accreditation Council for Business Schools and Programs (ACBSP) has accredited the undergraduate and the graduate Business Administration programs as well as the undergraduate programs in Accounting, Business Administration Entrepreneurship, Finance Management and marketing. ACBSP accreditation affirms the excellence of these programs to graduate and professional schools as well as potential employers, and thereby serves as a major competitive advantage for students completing business programs at Wilkes. The Jay S. Sidhu School of Business and Leadership is also a member of the Association to Advance Collegiate Schools of Business (AACSB).

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.

Vision

Sidhu School graduates will have the knowledge, skills, and experiences to be effective team members, managers, and authentic leaders in organizations that face dynamic challenges in a rapidly changing global environment.

Mission

The faculty of the Sidhu School commit to the development of our regional, national, and international students and alumni through: the practice of impactful teaching and mentoring; the understanding of emotional intelligence and entrepreneurial spirit; the growth of leadership potential; and their continued development to meet these challenging demands. Central to our programs and initiatives is the commitment to continuous program improvement and the development of programs and opportunities that add value to Wilkes University and its mission.

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 core objectives of the MBA include:

- To develop professional managers, with emphasis on the organization, operation, and control of an enterprise;
- 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 times per trimester. Courses are offered on the main campus in Wilkes-Barre, the Bartonsville location in the Poconos, and in Mesa, Arizona.

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. Demonstrate satisfactory performance as an undergraduate by providing to the Graduate Admissions Office a complete set of official undergraduate transcripts as evidence of an earned baccalaureate degree from an accredited institution of higher education.

To be accepted on a regular basis, applicants must have earned a cumulative GPA of at least 3.0 in their undergraduate degree program. An applicant who has earned a cumulative GPA of less than 3.0 in his or her undergraduate degree program will be required to interview with the MBA program director or his designate.

Provisional acceptance

A prospective student may be provisionally accepted in they have applied to the program and meet admissions requirements, but the university is waiting on additional application materials, like official college transcripts.

Conditional acceptance

A prospective student with a GPA of less than 3.0 may be accepted into the program on a conditional basis. The conditionally accepted student must maintain no less than a 3.0 in the first two courses (6 graduate credits) of the MBA program. Failure to maintain the minimum 3.0 may result in dismissal of the conditionally accepted student.

Distinct Objectives Of The MBA Program

- **Business Ethics:** To provide students with a set of principles that govern actions of moral conduct in order that they might operate ethically in today's business environment.
- **Communication:** To enhance the skills necessary to effectively transfer information applicable to any discipline through presentations, team projects, and interactions with peers.
- **Decision-Making:** To teach students the mental processes of problem identification and resolution techniques needed to perform critical thinking, enabling them to make important decisions.
- **Diversity:** To teach students how to interact with people of various cultures and backgrounds by immersing students in a diverse climate in order to better prepare them for today's global business environment.
- **Leadership:** To develop in students the potential to influence others in order to accomplish organizational goals by exposing them to theories of organizational leadership and development, and fostering that growth with projects throughout the course of their studies.
- **Professionalism:** To showcase professionalism by placing students in a variety of interactive settings that require adherence to rules of conduct and proper practices.
- **Social Responsibility:** To instill in students the concept of acting responsibly in order to benefit and serve society.
- **Team Performance:** To provide meaningful opportunities to cultivate teamwork throughout the course of studies through various projects, and measuring their success.

Degree Requirements

The total number of 500 level course credits required for the MBA is 39. The MBA degree is earned by completion of four distinct tiers – the Foundation, the Core, the Electives, and the Capstone. These are summarized below.

Tier I (6 credits): The Foundation – This tier is comprised of two Foundation courses, which are required as either prerequisites or co-requisites to most Core and Elective courses in the MBA Program:

- MBA 501 - Foundations of Business, which provides students with an introduction into all functional areas of business.
- MBA 505 - Foundations of Management, which introduces students to the eight distinct objectives (business ethics, communication, decision-making, diversity, leadership, professionalism, social responsibility, and team performance).

Tier II (21 credits): The Core - This tier is comprised of the following seven required courses, which together provide students with graduate-level appreciation and content knowledge for all of the functional areas of business administration:

- MBA 512 - Business Research Design and Methods
- MBA 520 - Marketing Management
- MBA 532 - Managerial Economics
- MBA 540 - Financial Management
- MBA 552 – Organizational Behavior and Leadership
- MBA 560 - Financial and Managerial Accounting
- MBA 580 – Business and Public Policy
- (MBA Core Courses may not be taken on an independent basis.)

Tier III (6 credits): The Electives - Each MBA student is required to successfully complete two courses from the following:

- MBA 516 – Topics in Operations Management
- MBA 526 – Topics in Marketing
- MBA 536 – Topics in International Business
- MBA 537 – Global Business Experience
- MBA 546 – Topics in Finance
- MBA 555 – Human Resources Law and Compensation
- MBA 566 – Topics in Accounting
- MBA 577 – Topics in Health Care Management
- MBA 585 – Topics in Entrepreneurship
- MBA 598 – Topics

Tier IV (6 credits): The Capstone - Each MBA student must successfully complete the following two-course capstone requirement:

- MBA 591 - Strategic Management and Policy, a general capstone course covering all functional areas and all distinct objectives (MBA 501 and MBA 505 prerequisites).
- MBA 592 - Advanced Projects in Business, a specific capstone course in which the student is required to perform independent work, providing students with an opportunity to concentrate their studies in a business-related discipline relating to their interests (MBA 501 and MBA 505 prerequisites).

Summer 2014

- May 10, 11
- May 31, June 1
- June 21, 22
- July 12, 13
- August 2, 3
- August 9, 10

Fall 2014

- August 23, 24
- September 13, 14
- October 4, 5
- October 25, 26
- November 15, 16
- December 6, 7

Spring 2015

- January 10, 11
- January 31, February 1
- February 21, 22
- March 14,15
- April 11, 12
- April 25, 2

CREATIVE WRITING

Bonnie Culver, Ph. D., Program Co-Founder, Program Director
J. Michael Lennon, Ph. D., Program Co-Founder
Bill Schneider, Associate Director

Master of Arts in Creative Writing (low residency and weekender version)
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 September 2010, 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. Such applicants must provide a very strong writing sample and writing history. 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, (optional, required only for students applying for graduate assistantships).
- 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:
    a. Where are you in time and how did you get there?
    b. What are you going to do in the program?
    c. 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 terms begin following each residency and continue until the next residency (approximately 6 months). Students selecting the weekender version of the MA will meet 4 weekends over the 6 month term instead of attending the 8 day residency in June and January.

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. in most tracks does not accept transfer credits from another institution. However the publishing M.A. and documentary film tracks will transfer up to nine credit hours from applicants who hold a Master of Fine Arts in creative writing, film, or theatre from another institution. Wilkes M.A. alums can take an additional 18 credit hours to earn a second degree in any track.

Degree Requirements

(30 credit hour minimum)

The Master of Arts in Creative Writing is a 30-credit, low-residency program in seven tracks, each of which will appear on the M.A. diploma: fiction / poetry / screenwriting / playwriting / creative nonfiction/publishing / documentary film. (48 credit hour minimum)

The Master of Fine Arts in Creative Writing (48 credit hour minimum) (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.

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 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. Residencies are held the first full week of January and the third week of June each year.
2. **Weekender option:** Students in Mesa, AZ or in the NE PA region may opt to complete the 4 M.A. residencies by attending 4 weekends between the regular residencies. These students complete the same coursework as the residency students, but take it while taking the online courses in the project term.
3. **Project terms** 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 foundations courses: 2; Minimum project terms: 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

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 diploma will also specify which area of study the student pursued and include the following options: Poetry, fiction, screenwriting, playwriting, creative nonfiction, documentary film, and publishing.

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, students' work, or a peer's draft. This study asks students to dissect texts and break them down into their basic elements. To become a better writer, students must learn how to objectively analyze and critique a wide range of texts in their areas of study.

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 students in the first residency. As students move through the program, the faculty and their mentors will work with students to understand both the business practices and the appropriate pathway for their 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 area 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. All Master of Arts creative projects, no matter which track, will be given an evaluation by an outside reader who is an industry expert, someone who is an editor, agent, publisher, producer, or director. A unique quality of the Wilkes M.A. is how that work comes together in the final capstone. All capstones, no matter which area the 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 area 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.)

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 a 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
- Jacket blurb (bio) (1 page.)
- 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 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), creative nonfiction writers will present a formal reading from their completed full-length manuscript, which will be either a memoir or essay 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.

Publishing

During the final residency (CW 525R), students in the publishing track will present their new e-zine, small press, journal as if they are actually launching this new company. These students will make a formal presentation to a panel of publishers, editors, and agents. Additionally, they will create materials that will be included in a M.A. book fair.

THESIS/Support materials will include:

- The first novel, journal, e-copy (minimum) to be launched by the student's new company
- The portfolio of work leading to the student's decisions:
- Business plan, vision/mission statement, etc.
- Marketing materials for launch
- Self-analysis essay, including the Writing Life Plan
- Final annotated bibliography of all readings, interviews leading to the thesis project, from CW 512-520.

Documentary Film

During the final residency (CW 525R), students in the documentary film track will present their new documentary film as if they are actually launching this film at a festival. Additionally, they will create materials that will be included in a M.A. film festival.

* Short documentary film (30 minutes maximum) DVD copy

- The portfolio of work leading to the student's decisions:
- Interviews, logs, transcriptions
- Marketing materials for launch
- Self-analysis essay, including the Writing Life Plan
- Final annotated bibliography of all readings, interviews leading to the thesis project, from CW 512-520

Degree Requirements | 30 credits (minimum)

First Residency

CW 501R	The Professional Writer / Residency Course	Total credits: 3

First Project Semester: Students 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.

Students who expect to enter the publishing track may select from any of the five foundations courses; students entering the documentary film track should register for CW 504—screenwriting and one other area of study.

CW 502	Writing Fiction	3
CW 503	Writing Poetry	3
CW 504	Writing Screenplays	3
CW 505	Writing Plays	3
CW 506	Writing Creative Nonfiction	3
		Total Credits: 6

Second Residency

CW 510R	Planning the Writing Life	Total credits: 3

In this residency students will select which track they are pursuing and be assigned a writer or editor or filmmaker mentor

Second Project Semester: Students will be registered in the courses listed below by area of study in both CW 512, 514:

CW 512F	Genre and Context in Fiction	3
CW 512P	Genre and Context in Poetry	3
CW 512S	Genre and Context in Screenwriting	3
CW 512L	Genre and Context in Playwriting	3
CW 512N	Genre and Context in Nonfiction	3
CW 512U	Genre and Context in Publishing	3
CW 512D	Genre and Context in Making Documentary Films	3
CW 514F	Genre and Context in Fiction	3
CW 514P	Genre and Context in Poetry	3
CW 514S	Genre and Context in Screenwriting	3
CW 514L	Genre and Context in Playwriting	3
CW 514N	Genre and Context in Nonfiction	3
CW 514U	Genre and Context in Publishing	3
CW 514D	Genre and Context in Making Documentary Films	3
		Total Credits: 6

Third Residency

CW 516R	Final Project/Thesis Plan Residency Course	Total Credits: 3

Third Project Semester: FINAL WRITING TERM—STUDENTS SELECT COURSE BY AREA OF STUDY (6 credit courses):

CW 520 F	Final Project / Fiction Thesis	6
CW 520 P	Final Project / Poetry Thesis	6
CW 520 S	Final Project / Screenwriting Thesis	6
CW 520 L	Final Project / Playwriting Thesis	6
CW 520 N	Final Project / Nonfiction Thesis	6
CW 520 U	Final Project / Publishing Thesis	6
CW 520 D	Final Project / Documentary Film Thesis	6
CW 520 D	Final Project / Documentary Film Thesis	6
		Total Credits: 6

Fourth Residency

Master of Arts in Creative Writing

CW 525R	Masters Capstone	Total Credits: 3

All students present capstone projects by area of study

	Total Credits for Master of Arts	30

Optional CW 530. Continuous registration (one - six credits) optional course used to complete capstone coursework.

MFA IN CREATIVE WRITING

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, workshopping, 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 project);
2. 25-65 page craft chapter or essay; (part of CW 612)
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.

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 area of study-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.

Final paper presentation is made at the subsequent residency. Hard copy of paper is 25 to 65 pages.

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.

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

Three Credits/Residency Course

Students will be required to make a formal paper presentation during this residency to complete CW 612. Students will complete work generated by team-taught modules to prepare them for either a teaching or publishing internship. They will meet with peers, mentoring faculty and create and deliver mini-lesson plans for proposed courses or a study plan in publishing. Such work must be drawn upon the best practices of the pedagogy of teaching creative writing or working in publishing in a variety of settings. Students will continue to sharpen their own oral and writing skills as they build an acceptable syllabi, course materials/internship goals for an internship and sample lessons/work plan by week's end. By week's end, students will have an internship experience and internship supervisor assigned to them.

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

Chairperson: Sid Halsor, Ph.D.

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.

SUSTAINABILITY MANAGEMENT, GRADUATE CERTIFICATE

Graduate Certificate In Sustainability Management

Program Director: Marleen Troy, Ph.D.

The online certificate in Sustainability Management is a 12-credit program that trains students in environmental sustainability standards and management practices. This program will equip students with the knowledge to take on and implement sustainability-related projects in the workplace by providing:

- a comprehensive overview of sustainability standards,
- effective assessment practices,
- the tools to design a sustainability plan and implement solutions in the workplace.

The Sustainability Management program is appropriate for students of most educational and professional backgrounds, including those working in:

- education,
- health care,
- commercial real estate,
- manufacturing,
- non-profits,
- government.

This unique learning opportunity is offered in a condensed subject-focused format, allowing students to complete the program in as little as 16 months, all while taking one class at a time. Credit is available at the graduate and undergraduate level, as well as for professional continuing education. To earn the certificate students must complete the following course series:

- SUS 501 - Introduction To Sustainability
- SUS 502 - Metrics Of Sustainability
- SUS 503 - Sustainability Implementation
- SUS 504 - Industry-Focused Sustainability

Degree Requirements

All candidates for the online certificate in Sustainability Management must complete a program of twelve (12) credits.

EDUCATION

Dr. Rhonda Rabbitt, Dean/Interim Director of Master'sPrograms, School of Education
Dr. Karim MedicoLetwinsky, Chair/ Assistant Professor of Education
Dr. Jin "Joy" Mao, Associate Professor of Education
Dr. Lori Cooper, Assistant Professor of Education
Dr. Kurt Eisele, Assistant Professor of Education
Dr. Blake Mackesy, Assistant Professor of Education
Dr. Paul Reinert, Assistant Professor of Education
Dr. Grace Surdovel, Faculty of Practice

Academic Integrity Policy

(Portions of this policy adapted from Seton Hall University's Plagiarism/Academic Integrity Policy:
http://www.shu.edu/academics/education/phd-counseling-psychology/plagiarism-academic-integrity-policy.cfm)

Wilkes University holds the following principles to be essential to responsible, professional behavior for employees and students: honesty, trustworthiness, integrity and dignity, as well as respect and fairness in dealing with other people, a sense of responsibility towards others and loyalty toward the ethical principles promoted by the University through our mission, vision and values. It is important that these principles and the tradition of ethical behavior be consistently demonstrated and carefully maintained.
The School of Education at Wilkes University is highly invested in demonstrating the critical importance of these principles for the students in our programs. All faculty members are charged with upholding the high professional standards that will become the foundation for the professional development of our students. Any suspicion of academic dishonesty that is detected by faculty or staff is to be addressed as outlined in the procedure below. A quality education requires that students are as aware of their ethical responsibilities as they are their program content.
Students must assume personal responsibility to ensure that their work is original and that it is properly referenced. The American Psychological Association's Manual of Style is used as the guide for proper citation of work that is referenced by students in their research and writing.
Instructors and staff will utilize anti-plagiarism tools as a means to enforce compliance with this policy.
Students are required to acknowledge receipt of this policy as a part of their admissions process. Reference to the policy is made in the syllabus of each class and it is available for review on the University website.
This policy is intended to provide clear expectations for the conduct of students and to provide a clear process for the handling of any infractions. The examples are provided to create a context for the determination of the level of infraction and certainly are not all inclusive.

Academic Integrity Violations

Cheating – The use of information or materials that are written, verbal, electronic or viewed from another student's work without the prior knowledge or authorization of the instructor. Cheating can also be alleged if there are conversations (verbal or electronic) during the administration of a test or if an effort is made to solicit exam information from another student.
Fabrication – Misrepresentation of research data or creation of research data that does not exist. Fabrication can also take the form of falsifying information such as the submission time or date of assignments, reasons for tardiness of assignments or reporting false information regarding another student.
Unauthorized access to or obstruction of intellectual property – Theft of course materials from an instructor or theft of another student's work would constitute unauthorized access. Intentionally denying access to resource materials or referenced materials to interfere with the academic progress of others would constitute obstruction of intellectual property.
Facilitation of academic dishonesty – Allowing another student to use one's work without the authorization of the instructor. Providing information regarding exams or assisting a student in obtaining unauthorized materials is also considered fabrication.
Plagiarism – The submission of work without the proper use of citation or quotation marks. The use of the words or ideas from others presented as one's own for a portion or all of one's work. This includes, but is not limited to, material from books, journals, the internet or other students or individuals. Paraphrasing that is too close to the original work and incomplete citations are also considered plagiarism.
This list is meant to be a framework to disseminate the expectation for academic integrity. The list and the examples are not exhaustive. Violations of this policy are classified by the severity of the infraction. Below are the recommended sanctions assigned to each level. The sanctions listed are used as a guide for enforcement of the policy. Those charged with levying the sanctions are not restricted to the sanctions listed.
Low Level - These offenses happen because of inexperience or lack of knowledge of academic standards by the persons committing the offense. These infractions involve a small part of the total course work, or occur on a minor assignment. The following are some examples:

- Working with another student on an assignment without instructor authorization.
- Failure to footnote or give proper acknowledgment in an extremely limited section of an assignment.

Recommended sanctions for low level offenses are listed below; one or more of these may be chosen in each case:

- Required attendance in a non-credit workshop or seminar on ethics or related subjects.
- An assigned paper or research project on a relevant topic.
- A make-up assignment at the same level of difficulty.
- A make-up assignment at a more difficult level than the original assignment.
- No credit given for the original assignment.

Records of students who commit low level offenses will be maintained in the Department Chairperson's/Director's Office until graduation. One year after the student graduates, all documentation, paper/electronic, of low level offenses will be destroyed.
Medium Level – These violations are those characterized by dishonesty of a more serious nature or which affect a more significant aspect or portion of the course work. The following are some examples:

- Quoting directly or paraphrasing, to a moderate extent, without acknowledging the source.
- Submitting the same work or major portions thereof to satisfy the requirements of more than one course without permission from the instructor.
- Using data or interpretative material for a laboratory report without acknowledging the sources or the collaborators. All contributors to preparation of data and/or to writing the report must be acknowledged.
- Receiving assistance from others, such as research, statistical, computer programming, or field data collection help that constitutes an essential element in the undertaking, without acknowledging such assistance in a paper, examination, or project.

The recommended sanction for medium level offenses is one year of academic probation. The student will receive zero points on the work and will fail the course. The student will be allowed to reregister for the course after a designated period of time.
Notation of academic probation will be placed on the student's transcript and will remain for the period in which the sanction is in force. A letter from the Dean of the School of Education will be sent to the student and a copy will remain in the student's educational record. Records of students who commit medium level offenses will be maintained in the Department Chairperson's/Director's Office until graduation. One year after the student graduates, all documentation, paper/electronic, of medium level offenses will be destroyed.
High Level Offense – High level offenses include dishonesty that affects a major or essential portion of work done to meet course requirements and/or involves premeditation, or is preceded by one or more violations at low and medium levels. Examples include:

- Copying on examinations.
- Acting to facilitate copying during an exam.
- Using prohibited materials, e.g., books, notes, or calculators during an examination without permission from the instructor.
- Collaborating before an exam to develop methods of exchanging information and implementation thereof.
- Altering examinations for the purposes of regrading.
- Acquiring or distributing an examination from unauthorized sources prior to the examination.
- Plagiarizing major portions of a written assignment.
- Presenting the work of another as one's own.
- Using a purchased term paper or other materials.
- Removing posted or reserved material, or preventing other students from having access to it.
- Fabricating data or inventing or deliberately altering material (for example, citing sources that do not exist).
- Using unethical or improper means of acquiring data.

The normal sanction to be sought for all high level offenses or for repeated violations of low or medium offenses is a minimum of one year Academic Ineligibility from the University and a failing grade for the course. The notation of Academic Ineligibility will be placed on the student's transcript and will remain for the designated period, at minimum. The student may request reinstatement and may retake the course after the designated time period. The designation of Academic Ineligibility will remain on the student's transcript until there is action by the student to have it successfully removed. In certain instances, students may be placed on Permanent Academic Suspension.
Severe Level Offenses – These offenses represent the most serious breaches of intellectual honesty. Examples of serious level offenses include:

- All academic integrity infractions committed after a previous medium or high level academic integrity violation.
- Infractions of academic integrity resembling criminal activity (such as forging a grade form, stealing an examination from a professor or from a university office; buying an examination; or falsifying a transcript). (Actions that may be construed as criminal activity will be handled by the appropriate legal authority as directed by the University's protocol.)
- Having a substitute take an examination or taking an examination for someone else.
- Fabrication of evidence, falsification of data, quoting directly or paraphrasing without acknowledging the source, and/or presenting the ideas of another as one's own within a master's thesis or doctoral dissertation, in scholarly articles submitted to refereed journals, or in other work represented as one's own as a graduate student.
- Sabotaging another student's work through actions designed to prevent the student from successfully completing an assignment.
- Willful violation of the code of conduct for Professional Educators issued by PDE (22 Pa. Code §§235.1 - 235.11)
- http://www.portal.state.pa.us/portal/http;//www.portal.state.pa.us;80/portal/server.pt/gateway/PTARGS_0_123531_870687_0_0_18/code%20of%20conduct.pdf

The normal sanction for all severe level offenses and a repeat infraction at high level offenses is immediate and Permanent Academic Suspension from the University. A notation of the permanent suspension will be placed on a student's transcript and will remain permanently.
Please note: For Academic Integrity policy violations in those programs requiring certification, a substantiated violation at the medium level or higher will result in "no" response on the PDE submission question requiring affirmation of "Good Moral Character" and a notation referencing the violation of this policy.

Procedure for Enforcement
The student will be made aware of the Academic Integrity policy at the time of initial application and throughout their educational experience. As a part of the application process, applicants will receive a copy of the policy and will be required to complete and submit a form that acknowledges that they have received and read the policy. Applications will not be processed without this documentation. The policy will be referenced in the syllabus of each course and is posted on the University website for easy reference.

The Program Coordinators and Full-Time Faculty are in the best position to ascertain the full impact of the actions of the student and are the catalysts to begin the process of inquiry regarding the allegations of a violation, regardless of the source of the allegation.
For the Doctoral Level programs, the Full Time Faculty member will replace the Program Coordinator in the procedures outlined below.
When an instructor is made aware of a violation of the Academic Integrity Policy at the Low Level, the instructor, under the direction of the Program Coordinator, will complete an Academic Integrity Violation Charge Form, communicate with the student and include their feedback on the form. The form and supporting documentation will be submitted to the Program Coordinator for review. The Program Coordinator and Instructor will determine the sanction. The sanction will be communicated to the student by the instructor. Documentation of the infraction will be kept on file with the Department Chairperson/Director through graduation. One year after the student graduates, all documentation, paper/electronic, of low level offenses will be destroyed.
When an instructor is made aware of a violation of the Academic Integrity Policy at the Medium Level, following consultation with the Program Coordinator, the student will be notified and the case and all supporting documentation will be forwarded to the Program Coordinator and the Department Chairperson/ Director. The instructor will complete an Academic Integrity Violation Charge Form, communicate with the student and include their feedback on the form. The form and supporting documentation will be submitted to the Program Coordinator and the Department Chairperson/Director for review. The Department Chairperson/Director, the Program Coordinator and the Instructor will determine the sanction. The sanction will be communicated to the student by the instructor. Documentation of the infraction will be kept on file with the Department Chairperson/Director through graduation. If part of the sanction is Academic Probation, this designation will be placed on the student's transcript for the designated period. One year after the student graduates, all documentation, paper/electronic, of medium level offenses will be destroyed.
When an instructor becomes aware of a violation of the Academic Integrity Policy at the High or Severe Level, the instructor will immediately inform the Program Coordinator, the Department Chairperson/Director and the Dean of the School of Education. The instructor will complete an Academic Integrity Violation Charge Form. This will initiate a Formal Review Process. Supporting documentation will be reviewed and a letter to the student will be compiled and sent, via certified mail, to the student with information regarding the allegation, supporting documentation and notice that a Faculty Panel will be convened to review the evidence. The student will be allowed to submit feedback within a designated timeframe. The student may request to be present for the panel review and may choose a member of the campus community to be present as an internal advisor. The Dean will convene a Faculty Panel and set a meeting date for review of the evidence. The recommendation of the panel will be submitted to the Dean of the School of Education. The Dean will review all of the documentation and the recommendation from the Faculty Panel. The determination of the Dean is final.
For all level offenses, the student has the right to appeal the decision. If a student feels that the charge or sanction related to the academic integrity policy violation is unacceptable and/or unreasonable, the student may submit the complaint, in writing, to the Department Chairperson/Director within two weeks of receiving notification of the determination. If a student does not receive a response from the Department Chairperson/Director within two weeks from the date of originally filing the complaint or is not satisfied with the result of that determination, the student may then submit the complaint to the Dean of the School of Education for review. If a student does not receive a response from the Dean of the School of Education within two weeks from the date of submitting the complaint to the Dean or is not satisfied with the result of that determination, the student may then submit the complaint to the appropriate Vice President or Provost. The determination of the Vice President or Provost is final.
Students may continue to participate in the course until the case has been resolved. If a student chooses to withdraw from the course, the process will continue through to resolution with the recommended documentation included in the student record. A grade of I (incomplete) should be assigned pending resolution. All information and identities of involved parties are confidential.
Administering this policy is the responsibility of everyone in the Wilkes School of Education community. Students, instructors, program coordinators, department chairpersons and the Dean all have an investment in providing an environment that promotes scholarship, honesty and integrity. This responsibility is taken seriously and this policy will be enforced uniformly.

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 21st Century Teaching and Learning, Art and Science of Teaching, Classroom Technology, Early Childhood Literacy, Educational Development and Strategies, Educational Leadership, Effective Teaching, Instructional Media, Instructional Technology, International School Leadership, International Teaching and Learning, Middle Level Education Programs, Middle Level Education with Initial Pennsylvania Grade 4-8 Certification, Online Teaching, Reading Specialist, School Business Leadership, Special Education, and Teaching English to Speakers of Other Languages. All programs lead to a Master of Science in Education degree.

Wilkes University offers six 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 Middle Level Education with internship qualifies teachers to apply for Pennsylvania's grades 4 to 8 certificate in a particular content area. The Master of Science Degree in Middle Level Education with Initial Pennsylvania Certification qualifies an individual to apply for Pennsylvania teaching certification in grades 4 to 8 in a particular content area. The Master of Science Degree in Reading with Pennsylvania Reading Specialist Certification qualifies an individual with a PA instructional certificate for Pennsylvania Reading Specialist Certification. The Master of Science Degree in Education with Special Education Certification qualifies an individual with a PA instructional certificate for additional certification in Special Education. Teachers may obtain the Pennsylvania ESL Program Specialist

Certification by completing the designated four courses in the Teaching English as a Second Language Program. All program requirements for the University as well as for PDE must be met in order for the graduate to be eligible for certification.

An additional program, although not a master's degree, is the Letter of Endorsement. These are available in five areas: Pennsylvania Autism, Discovery Education EDGE, Pennsylvania Gifted, Pennsylvania Online Instruction, and Pennsylvania STEM. 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 as indicated by the title of the endorsement.

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, unless otherwise stated, 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.

All Master of Science in Education degree-seeking applicants 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. See the note on exceptions below for more details.
5. Submit official transcripts from all of the undergraduate universities attended while obtaining the bachelor's degree, including teacher certification and, any master's degrees earned.

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. Students deficient in any academic aspect of the admissions requirements may be granted conditional admission. Such students may be permitted to take up to six credits of graduate courses on a conditional basis and at completion of those credits their application will be reconsidered for regular admission status.

Exceptions to the above process

All programs except Instructional Technology, Effective Teaching, Instructional Media, Middle Level Initial Certification, Online Teaching (master's only option), School Business Leadership, Teaching English to Speakers of Other Languages (non-cert option), and Discovery Education EDGE require a state-approved instructional certificate unless approved by the program coordinator. Applicants to the Educational Leadership principal certification program must follow the admissions process outlined in that section of this bulletin. Note: Applicants to the 21st Century Teaching and Learning, Early Childhood Literacy, and Art and Science of Teaching programs must be currently teaching or have access to a classroom in order to enter 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. Grades below a 3.0 are not acceptable for meeting degree requirements, so any student earning a grade less than 3.0 will need to repeat that course in order to achieve an acceptable grade for graduation.

NOTE: It is the graduate student's responsibility to register for Graduation (GRD-OOO- B) the same semester they enroll in the final course required for their degree. Students must be fully admitted to their degree program in order to register for GRD-OOO-B. Students not fully accepted into the degree must contact the Student Service Center to obtain information on missing admissions documents. The student is strongly 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 regionally accredited U.S. 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 Department Chair will make the final determination regarding transfer credits and whether they will count as elective credits or qualify to replace required courses. Students must complete the Request for Transfer Credit form to initiate the transfer process for courses taken prior to entering Wilkes University. In addition, students must be admitted to the degree program in order for transfer credits to be posted to their Wilkes transcript.

In order for courses to count as electives, they must meet the academic intent of the student's master's program or be aligned to their respective professional assignment. External courses requested to transfer as required courses in the student's program must align with the content of the Wilkes course. Each transfer request is handled on a case-by-case basis and the student will 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 the Request to Transfer Credit form prior to registering for such courses. Failure to submit the proper paperwork may result in the inability to transfer those credits.

The required form is available on the Graduate Education web site: 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 12 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.

Learning Outcomes

School of Education Learning Outcomes (SELO)

Education students will develop and demonstrate the following learning outcomes as appropriate to their selected level and field:

1. the knowledge, skills, and scholarship appropriate in their chosen field of study.
2. effective written and oral communication skills.
3. information literacy that fosters intelligent and active participation in the educational community.
4. technical competence and pedagogical skill to infuse technology in support of the teaching and learning process.
5. the ability to make informed decisions based on accurate and relevant data.
6. Actions reflecting integrity, self-respect, moral courage, personal responsibility, and the ability to understand individual differences in order to meet the needs of the students and communities served.
7. collaborative skills that promote teamwork.

Graduate Education Student Program Outcomes (GEPO)

1. The student will develop the knowledge, skills, and scholarship that are appropriate to the educational program.
2. The student will demonstrate effective written and oral language skills appropriate to knowledge acquisition and professional responsibilities of the discipline.
3. The student will demonstrate data driven decision-making skills.
4. The student will demonstrate an understanding of diversity by applying differentiation to the educational process.
5. The student will understand the critical role of collaboration in creating an effective educational process.

Degree Requirements

All candidates for the Master of Science in Education degree must complete a program of at least thirty (30) credits. The length of the courses in each degree program may vary. See the table for information on duration of courses by program. Individual program descriptions are also provided with the specific course credit requirements for each graduate education program.

Program	Number of Weeks in Part of Term
21st Century Teaching and Learning	9 weeks or 14 weeks
Art and Science of Teaching	9 weeks
Autism Endorsement Program (PA Endorsement)	12 weeks
Classroom Technology	12 weeks; Summer courses are offered in multiple formats
Discovery Education EDGE	7 weeks
Early Childhood Literacy	9 weeks or 14 weeks
Educational Development and Strategies	12 weeks for Wilkes courses; PLS courses offered in multiple formats
Educational Leadership Ed.D.	12 weeks; 6 week format available in summer
Educational Leadership w/ PA K-12 Principal Certification	12 weeks
Educational M.S. with PA Special Education Certification	12 weeks
Effective Teaching	12 weeks for Wilkes courses; 7 weeks for PLS courses
Gifted Letter of Endorsement (PA Endorsement)	12 weeks
Instructional Media/ Online Teaching M.S. with PA Online Instruction Endorsement	7 weeks
Instructional Technology w/ PA Instructional Technology Specialist Certification	12 weeks
International School Leadership	12 weeks for Wilkes courses; 7 weeks for PLS courses
International Teaching and Learning	12 weeks
Middle Level Education Program (30 credits, 36 credits, & Initial PA Certification)	12 weeks
Reading M.S. with Reading Specialist Certification	9 weeks or 14 weeks
School Business Leadership	12 weeks
STEM Letter of Endorsement (PA Endorsement)	7 weeks
Superintendent's Letter of Eligibility	12 weeks; 6 week format available in summer
Teaching English to Speakers of Other Languages M.S. with PA ESL Program Specialist Certification	12 weeks

21ST CENTURY TEACHING AND LEARNING

21st Century Teaching and Learning

Mrs. Anne Butler, 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.

Program Learning Outcomes:

1. The student will describe the role collegial collaboration plays in establishing a 21st century classroom
2. The student will utilize technology in authentic instruction to promote higher level thinking skills in students
3. The student will apply the principles of project-based learning to lesson development to increase student achievement
4. The student will identify the needs and preferences of 21st century learners
5. The student will conduct action research to identify instructional implications for implementing authentic instruction and assessment in the 21st century classroom
6. The student will conduct action research to identify instructional implications for implementing inquiry-based learning in the 21st century classroom
7. The student will apply the principles of differentiated instruction to lesson development to increase student achievement

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)

Please refer to the course description section of this bulletin for information on course prerequisite requirements.

There are no transfer credits permitted in this program.

AUTISM ENDORSEMENT PROGRAM

Autism Endorsement Program

Pennsylvania Autism Letter of Endorsement Program

Ms. Kali Fedor, Program Coordinator

The Autism Letter of Endorsement is a 12-credit fully online graduate program designed to provide professionals with advanced training in the areas of autism spectrum disorders and pervasive developmental disorders. The program has received approval from the Pennsylvania Department of Education. Therefore, satisfactory completion of the 12-credit letter of endorsement program, including all course and field experience requirements, will enable candidates to apply to the PDE for an endorsement on their existing Pennsylvania certificates. The four courses may also be taken as electives by other educational and clinical professionals who wish to gain additional knowledge in the areas addressed in each course.
The requirements for this 12-credit endorsement are:

- AUT 501 Autism Diagnosis and Treatment (3 credits; 20 hours field experience)
- AUT 502 Applied Behavioral Analysis and Autism (3 credits; 20 hours field experience)
- AUT 503 Autism Scope and Sequence (3 credits; 20 hours field experience)
- AUT 504 Advanced Autism Instruction and Intervention (3 credits; 20 hours field experience)

PA certification and endorsement candidates will be recommended for certification upon successful completion of the required certification coursework, fieldwork, and internship. Candidates must self-register and pass the certification test, if required. Some certifications require verification of experience. In those cases, the candidate will need to have input from their school district verifying that they have satisfactory met professional school experience required. Application for certification and Endorsement is made by the candidate through the PDE Teacher Information Management System (TIMS) found on the PDE portal.

CLASSROOM TECHNOLOGY

Classroom Technology

Dr. Grace Surdovel, Program coordinator

The Master of Science in Education with a major in Classroom Technology is designed primarily for teaching professionals. Core education courses are combined with courses in classroom technology to prepare educators to integrate the use of technology into their curriculum and update their computer and technology skills.

Program Learning Outcomes:

1. The student will demonstrate the use of new technologies to create meaningful learning opportunities for all students.
2. The student will develop the ability to provide learning opportunities within the discipline that addresses different approaches to learning and creates instructional opportunities that are equitable, based on developmental levels, and that are adapted to diverse learners, including those with exceptionalities.
3. The student will acquire the ability to understand the role of technology within the discipline and be able to demonstrate skills using instructional tools and technology to gather, analyze and present information, enhance instructional practices, facilitate professional productivity and communication.

The candidate must complete 30 Credits:

Area I: Foundations of Education (6 credits required)

Required:

- ED 519 Issues, Law, and Trends in Education (3 credits)

And one of the following:

- ED 510 Psychological Foundations (3 credits)
- ED 511 Philosophical Foundations (3 credits)
- ED 512 Social Foundations (3 credits)
- ED 513 Comparative Foundations (3 credits)
- ED 515 Cognition (3 credits)
- ED 569 Teaching Diverse Learners Using Inclusive Classroom Practices (3 credits)

Area II: Professional Skills (9 credits required)

- ED 521 Using Technology for Assessment (3 credits)
- ED 522 Curriculum and Instruction (3 credits)
- ED 585 Integrating Technology into the Curriculum (3 credits)

Area VI: Educational Computing Courses (12 credits required)

- ED 526 Internet Literacy for Educators (3 credits)
- ED 527 Multimedia Design for Digital Learning (3 credits) - previously titled Authoring Systems/Instructional Design
- ED 528 Print Media in the Digital Classroom (3 credits) - previously titled Using Print Media to Support Education
- ED 530 Utilizing Emerging Technologies to Improve Learning (3 credits)

Elective Courses (3 credits required)

Completion of the Classroom Technology degree does not fulfill the requirements for any additional teacher certification area.

DISCOVERY EDUCATION EDGE LETTER OF ENDORSEMENT

Discovery Education EDGE Letter of Endorsement

Dr. Grace Surdovel, Program Coordinator

The Discovery Education EDGE is a 12-credit letter of endorsement program that provides a quick pathway to expertise in emerging technologies. By combining a forward thinking curriculum with existing and proven pedagogy, all under the guidance of an established leader in digital instruction, this program will prepare you for the challenges and opportunities of an ever-changing, digital classroom. This endorsement is a Wilkes University issued endorsement.
The requirements for this 12-credit endorsement are:

Required courses (6 credits)

- EDIM 515 BYOD: Mobile Devices for Teaching and Learning- Previously titled BYOD: Mobile Learning in Education (3 credits)
- EDIM 516 Sustaining Digital Literacy (3 credits)

Electives (6 credits- choose two)

- 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)

EARLY CHILDHOOD LITERACY

Early Childhood Literacy

Mrs. Anne Butler, Program Coordinator

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 have access to a PK-4 classroom.

Program Learning Outcomes:

1. Students will be able to demonstrate knowledge and understanding of essential concepts, inquiry tools, and structure of content areas related to literacy acquisition and development in young children. (IRA 1/NAEYC 1)
2. Students will be able to interpret literacy assessment data to plan and evaluate instruction using multiple indicators of student progress. (IRA 3/NAEYC 3)
3. Students will be able to plan and adapt literacy instruction using developmentally appropriate instructional strategies, curriculum resources, and technologies that address the diverse needs of PK-4 learners at a variety of instructional levels across all learning domains. (IRA 2,4/NAEYC 4,5)
4. Students will be able to develop a safe, inclusive, literacy-rich learning environment incorporating developmentally appropriate practices that promote skill development and enhance literacy experiences for all learners. (IRA 5/NAEYC 1)
5. Students will be able to engage in reflective practice that leads to improvement in instruction and student learning, and fosters professionalism in school and community settings. (IRA 4,6/NAEYC 2,6)

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

Early Literacy Series (24 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 (3 credits)
- EDAM 5005 Developing Comprehension, Pt II (3 credits)
- EDAM 5007 Differentiated Small Group Instruction (3 credits)
- EDAM 5009 Developing Independent Readers (3 credits)
- EDAM 5010 Connecting Reading and Writing (3 credits)

Teacher Leadership (9 Credits)

- EDAM 5013 Teacher Leadership (3 credits)
- EDAM 5012 Developing a Results-Driven Early Literacy Classroom (6 credits)

Please refer to the course description section of this bulletin for information on course prerequisite requirements.

There are no transfer credits permitted in this program.

EDUCATION LEADERSHIP

Doctor of Education (ED.D.)

Dr. Karim Medico Letwinsky, Chair, Assistant Professor of Education, School of Education
Mrs. Pamela Koslosky, Administrative Assistant

Mission

The mission of the Doctor of Education, Education Leadership Program is to combine the principles and theory od leadership, scholarship, and practice to prepare knowledge leaders who have the skills and disposition to affect change in educational systems, advance student learning, and inform future practice through research.

Programs

Wilkes University's Doctor of Education (Ed.D.) in Educational Leadership is a 60-credit post-master's program offered in a hybrid-online format with annual low residencies. The completion of required doctoral level coursework and the development and acceptance of a dissertation proposal to conduct field-based research and its defense are the requirements for the degree.
The objectives of the doctoral program in Educational Leadership are 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: (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 informed, ethical, and reflective decision-making.

Degree Requirements

All candidates for the Doctoral Degree in Educational Leadership must complete a program of at least **sixty (60) credits**.

Doctoral Core Courses Required of All Ed.D. Students

Leadership: 9 credits
ED 610 Ethics for Educational Leaders
ED 612 Leadership, Diversity, & Societal Change
ED 614 Organizational and Leadership Theory

Research: 12 credits
ED 681 Introduction to Educational Research
ED 682 Quantitative Methods for Educational Research I
ED 683 Qualitative Methods in Educational Research I
ED 685 Quantitative Methods for Educational Research II **OR** ED 686 Qualitative Methods in Educational Research II

Dissertation: 9 credits
ED 697 Dissertation Proposal Seminar (3 credits)
ED 698 Dissertation Proposal (3 credits)
ED 699 Dissertation (3 credits)

Ed.D. Students select one 30-credit hour area of study:

K-12 Administration 30 credits (leading to Pennsylvania superintendent certification)
Required courses:30 credits
ED 623 Educational Technology Leadership (36-hour field experience)
ED 625 Professional Development & Supervision (36-hour field experience)
ED 627 Advanced Issues in Educational Law
ED 628 Human Resource Development & Labor Negotiations
ED 629 Strategic Thinking and Planning
ED 650 Curriculum, Instruction, & Assessment (36-hour field experience)
ED 652 Special Education Administration (36-hour field experience)
ED 654 School Finance & Facilities Administration (36-hour field experience)
ED 658 Advanced Studies in School District Leadership (90 hour internship)
ED 659 Superintendent Internship (90 hour internship)

Educational Leadership 30 credits
Required courses: 15 credits
ED 615 Professional Seminar in Educational Leadership
ED 626 Politics and Policy for Educational Leaders
ED 629 Strategic Thinking and Planning
ED 632 Cognition and Learning
ED 643 Trends and Innovations in Instructional Technology

Concentrations: 15 credits—Students select one of three available concentrations:

Curriculum and Instruction
Recommended for students who wish to become a faculty member in higher education or work in the area of curriculum design and development.

- ED 670 Curriculum Theory
- ED 672 Curriculum Design and Instructional Models
- ED 673 Controversies in Curriculum, Instruction, and Assessment
- Two 3-credit electives from available doctoral level courses, which can include: ED 679 Internship in Curriculum and Instruction (90 hours)

Educational Technology
Recommended for students who wish to become a faculty member in higher education or work in the field of educational technology in public or private institutions.

- ED 635 Integrating Technology for Diverse Learners
- ED 646 Assistive Technology
- ED 645 Technology Supported Assessment
- Two 3-credit electives from available doctoral level courses, which can include: ED 639 Internship in Instructional Technology (90 hours)

Educational Leadership Studies
Recommended for students who currently work in or would like to work in higher education or in the field of educational leadership as a faculty member or as a member of the professional or administrative staff.

- ED 620 Educational Institutions and Systems
- Four 3-credit electives from available doctoral courses, which can include a 90 hour internship tailored to meet student's career goals

Superintendent's Letter of Eligibility

Students enroll in the superintendent certification-only program through the Doctor of Education program in K-12 Administration. This PDE-approved program consists of 30-credits, which includes: eight 3-credit courses offered in a blended format (with field work totaling 180 hours) and 6-credits of a 180-hour internship at the superintendent's level.

Students may elect to apply for admission to Wilkes University's Doctor of Education (Ed.D.) during or at the conclusion of the program. The successful completion of this 30-credit certificate program satisfies the K-12 Administrative specialization requirements for the Ed.D. Thirty additional credits, which include research and dissertation coursework, are required to earn the Ed.D. in Educational Leadership.

K-13 Administration courses for Superintendent Certification (30 credits)
Pennsylvania Department of Education required field and internship hours are noted after course titles. NOTE: ED 658 and 659 must be taken last in the program.

- ED 623 Educational Technology Leadership (field hours)
- ED 625 Professional Development and Supervision (field hours)
- ED 627 Advanced Issues in Educational Law
- ED 628 Human Resource Development and Labor Negotiations
- ED 629 Strategic Planning and Thinking
- ED 650 Curriculum, Instruction and Assessment (field hours)
- ED 652 Special Education Administration (field hours)
- ED 654 School Finance and Facilities Administration
- ED 658 Advanced Studies in School District Leadership (90-hour internship)
- ED 659 Superintendent Internship (90-hour internship)

Students may elect to apply for admission to Wilkes University's Doctor of Education (Ed.D.) during or at the conclusion of the program. The successful completion of this 30-credit certificate program satisfies the K-12 Administrative specialization requirements for the Ed.D.

PA certification and endorsement candidates will be recommended for certification upon successful completion of the required certification coursework, fieldwork, and internship. Candidates must self-register and pass the certification test, if required. Some certifications require verification of experience. In those cases, the candidate will need to have input from their school district verifying that they have satisfactory met professional school experience required. Application for certification and Endorsement is made by the candidate through the PDE Teacher Information Management System (TIMS) found on the PDE portal.

Doctoral 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 doctoral programs, their requirements and admission procedures can be found on-line at http://www.wilkes.edu/doctorofeducation.

EDUCATIONAL DEVELOPMENT AND STRATEGIES

Educational Development and Strategies

Ms. Kali Fedor, Program Coordinator

The Master of Science degree in Education with a major in Educational Development and Strategies is designed to meet the needs of practicing teachers by combining effective teaching practices with theory and research. Students will grow their knowledge base as well as gain practical skills and techniques that are directly applicable to their classroom.

Program Learning Outcomes:

1. Students will be able to implement strategies to guide instruction for learning to achieve established learning goals
2. Students will be able to apply differentiated instruction techniques and strategies to create learner centered classrooms and lessons for diverse populations.
3. Students will be able to discuss current, validated research underlying the theory, principles, and practices of the course content and apply them to his/her own instructional setting and content area.

Students will be able to model and directly teach communication skills that build rapport with the community of learners.

The requirements for this 30-credit degree are:

Area I: Foundations of Education (6 credits required)

Required

- ED 519 Issues, Law, and Trends in Education (3 credits)

And one of the following

- ED 510 Psychological Foundations (3 credits)
- ED 511 Philosophical Foundations (3 credits)
- ED 512 Social Foundations (3 credits)
- ED 513 Comparative Foundations (3 credits)
- ED 515 Cognition (3 credits)
- *ED 569 Teaching Diverse Learners Using Inclusive Classroom Practices (3 credits)

Area II: Professional Skills (9 credits required)

- ED 520 Using Assessment to Guide Instruction (3 credits)
- ED 522 Curriculum and Instruction (3 credits)
- ED 585 Integrating Technology into the Curriculum (3 credits)

Area V: Major Courses PLS 3rd Learning (12 credits required)

- (Numbered ED 541-561, ED 5020, ED 5024 and ED 5400-5404)

Elective Courses (3 credits required)

PLS 3rd Learning (Area V) courses cannot be used for elective credits in this degree program, including those listed as 558 Topics courses.

EDUCATIONAL DEVELOPMENT AND STRATEGIES INTERNATIONAL

Educational Development and Strategies International

Dr. Karim Medico Letwinsky, Chair/Assistant Professor of Education, Program Director

The Master of Science in Education with a major in Educational Development and Strategies International program is designed to meet the needs of practicing teachers, abroad, by combining effective teaching practices with theory and research. In this program, teachers will learn new skills that can be immediately implemented in their classroom. The Educational Development and Strategies International master's degree is offered in hybrid format, blending online and face-to face learning.

Program Learning Outcomes:

1. Students will be able to implement strategies to guide instruction for learning to achieve established learning goals
2. Students will be able to apply differentiated instruction techniques and strategies to create learner centered classrooms and lessons for diverse populations.
3. Students will be able to discuss current, validated research underlying the theory, principles, and practices of the course content and apply them to his/her own instructional setting and content area.
4. Students will be able to model and directly teach communication skills that build rapport with the community of learners.

The requirements for this 30-credit degree are:

Wilkes Core Courses (Five required: one in hybrid format during initial onsite component; remaining four in online format):

ED 508 Intercultural Communication (3 credits)
ED 510 Psychological Foundations of Education (3 credits)
ED 513 Comparative Foundations of Education (3 credits)
ED 525 Introduction to Educational Research (3 credits)
ED 530 Utilizing Emerging Technologies to Improve Learning (3 credits)

PLS 3rd Learning courses (Five total: one in hybrid format during initial onsite component; four electives in online format):

ED 548 Purposeful Learning Through Multiple Intelligences (3 credits)
ED 552 Teaching Through Learning Channels (3 credits)
ED 554 Successful Teaching for Acceptance of Responsibility (3 credits)
ED 555 Classroom Management: Orchestrating a Community of Learners (3 credits)
ED 557 Differentiated Instruction for Today's Classroom (3 credits)
ED 561 Reading Across the Curriculum (3 credits)
ED 5002 Instructional Design for Online Educators (3 credits)
ED 5003 Facilitating Online Learning Communities (3 credits)
ED 5004 Action Research in the E-Learning Environment (3 credits)
ED 5020 Using Online Resources to Bring Primary Sources to the Classroom (3 credits)
ED 5021 Blended and Synchronous Learning Design (3 credits)
ED 5022 Simulations and Gaming Technologies for the Classroom (3 credits)
ED 5023 Building Online Collaborative Environments (3 credits)
ED 5024 Educating the Net-Generation (3 credits)
ED 5402 Cultural Competence: A Transformative Journey (3 credits)
ED 5405 Teaching the English Language Learner (3 credits)

The program consists of 30-credits (10 graduate courses). Each student will take 5 core classes through Wilkes and choose 5 PLS 3rd Learning courses that best meet their individual needs.

EDUCATIONAL LEADERSHIP (EDLS)

Educational Leadership with PA K-12 Principal Certification

Dr. Rhonda Rabbitt, Dean/Interim Program Director

The Master of Science in Education with a major in Educational Leadership with K-12 principal certification (EDLS) is an advanced program of study consisting of 36 credits. A 27-credit certification only option exists for students in possession of an earned master's degree. All students applying for admission to the Educational Leadership program, degree or certification only, must follow the special admissions process as described on the program webpage.
The MS in Educational Leadership (EDLS) is primarily available in an online format. The EDLS program orients students to field work and research requirements, the responsibilities of the principalship, and the first course that form the base of the EDLS experience—ED 517 The Principal as Educational Leader. Students may not take courses listed as EDLS certification courses prior to completing ED 517.

Program Learning Outcomes:

1. The student will demonstrate an understanding of the knowledge and skills to think and plan strategically. Creating an organizational vision around personalized student success.
2. The student will demonstrate an understanding of the creation of a culture of teaching and learning with an emphasis on learning.
3. The student will demonstrate the ability to operate in a fair and equitable manner with personal and professional dignity.

Program of Study

A candidate for the EDLS degree, which includes PA Department of Education K-12 Principal Certification, must complete the following courses for certification:

ED 517 The Principal as Educational Leader (3 credits; prerequisite course for all certification courses—30 field hours)
ED 523 Administrative Leadership in Curriculum and Instruction (3 credits; 30 field hours)
ED 571 Special Education Programming and Administration (3 credits; 30 field hours)
ED 573 Evaluation of Educational Programs (3 credits; 30 field hours)
ED 575 School Law for Principals (3 credits)
ED 576 School Management and Communications (3 credits; 30 field hours)
ED 578 Staff Development and Supervision (3 credits; 30 field hours)
ED 592 A and ED 592B: Administrative Internship and Applied Research Project 3 credits; taken last—180 intern hours)

To fulfill degree requirements, students admitted as of 2014 must also complete:

ED 508 Intercultural Communication (3 credits)
ED 525 Introduction to Educational Research (3 credits)
ED 587 Technology Leadership (3 credits)

These courses can be completed at any point in the program prior to graduation.
A 'Certification Only' option is available for the Educational Leadership program and requires the same admissions process as the degree-seeking option. A previous Master's degree, either from Wilkes or another university, is required for admission as a 'Certification Only' student. Certification only students complete only the 27 credits required for certification through the PDE for K-12 Principal.

PA certification and endorsement candidates will be recommended for certification upon successful completion of the required certification coursework, fieldwork, and internship. Candidates must self-register and pass the certification test, if required. Some certifications require verification of experience. In those cases, the candidate will need to have input from their school district verifying that they have satisfactory met professional school experience required. Application for certification and Endorsement is made by the candidate through the PDE Teacher Information Management System (TIMS) found on the PDE portal.

EFFECTIVE TEACHING

Effective Teaching

Dr. Karim Medico Letwinsky, Chair/Assistant Professor of Education

The program teaches advanced skills needed to engage students and improve classroom practice for new or veteran teachers, with or without certification who are working in international schools. Coursework is aligned with the Danielson and Marzano teacher frameworks in order to provide curriculum that is in line with these widely adopted models for effective teaching. Students enrolling in the Effective Teaching program must be currently employed in an international school setting.

Program Learning Outcomes:

1. Develop the knowledge and skills to promote the engagement of diverse learners.
2. Demonstrate professional growth as effective and responsive teachers.
3. Gain skills in instructional design and the fundamentals of instruction in online learning environments.
4. Students will use research to synthesize theory and practice by applying cumulative program knowledge in an authentic way and consistent with 21st century best practice.

The program requires 30 credits. Courses are aligned with InTASC teaching standards adapted for national and international educators.

Foundations of Education
Required courses:

- ED 525 Introduction to Educational Research (3 credits)
- ED 539 Advanced Studies in Teaching & Learning (capstone – 3 credits)

Choose one:
21st Century Teaching Practice
Required courses:

- ED 5026 Engaging 21st Century Learners to Promote Student Interaction (PLS) (6 credits)
- ED 5027 Effective and Responsive Teaching and Assessment (PLS) (5 credits)
- ED 5028 Building a Professional Network (PLS) (4 credits)

Choose 6 credits:

- ED 5029 Essential Classroom Strategies (PLS) (6 credits)
  -or-
- ED 5030 Instructional Design for Online Educators™ (PLS) (3 credits)
- ED 5031 Facilitating Online Learning Communities™ (PLS) (3 credits)

INSTRUCTIONAL MEDIA

Instructional Media with Pennsylvania STEM Letter of Endorsement Option

Dr. Grace Surdovel, 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 today¹s 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.

Program Learning Outcomes:

1. The student will demonstrate leadership skills as they apply the concepts of globalization and creativity to the design of effective technology integration in the classroom.
2. The student will develop skills to create authentic and differentiated learning experiences in the classroom through the implementation of technology and digital resources.
3. The student will demonstrate effective skills in digital media production, editing, and sharing that are consistent with appropriate utilization and fair use guidelines.
4. The student will demonstrate the ability to develop effective assessments for student work that incorporates digital media and various technology resources

The requirements for this 30 credit degree are:

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)
EDIM 504 Digital Storytelling (3 credits)
EDIM 507 Globalization and Advocacy (3 credits)
EDIM 508 Digital Media in the Classroom (3 credits)
ED 521 Using Technology for Assessment (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)
EDIM 515 BYOD: Mobile Devices for Teaching and Learning - Previously titled BYOD: Mobile Learning in Education (3 credits)
EDIM 516 Sustaining Digital Literacy (3 credits)
EDIM 517: Practices and Implementation of STEM Education (10 hours of field experience)*
EDIM 518: Creating a STEM Culture Through Application (10 hours of field experience)*
ED 5083 Common Core Standards in Practice (3 credits)

*Courses marked with an asterisk are required for the Pennsylvania Department of Education STEM Letter of Endorsement. Students seeking the STEM Endorsement must possess a PA Level I or Level II teaching certificate.

PA certification and endorsement candidates will be recommended for certification upon successful completion of the required certification coursework, fieldwork, and internship. Candidates must self-register and pass the certification test, if required. Some certifications require verification of experience. In those cases, the candidate will need to have input from their school district verifying that they have satisfactory met professional school experience required. Application for certification and Endorsement is made by the candidate through the PDE Teacher Information Management System (TIMS) found on the PDE portal.

INSTRUCTIONAL TECHNOLOGY

Instructional Technology with Pennsylvania Instructional Technology Specialist Certification Option

Dr. Grace Surdovel, Program Coordinator

The Master of Science in Education with a major in Instructional Technology is designed primarily for teaching professionals. Core education courses are combined with courses in educational technology to prepare educators to assume positions of leadership in their school or district in the area of technology. In addition to the master's degree, the program offers Pennsylvania Department of Education certification as an Instructional Technology Specialist.

Program Learning Outcomes:

1. The student will demonstrate an understanding of the fundamental concepts of technology infrastructure including the selection, installation, maintenance and responsible, ethical and safe use of current and emerging hardware and software applications for school administration and instruction.
2. The student will demonstrate practical and efficient ways to integrate technology resources into instructional designs that will systematically create educational experiences that will help K-16 students achieve specified sets of learning outcomes.
3. The student will demonstrate the ability to manage technology within a school district including creating an environment that fosters interest and growth in all aspects of technology by establishing and maintaining rapport with all staff and students through the planning, preparation and delivery of technology related in-service programs that foster the use of technology to meet current academic standards.

Program of Study

ED 530 Utilizing Emerging Technologies to Improve Learning (3 credits)
ED 577 Principles of Information Security (3 credits; Prereq: ED 588)
ED 579 Media Design (3 credits)
ED 583 Courseware Design and Construction (3 credits)
ED 587 Technology Leadership (3 credits)
ED 588 Operating Systems and Networking (3 credits)
ED 5080: Technology for Assessment and Adaptation (3 credits)
ED 5081: Technology to Support All Learners (3 credits)
ED 5082: Technology to Support Curriculum & Instruction (3 credits)
ESL 509: Computer Assisted Language Learning (3 credits)

Required for Certification

ED 591 Internship (3 credits)

For Pennsylvania Department of Education certification as a K-12 Instructional Technology Specialist, 33 credits are required. Candidates for the Instructional Technology Specialist Certificate who do not have a valid Level I or Level II Pennsylvania Instructional certificate must achieve a qualifying score on the PAPA.

PA certification and endorsement candidates will be recommended for certification upon successful completion of the required certification coursework, fieldwork, and internship. Candidates must self-register and pass the certification test, if required. Some certifications require verification of experience. In those cases, the candidate will need to have input from their school district verifying that they have satisfactory met professional school experience required. Application for certification and Endorsement is made by the candidate through the PDE Teacher Information Management System (TIMS) found on the PDE portal.

INTERNATIONAL SCHOOL LEADERSHIP

International School Leadership

Dr. Karim Medico Letwinsky, Chair/Assistant Professor of Education, Program Director

The Master of Science in Education with a major in International School Leadership is for educators in international schools who want to assume leadership positions in those schools. It is designed in partnership with the Association for the Advancement of International Education (AAIE) and PLS 3rd Learning. The program develops the leadership, instructional, and management skills needed to be an international school leader. The degree includes 12 courses (36 credit hours) all offered online. Students will be paired with a program mentor who is an experienced education professional who has worked extensively in international schools.

The requirements for this 36-credit degree are::

PLS 3rd Learning/ AAIE Courses (24 credits)

- EDIL 5001 Vision and Mission to Guide International Schools (3 credits)
- EDIL 5002 Leading for Staff and Student Learning in International Schools (3 credits)
- EDIL 5003 Governance in International Schools (3 credits)
- EDIL 5004 International School Management and Leadership (3 credits)
- EDIL 5005 Building and Sustaining a Healthy International School Culture (3 credits)
- EDIL 5006 Ethical Leadership in International Schools (3 credits)
- EDIL 5007 Situational Awareness and Diplomacy in International Schools (3 credits)
- EDIL 5008 Continuous Professional Growth for International School Leaders (3 credits)

Wilkes Required: 6 credits

- ED 508 Intercultural Communication (3 credits)
- ED 525 Introduction to Educational Research (3 credits)

Wilkes Electives: 6 credits (Choose two courses)

- ED 510 Psychological Foundations of Education (3 credits)
- ED 513 Comparative Foundations of Education (3 credits)
- ED 515 Cognition (3 credits)
- ED 585 Integrating Technology into the Curriculum (3 credits)
- ED 587 Technology Leadership (3 credits)

Courses offered through the PLS 3rd Learning course management system are designated by the EDIL acronym, while courses offered through the Wilkes course management system are designated by the ED acronym.

INTERNATIONAL TEACHING AND LEARNING

International Teaching and Learning

Dr. Karim Medico Letwinsky,, Chair/Assistant Professor of Education, Program Director

The Master of Science in Education with a major in International Teaching and Learning provides comprehensive graduate-level education in the study of teaching and learning to international educators and/or international school community members holding bachelor's degrees from accredited post-secondary institutions. It is designed so that previous education coursework or practice is not required. The program focuses on the various foundations of education, as well as introducing cultural agility and educational technology.

Program Learning Outcomes:

1. The student will understand the components -- theoretical, cultural, psychological, and/or historical in nature -- necessary to create classroom learning environments, which are conducive to effective learning and committed to the cultivation of lifelong learners.
2. The student will demonstrate understanding of research-based learning theory and practices to motivate and instruct students in content areas that are consistent with 21st century learning principles.
3. The student will develop and employ communication skills to facilitate understanding, build relationships, and foster a community of learners with collaborative relationships, a culture of integrity, and ethical practices inclusive of both educators and educational stakeholders.
4. The student will demonstrate understanding for the need and value of lifelong learning, ongoing critical reflection, and informed action to promote continuous personal and professional growth.
   This program is cohort-based and site-based. It combines an on-site low-residency model with online coursework. Degree completion requires 30 credits.

The requirements for this 30-credit degree are:

Required Courses (15 credits)

- ED 508 Intercultural Communication (3 credits)
- ED 520 Using Assessment to Guide Instruction (3 credits)
- ED 522 Curriculum and Instruction (3 credits)
- ED 525 Introduction to Educational Research (3 credits)
- ED 539 Advanced Studies in Teaching and Learning (3 credits; Capstone)

Area I: Foundations of Education (6-9 credits)

- ED 510 Psychological Foundations of Education (3 credits)
- ED 511 Philosophical Foundations of Education (3 credits)
- ED 512 Social Foundations of Education (3 credits)
- ED 513 Comparative Foundations of Education (3 credits)
- ED 515 Cognition (3 credits)

Area II: Educational Technology (6-9 credits)

- ED 526 Internet Literacy for Educators (3 credits)
- ED 530 Utilizing Emerging Technologies to Improve Instruction (3 credits)
- ED 585 Integrating Technology into the Curriculum (3 credits)
- ED 587 Technology Leadership (3 credits)
- ED 5080 Technology for Assessment and Adaptation (3 credits)

LETTER OF ENDORSEMENT: GIFTED

Pennsylvania Gifted Letter of Endorsement Program

Mrs. Kali Fedor, Program Coordinator

This PDE-approved program provides the skills needed meet the academic, social and emotional needs of students who are gifted and talented.Courses align with guidelines provided by the Council for Exceptional Children, the National Association for Gifted Children and the Pennsylvania Department of Education. The Gifted Letter of Endorsement program is completely online with 30 hours of embedded field experiences required. Satisfactory completion of the 12-credit letter of endorsement program, including all course and field experience requirements, will enable candidates to apply to the PDE for an endorsement on their existing Pennsylvania certificates. The four courses may also be taken as electives by other educational and clinical professionals who wish to gain additional knowledge in the areas addressed in each course.

The requirements for this 12-credit endorsement are:

Courses

- ED 569 Teaching Diverse Learners Using Inclusive Classroom Practices
- EDSP 501 Special Education Methodology I (with 10 hours of field experience)
- EDSP 508 Foundations of Gifted Education (with 10 hours of field experience)
- EDSP 509 Gifted Curriculum, Assessment and Instruction (with 10 hours of field experience)

PA certification and endorsement candidates will be recommended for certification upon successful completion of the required certification coursework, fieldwork, and internship. Candidates must self-register and pass the certification test, if required. Some certifications require verification of experience. In those cases, the candidate will need to have input from their school district verifying that they have satisfactory met professional school experience required. Application for certification and Endorsement is made by the candidate through the PDE Teacher Information Management System (TIMS) found on the PDE portal.

LETTER OF ENDORSEMENT: ONLINE INSTRUCTION

Pennsylvania Online Instruction Letter of Endorsement

Dr. Grace Surdovel, Program Coordinator

The Online Instruction Letter of Endorsement is a 12-credit program designed to teach best practices in instructional design, effective online communication, and assessment, promoting social and ethical responsibility in online and blended classrooms.
The Online Instruction Letter of Endorsement is approved by the Pennsylvania Department of Education. The endorsement consists of 12 credits culminating including 20 hours of field experience. Candidates must hold a valid Pennsylvania Instructional I or II teaching certificate.
The requirements for this 12-credit endorsement are:

- ED 521 Using Technology for Assessment (3 credits) (Wilkes)
- ED 5030 Instructional Design for Online Educators™ (3 credits) (PLS 3rd Learning)
- ED 5031 Facilitating Online Learning Communities™ (3 credits) (PLS 3rd Learning)
- ED 5032 Online Teaching for Pennsylvania Educators (3 credits; 20 hours field experience) (Wilkes; prerequisite- ED-521, ED-5030, ED-5031)

LETTER OF ENDORSEMENT: STEM

Pennsylvania STEM Letter of Endorsement

Dr. Grace Surdovel Program Coordinator

This 12-credit letter of endorsement program provides the tools teachers need to plan, design and incorporate STEM strategies into everyday learning. Upon successful completion, Pennsylvania educators can apply to add the STEM endorsement to their teaching certificate

The STEM Letter of Endorsement is approved by the Pennsylvania Department of Education. The endorsement consists of 12 credits and includes 20 of field experience. Candidates must hold a valid Pennsylvania Instructional I or II teaching certificate.

Program Learning Outcomes:

1. The student will use project-based learning and inquiry-based learning to link content standards to career, community and real-world experiences.
2. The student will demonstrate a transdisciplinary approach to teaching and learning that integrates STEM across the curriculum.
3. The student will create authentic assessments that reinforce student-centered learning and provide appropriate differentiation to accommodate all students.
4. The student will utilize collaboration, leadership, and advocacy to promote a shift in culture and dispositions related to STEM education.

The requirements for this 12-credit endorsement are:

- EDIM 502: Project-based Learning
- EDIM 513: Inquiry-based Learning
- EDIM 517: Practices and Implementation of STEM Education (10 hours of field experience)
- EDIM 518: Creating a STEM Culture Through Application (10 hours of field experience)

PA certification and endorsement candidates will be recommended for certification upon successful completion of the required certification coursework, fieldwork, and internship. Candidates must self-register and pass the certification test, if required. Some certifications require verification of experience. In those cases, the candidate will need to have input from their school district verifying that they have satisfactory met professional school experience required. Application for certification and Endorsement is made by the candidate through the PDE Teacher Information Management System (TIMS) found on the PDE portal.

MIDDLE LEVEL EDUCATION PROGRAMS

Middle Level Education Programs with Pennsylvania Grades 4 to 8 Certification

Mrs. Anne Butler, Program Coordinator

The Master of Science in Education with a major in Middle Level Education (EDML) is a 36-credit program with a choice of concentration in Middle Level Mathematics, Science, English/Language Arts, or Social Studies. The degree prepares teachers to better meet the needs of adolescent learners and prepares teachers to apply for Pennsylvania's grades 4-8 certificate in a particular content area.

Prospective students must hold Pennsylvania Level I or Level II instruction certification. The curriculum for the degree and certification program includes adolescent development, cognition and learning, subject matter pedagogy, and assessment in the program of study

Students will select one of four concentrations at the time of application:

- Middle Level Mathematics
- Middle Level Science
- Middle Level Social Studies
- Middle Level English/Language Arts

Program Learning Outcomes:

1. The student will strengthen content and process knowledge in the chosen academic specialization.
2. The student will acquire and apply research-based pedagogical knowledge to practice that has been found to be most effective with diverse middle level learners in the chosen academic specialization.
3. The student will apply knowledge of instructional strategies and sound educational practice focused on meeting the needs of diverse adolescent learners in a middle school environment.

36-Credit EDML Master of Science in Education plus certification Program

Core Education

- ED 569 Teaching Diverse Learners Using Inclusive Classroom Practices (3 credits)

Core Knowledge Courses (9 credits required – Choose three of the following outside your concentration area):

- EDML 5002 Mathematics in Middle Level Education (3 credits)
- EDML 5003 Science in Middle Level Education (3 credits)
- EDML 5004 Literacy & Language in Middle Level Education (3 credits)
- EDML 5005 Social Studies in Middle Level Education (3 credits)

Professional Practice Courses (9 credits required)

- EDML 5001 Teaching Adolescent Learners at the Middle Level (3 credits)
- EDML 5007 Development of the Adolescent Learner at the Middle Level (3 credits)
- EDML 5009 Internship in Middle Level Education (Taken in final semester; special permission required) (3 credits)

Students select from one of four concentrations:

Middle Level Mathematics Concentration

- EDML 5010 Number Theory in Middle Level Education (3 credits)
- EDML 5011 Measurement Concepts in Middle Level Education (3 credits)
- EDML 5012 Data Analysis, Probability, and Statistics in Middle Level Education (3 credits)
- EDML 5013 Algebraic Concepts in Middle Level Education (3 credits)
- EDML 5014 Geometry Essentials in Middle Level Education (3 credits)

Middle Level Science Concentration

- EDML 5020 Scientific Inquiry and Literacy in Middle Level Science (3 credits)
- EDML 5022 Life Sciences in Middle Level Education (3 credits)
- EDML 5023Physical Science in Middle Level Education (3 credits)
- EDML 5024 Earth and Space Sciences in Middle Level Education (3 credits)
- EDML 5025 Chemical Science in Middle Level Education (3 credits)

Middle Level English/Language Arts Concentration

- EDML 5030 Adolescent Literature (3 credits)
- EDML 5031 Literary Forms and Media Literacy in Middle Level Education (3 credits)
- EDML 5032 Reading Strategies in Middle Level Education (3 credits)
- EDML 5033 Teaching and Evaluating Writing I in Middle Level Education (3 credits)
- EDML 5034 Teaching and Evaluating Writing II in Middle Level Education (3 credits)

Middle Level Social Studies Concentration

- EDML 5040 US History in Middle Level Education (3 credits)
- EDML 5041 Geography in Middle Level Education (3 credits)
- EDML 5042 Government and Civics in Middle Level Education (3 credits)
- EDML 5043 World History in Middle Level Education (3 credits)
- EDML 5044 Fundamentals of Economics in Middle Level Education (3 credits)

PA certification and endorsement candidates will be recommended for certification upon successful completion of the required certification coursework, fieldwork, and internship. Candidates must self-register and pass the certification test, if required. Some certifications require verification of experience. In those cases, the candidate will need to have input from their school district verifying that they have satisfactory met professional school experience required. Application for certification and Endorsement is made by the candidate through the PDE Teacher Information Management System (TIMS) found on the PDE portal.

MIDDLE LEVEL EDUCATION PROGRAMS

Middle Level Education Programs

Mrs. Anne Butler, Program Coordinator

The Master of Science in Education with a major in Middle Level Education (EDML) is a 30-credit program with a choice of concentration in Middle Level Mathematics, Science, English/Language Arts, or Social Studies. The degree only option meets the needs of teachers who wish to add the Grade 4-8 certification through the Pennsylvania Department of Education's "test only" option, or who do not wish to seek certification.

Prospective students must hold Pennsylvania Level I or Level II instruction certification. The curriculum for the degree and certification program includes adolescent development, cognition and learning, subject matter pedagogy, and assessment in the program of study

Students will select one of four concentrations at the time of application:

- Middle Level Mathematics
- Middle Level Science
- Middle Level Social Studies
- Middle Level English/Language Arts

Program Learning Outcomes:

1. The student will strengthen content and process knowledge in the chosen academic specialization.
2. The student will acquire and apply research-based pedagogical knowledge to practice that has been found to be most effective with diverse middle level learners in the chosen academic specialization.
3. The student will apply knowledge of instructional strategies and sound educational practice focused on meeting the needs of diverse adolescent learners in a middle school environment.

30-Credit EDML Master of Science in Education plus certification Program

Core Education

- ED 569 Teaching Diverse Learners Using Inclusive Classroom Practices (3 credits)
- EDML 5001 Teaching Adolescent Learners at the Middle Level (3 credits)
- EDML 5007 Development of the Adolescent Learner at the Middle Level (3 credits)

Electives (6 credits required)
Choose two of the following outside of the concentration area:

- EDML 5002 Mathematics in Middle Level Education (3 credits)
- EDML 5003 Science in Middle Level Education (3 credits)
- EDML 5004 Literacy & Language in Middle Level Education (3 credits)
- EDML 5005 Social Studies in Middle Level Education (3 credits)
- ED 520 Using Assessment to Guide Instruction (3 credits)
- ED 522 Curriculum & Instruction (3 credits)
- ED 524 Action Research for Educational Change (3 credits)
- ED 525 Introduction to Educational Research (3 credits)

Academic Subject Concentration - Select one concentration (15 credits required)

Middle Level Mathematics Concentration

- EDML 5010 Number Theory in Middle Level Education (3 credits)
- EDML 5011 Measurement Concepts in Middle Level Education (3 credits)
- EDML 5012 Data Analysis, Probability, and Statistics in Middle Level Education (3 credits)
- EDML 5013 Algebraic Concepts in Middle Level Education (3 credits)
- EDML 5014 Geometry Essentials in Middle Level Education (3 credits)

Middle Level Science Concentration

- EDML 5020 Scientific Inquiry and Literacy in Middle Level Science (3 credits)
- EDML 5022 Life Sciences in Middle Level Education (3 credits)
- EDML 5023Physical Science in Middle Level Education (3 credits)
- EDML 5024 Earth and Space Sciences in Middle Level Education (3 credits)
- EDML 5025 Chemical Science in Middle Level Education (3 credits)

Middle Level English/Language Arts Concentration

- EDML 5030 Adolescent Literature (3 credits)
- EDML 5031 Literary Forms and Media Literacy in Middle Level Education (3 credits)
- EDML 5032 Reading Strategies in Middle Level Education (3 credits)
- EDML 5033 Teaching and Evaluating Writing I in Middle Level Education (3 credits)
- EDML 5034 Teaching and Evaluating Writing II in Middle Level Education (3 credits)

Middle Level Social Studies Concentration

- EDML 5040 US History in Middle Level Education (3 credits)
- EDML 5041 Geography in Middle Level Education (3 credits)
- EDML 5042 Government and Civics in Middle Level Education (3 credits)
- EDML 5043 World History in Middle Level Education (3 credits)
- EDML 5044 Fundamentals of Economics in Middle Level Education (3 credits)

MIDDLE LEVEL EDUCATION WITH INITIAL PA GRADES 4 TO 8 TEACHING CERTIFICATION

Middle Level Education with Initial PA Grades 4 to 8 Teaching Certification

Mrs. Anne Butler, Program Coordinator

The Master of Science degree in Education with a major in Middle Level Education is a 39-credit program designed for adults who wish to teach in Pennsylvania at the middle level -- grades 4 to 8. Upon successful completion of the program, students will be eligible to apply for Pennsylvania teaching certification. Candidates will also earn an advanced degree to excel in teaching adolescent learners. The program includes observation and student teaching hours. All courses are three credits unless otherwise noted. Additional coursework may be required, per transcript review.

Admissions Requirements

The program is ideal for students with bachelor's degrees in mathematics, the sciences, English or communications, or the social sciences. Wilkes will also consider students who hold a bachelor's degree in other disciplines, but have at least 18 credits in one of these core areas.

In addition, applicants must submit:

- Online application at www.wilkes.edu/applyonline
- Official undergraduate and graduate transcripts
- Two recommendation forms
- Current and valid clearances, all indicating "no record"

Program Learning Outcomes:

1. The student will strengthen content and process knowledge in the chosen academic specialization.
2. The student will acquire and apply research-based pedagogical knowledge to practice that has been found to be most effective with diverse middle level learners in the chosen academic specialization.
3. The student will apply knowledge of instructional strategies and sound educational practice focused on meeting the needs of diverse adolescent learners in a middle school environment.

Required Courses (39 credits)

General Education Requirements (15 credits)
ED 520 Using Assessment to Guide Instruction (3 credits)
ESL 506 Teaching the Four Skills: Reading, Writing, Listening & Speaking* (3 credits; 15 field hours)
EDSP 501 Special Education Methodology I* (3 credits; 20 field hours)
EDSP 503 Behavior Management* (3 credits; 20 field hours)
EDAM 5033 Developing Reading/Writing Across Content (3 credits)

Middle Level Professional Practice Requirements (15 credits)
EDML 5000 Foundations of the Education Professional* (3 credits; 30 field hours)
EDML 5001 Teaching Adolescent Learners at the Middle Level* (3 credits; 15 field hours)
EDML 5007 Development of the Adolescent Learner at the Middle Level* (3 credits; 15 field hours)
EDML 5008 Student Teaching internship in Middle Level Education* – (6 credits; final semester; permission required)

Middle Level Core Knowledge Requirements (9 credits)
Select three courses not in your concentration area
EDML 5002 Mathematics in Middle Level Education (3 credits)
EDML 5003 Science in Middle Level Education (3 credits)
EDML 5004 Literacy & Language Arts in Middle Level Education (3 credits)
EDML 5005 Social Studies in Middle Level Education (3 credits)

***Observation and Student Teaching Requirements**
Field experiences and student teaching are mandatory, hands-on learning components to teacher certification. These experiences take place in a school near your home. The program culminates in a full-time, semester long student teaching assignment.

PA certification and endorsement candidates will be recommended for certification upon successful completion of the required certification coursework, fieldwork, and internship. Candidates must self-register and pass the certification test, if required. Some certifications require verification of experience. In those cases, the candidate will need to have input from their school district verifying that they have satisfactory met professional school experience required. Application for certification and Endorsement is made by the candidate through the PDE Teacher Information Management System (TIMS) found on the PDE portal.

ONLINE TEACHING

Online Teaching with Pennsylvania Online Instruction Letter of Endorsement Option

Dr. Grace Surdovel, Program Coordinator

The Master of Science in Education with a major in Online Teaching will develop skills in instructional design, course facilitation, effective assessment practices, and creation of collaborative learning communities in the online environment. In addition to the master's degree, the program offers an embedded option for the Pennsylvania Department of Education Online Instruction Endorsement.

Program Learning Outcomes:

1. Apply action research, data analysis, and assessment techniques to design effective instruction that facilitates student learning in an online environment.
2. Employ effective communications skills and strategies to facilitate and build an online learning community consistent with a personal code of ethics.
3. Effectively design appropriate learning activities to engage students and meet the needs of diverse learners in an online environment through the application of theory and strategy
4. Evaluate and apply varied instructional design models and emerging technologies to achieve best practices in online teaching.

The requirements for this 30-credit degree are:

- ED 521* Using Technology for Assessment (3 credits; Wilkes)*
- ED 530 Utilizing Emerging Technologies to Improve Learning (3 credits; Wilkes)
- ED 5030* Instructional Design for Online Educators™ (3 credits; PLS 3rd Learning; Previously titled ED 5002 Instructional Design for Online Educators™)*
- ED 5031* Facilitating Online Learning Communities™ (3 credits; PLS 3rd Learning; Previously titled ED 5003 Facilitating Online Learning Communities™)*
- ED 5032* Online Teaching for Pennsylvania Educators (3 credits; Wilkes; 20 hours field experience)*
  -or-
- ED 5033 Social & Ethical Issues in Online Learning (3 credits; Wilkes Previously titled ED 5001 Social & Ethical Issues in Distance Learning)
- ED 5034 Action Research in the E-Learning Environment™ (3 credits; PLS 3rd Learning; Previously titled ED 5004 Action Research in the E-Learning Environment™)
- ED 5035 Blended and Synchronous Learning Environments™ (3 credits; PLS 3rd Learning; Previously titled ED 5021 Blended and Synchronous Learning Environments™)
- ED 5036 Building Online Collaborative Environments™ (3 credits; PLS 3rd Learning; Previously titled ED 5023 Building Online Collaborative Environments™)
- ED 5037 Developing Online Programs (3 credits; Wilkes)
- ED 5038 Teaching and Learning in the Online Environment (3 credits; Wilkes; to be taken last by all students in degree program)

Courses marked with an asterisk are required for the Pennsylvania Department of Education Online Instruction Endorsement.

Students seeking the Online Instruction Endorsement must possess a PA Level I or Level II teaching certificate.

PA certification and endorsement candidates will be recommended for certification upon successful completion of the required certification coursework, fieldwork, and internship. Candidates must self-register and pass the certification test, if required. Some certifications require verification of experience. In those cases, the candidate will need to have input from their school district verifying that they have satisfactory met professional school experience required. Application for certification and Endorsement is made by the candidate through the PDE Teacher Information Management System (TIMS) found on the PDE portal.

READING WITH PENNSYLVANIA READING SPECIALIST CERTIFICATE

Reading with Pennsylvania Reading Specialist Certificate

Mrs. Anne Butler, Program Coordinator

The Master of Science degree in Education with a concentration in Reading with Pennsylvania Reading Specialist certification is designed for teachers who seek instructional methods for readers of differing abilities or who would like to become a reading specialist. The program is offered in partnership with the National Institute for Professional Practice, a private organization specializing in e-learning for the professional development of educators.

The program is offered in a convenient online format, with required field hours completed where students reside. Participants will engage in embedded learning, allowing for immediate application of program coursework to their own classroom. Action research will be employed to explore the use and effectiveness of instructional strategies that help diagnose and remediate reading difficulties.

A 100-hour internship serves as the culminating experience preparing students for the role of reading specialist while working in an instructional setting under the supervision of a licensed reading specialist. Interns will implement reading programs, plan interventions, and apply a range of reading assessments and instructional strategies in the diagnosis and remediation of reading problems. Interns will demonstrate the ability to manage the instructional environment and effectively communicate to promote the development of literacy.

Program Learning Outcomes:

1. The student will demonstrate knowledge of the fundamental concepts of reading and competence in teaching K-12 students reading including: historical perspectives, methodologies, systems of language, and theories of language and reading acquisition and development. (IRA 1; PA I.A, I.B)
2. The student will demonstrate an awareness of literacy at all levels and across all content areas through the selection of classic and contemporary literature, textbooks, and curriculum materials that are appropriate for various age levels and mediums. (IRA 2; PA I.C)
3. The student will create and manage a safe physical environment that fosters growth in all aspects of literacy and communicates high expectations for all learners. (IRA 4,5; PA II.A)
4. The student will plan, implement, and adapt instruction in collaboration with other professionals using effective teaching strategies, curriculum resources, and technologies that address the diverse needs of learners at a variety of instructional levels (IRA 2,4; PA II.B, II.C)
5. The student will select, develop, administer, and record a variety of assessments that provide for multiple indicators of students' progress (IRA 3; PA II.D)
6. The student will demonstrate knowledge and competencies that foster professionalism in school and community settings (IRA 6; PA IIIA-D)

The requirements for this 36-credit degree are:

- EDAM 5060 Foundations of Literacy and Language Acquisition (3 credits)
- EDAM 5068 Emergent Literacy (3 credits)
- EDAM 5062 Vocabulary and Comprehension Development (3 credits)
- EDAM 5063 Developing Reading Through Writing (3 credits)
- EDAM 5064 Instructional Strategies to Support Independent Readers (3 credits)
- EDAM 5061 Assessing Literacy (3 credits)
- EDAM 5069 Diagnosis & Intervention in Literacy (3 credits)
- EDAM 5066 Accommodations and Adaptations in Literacy for Diverse Learners (3 credits)
- EDAM 5049 Content Literacy (3 credits)
- EDAM 5065 Literacy Leadership and Coaching (3 credits)
- EDAM 5067 Reading Specialist Internship (6 Credits)

A 30-credit degree-only option is available for those who do not wish to obtain the PA Reading Specialist PK-12 certification. This program consists of all listed courses EXCEPT EDAM 5067 Internship.

A 30-credit certification-only option is available for those who do not wish to earn a Master's degree. This program consists of all listed courses EXCEPT EDAM 5064 and EDAM 5065.

PA certification and endorsement candidates will be recommended for certification upon successful completion of the required certification coursework, fieldwork, and internship. Candidates must self-register and pass the certification test, if required. Some certifications require verification of experience. In those cases, the candidate will need to have input from their school district verifying that they have satisfactory met professional school experience required. Application for certification and Endorsement is made by the candidate through the PDE Teacher Information Management System (TIMS) found on the PDE portal.

SCHOOL BUSINESS LEADERSHIP

School Business Leadership

Dr. Rhonda Rabbitt, Dean/Interim Program Coordinator

The Master of Science degree in Education with a major in School Business Leadership is a 30-credit fully online program offered in collaboration 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. Applicants must have a minimum of a bachelor's degree from and accredited college or university in an appropriate field. A teaching certificate is not required.

Program Learning Outcomes:

1. The student will demonstrate conceptual and practical knowledge of public school financial, facilities, food service, information technology, human resources, and transportation operations.
2. The student will demonstrate the ability to apply principles of stewardship, efficiency, and fiscal
3. responsibility to revenue and expenditure processes.
4. The student will demonstrate the ability to analyze information and circumstances, formulate data-driven decisions, and communicate them effectively

The requirements for this 30-credit degree are:

- SBL 501 Public Relations and School Communications (3 credits)
- SBL 502 School Facility Management (3 credits)
- SBL 503 Financial Operations of School Districts (3 credits)
- SBL 504 Financial Planning & Management for School Business (3 credits)
- SBL 505 Human Resources in Education (3 credits)
- SBL 506 Materials Management in Schools (3 credits)
- SBL 507 Information Technology in Education (3 credits)
- SBL 508 Student Transportation (3 credits)
- SBL 509 Food Service in Education (3 credits)
- SBL 510 Leadership for School Business (3 credits; Capstone)

SECONDARY EDUCATION

Requirements

Wilkes offers Master's degree programs in Secondary Education in various content areas including Biology, Chemistry, English, History, and Mathematics. Applicants must 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 to include ED 520 Using Assessment to Guide Instruction and 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 content area courses can only be taken on the Wilkes campus, typically during fall and spring semesters only

SPECIAL EDUCATION

Pennsylvania Special Education Certification Option

Ms. Kali Fedor, Program Coordinator

The Master of Science in Education with a Special Education Certification option provides students with an in-depth understanding of teaching students with exceptionalities across multiple settings and service models. The program requires students to complete field hours within school settings serving students with exceptionalities across all IDEA disability categories. Students have the choice of completing the full degree with certification or simply the certification program track. The Master of Science program with Special Education Certification is designed to prepare individuals for PA Certification in Special Education.

To be eligible for admission into the Master of Science program with Special Education certification option, applicants must possess a previously earned Pennsylvania instructional certificate in one of the areas below and present a copy of the certificate during the admissions process. Candidates who enter the program will declare either the PK-8 or 7-12 grade band option. The previous N-12 certification is no longer granted by the state as of August 31, 2013. The criteria for certification and admission to each grade band option are regulated by the Pennsylvania Department of Education (PDE) as follows:

Special Education PreK-8 Option: Candidates with previous PA certificates in early childhood N-3, elementary K-6 or PreK-4, middle school 4-8, K-12 and certified reading specialists are eligible for this option.

Special Education 7-12 Option: Candidates with previous PA certificates in secondary education 7-12 (content areas), K-12 and certified reading specialists are eligible for this option.

Credits Required for Program Completion:

**All students will apply to the 'degree seeking' program, but will notify the program coordinator if ONLY seeking certification.*

Certification Only: 30 Credits

*Courses designated with * are the required courses for state certification*

Master's Degree with Certification: 39 Credits

If seeking the Master's Degree with Certification EDAM 5066, ESL 504, and ED 569 have to be taken through Wilkes and/or transferred into your program as approved graduate course(s) from another accredited college/university

Program Delivery:

Special Education Core Course offerings are set on a rotational schedule, contact the program coordinator for a specific offering schedule of the courses. The Special Education Core Courses (EDSP 501 – 505) are only available at the Wilkes campus in Wilkes-Barre, PA. These courses are all face-to-face courses held on 6 different Saturdays or Sundays during the traditional semester. The only exception is EDSP 501 which is only offered in a fully online format.

All other courses within the program are available in an online format or at selected site locations during each semester, if students are interested in face-to-face offerings for some degree courses. Students will need to check the schedule each semester for courses offered in their area.

Completion of this graduate program:

- Offers graduates specialization to work with students in the field of Special Education
- Distinguishes graduates from colleagues in the field of education
- Adds a Special Education PreK-8 OR 7-12 Certification to a student's existing PA State Certification

Program Learning Outcomes:

1. Students will develop the knowledge, skills, and scholarship relevant to highly qualified special education teachers.
2. Students will be able to identify fundamental characteristics of learners with cognitive, behavioral, emotional, social, physical, and health disabilities.
3. Students will be able to create and analyze learning expectations based on available data and multifaceted evaluations of student(s) with special needs
4. Students will be able to evaluate and apply research and evidence based instructional methods and strategies with students during field based experiences.

Courses:

*Courses designated with * are required for state certification*

PREREQUISITE COURSES: 9 Credits: Prerequisite courses or their equivalents may be completed at the undergraduate (for those only seeking certification) or graduate level, online or face-to-face. Candidates may receive credit for the certification competencies completed through previous program coursework. Prerequisite courses can be completed at any time prior to applying to the state for special education certification.

*EDAM 5066: Accommodations and Adaptations in Literacy for Diverse Learners (3 credits)
*ESL 504: Intercultural Communication for Language Teachers (3 credits)

*ED 569: Teaching Diverse Learners Using Inclusive Classroom Practices (3 credits)

CORE COURSES: 12 Credits

*ED 510: Psychological Foundations (3 credits)
ED 519 Issues, Laws & Trends in Ed (3 credits)
ED 522: Curriculum and Instruction (3 credits)
ED 585: Integrating Technology into the Curriculum (3 credits)

SPECIAL EDUCATION COURSES: 15 credits

(Act 34, 151, and 114 clearances are required for field experiences)

*EDSP 501: Sp Ed Meth I w/Field Exp. (3 credits; 20 hrs.)
*EDSP 502: Sp Ed Meth II w/Field Exp. (3 credits; 20 hrs.)
*EDSP 503: Behavior Mgt w/Field Exp. (3 credits; 20 hrs.)
*EDSP 504: Assessment in Sp Ed (3 credits)
*EDSP 505: Effective Practices in Sp Ed (3 credits)

SPECIAL ED INTERNSHIP: 3 Credits

*EDSP 506 Internship in Sp Ed (3 credits; 100 hrs.)

Must be taken as the final EDSP course or in conjunction with the final EDSP course. Advisor must give permission to register for the internship.

Additional Information:

There is no set order for how students have to take these courses, but it is important to note that EDSP 506: Internship cannot be scheduled until the student successfully completes EDSP 501 through EDSP 505 and contacts their advisor to be registered for this course.

The Special Education Core Courses (EDSP 501 – 505) are only available at the Wilkes campus in Wilkes-Barre, PA. These courses are all face-to-face courses held on 6 different Saturdays or Sundays during the traditional

semester. The only exception is EDSP 501 which is only offered in a fully online format.
NOTE: Student enrollments will dictate whether courses are offered each semester. If the minimum enrollment is not met in a course, the course will be withdrawn from the schedule.
The state will require candidates to take the new Special Education Certification tests called the PECT (Pennsylvania Educator Certification Tests) available at: http://www.pa.nesinc.com. There are two PECT modules for each grade band. Candidates will select the appropriate grade band modules; either PK-8 or 7-12.

****New Wilkes University Requirement(s) Regarding Completion of both Special Education Certification Grade Bands ****

Wilkes graduate students completing the Special Education PK-8 program may choose to pursue Special Education 7-12 certification by completing the following:

1. Obtain certification in a Grade 7-12 Content Area by passing the certifying exam and applying for certification through PDE TIMS.
2. Once the 7-12 content area certification is approved by PDE, the student will request registration into the Special Education 7-12 internship course through the Program Coordinator. *The hours for this internship course will be determined by the PDE requirements at the time of registration.
3. Once the internship is successfully completed, the student will apply through PDE TIMS for certification and will need to pass the designated certifying exam for Special Education 7-12.

Wilkes graduate students completing the Special Education 7-12 program first, may choose to pursue Special Education PK-8 certification through the same process by substituting the appropriate grade band content area certification.

PA certification and endorsement candidates will be recommended for certification upon successful completion of the required certification coursework, fieldwork, and internship. Candidates must self-register and pass the certification test, if required. Some certifications require verification of experience. In those cases, the candidate will need to have input from their school district verifying that they have satisfactory met professional school experience required. Application for certification and Endorsement is made by the candidate through the PDE Teacher Information Management System (TIMS) found on the PDE portal.

TEACHING ENGLISH TO SPEAKERS OF OTHER LANGUAGES

Teaching English to Speakers of Other Languages with Pennsylvania ESL Specialist Letter of Endorsement Option

Dr. Kimberly Niezgoda, Program Coordinator

The Master of Science in Education with a major in Teaching English to speakers of Other Languages will qualify individuals to instruct populations whose first language is not English.

Program Learning Outcomes:

- Students will learn various approaches to second language teaching and how to apply it to the learners individual needs;
- Students will learn linguistic terminology (phonology, morphology, syntax, semantics, pragmatics and discourse) and its application;
- Students will learn the role of intercultural communication and pragmatic theory in the second language classroom;
- Students will learn to evaluate the latest theoretical constructs and research findings in the areas of listening, speaking, reading and writing;
- Students will learn to examine and apply theories of second language acquisition to lesson planning, classroom instruction, curricular development, program development and assessment;
- Students will learn second language syllabus design, needs analysis, curriculum design, and assessment techniques;
- Students will learn to incorporate technology and computer assisted language learning to lesson planning;
- Students will learn to formulate, design, teach and assess lesson plans on reading, writing, listening, speaking, and other essential language skills.

Certificate Only option (Non degree seeking)

Pennsylvania teachers with an instructional certificate may obtain the ESL Program Specialist designation by completing the first five courses of the master's program, and 60 hours of field experience. Field experiences are structured by the course instructor and allow full time working teachers to easily meet the necessary requirements. All field experiences take place live. ESL Program Specialist certification is not a stand-alone instructional certificate in Pennsylvania, therefore you must have a Bachelor's degree in Education and be a fully certified teacher in the State of PA to obtain this certification. Upon successful completion of the first five courses, whether or not you continue to pursue the master's degree, you may request the specialist designation from the PDE by applying through the TIMS system.

The requirements for this 30-credit degree are:

- ESL 501* Approaches to Teaching Second Languages (3 credits; prerequisite course)
- ESL 503* Second Language Assessment (prerequisite course) (3 credits; 15 hours field experience)
- ESL 501 and 503 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 502* Language Concepts for Second Language Learning and Teaching (3 credits)
- ESL 506* Teaching the Four Skills: Reading, Writing, Listening and Speaking (3 credits; 15 hours field experience)
- ESL 508* Second Language Program Development (3 credits; 30 hours Field Experience)
- ESL 504 Intercultural Communication for Language Teachers (3 credits)
- ESL 505 Second Language Acquisition (3 credits)
- ESL 507 Sociolinguistics and Second Language Acquisition (3 credits)
- ESL 509 Computer-Assisted Language Learning (3 credits)
- ESL 512 ESL Teaching and Evaluation Theory (3 credits)

(* Required for ESL Specialist Letter of Endorsement)
PA ESL Program Specialist Courses (after completing these courses, students possessing Instructional Level 1 or 2 certification may apply for ESL Program specialist certification through the TIMS website).

PA certification and endorsement candidates will be recommended for certification upon successful completion of the required certification coursework, fieldwork, and internship. Candidates must self-register and pass the certification test, if required. Some certifications require verification of experience. In those cases, the candidate will need to have input from their school district verifying that they have satisfactory met professional school experience required. Application for certification and Endorsement is made by the candidate through the PDE Teacher Information Management System (TIMS) found on the PDE portal.

THE ART AND SCIENCE OF TEACHING

The Art and Science of Teaching

Mrs. Anne Butler, Program Coordinator

The Master of Science in Education with a major in 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 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.

Program Learning Outcomes:

1. Students will synthesize the research findings on effective teaching strategies
2. Students will develop a learning goal representing four levels of difficulty demonstrating a progression from simple to complex thinking as a framework for differentiating instruction for the topic or unit of study
3. Students will monitor and measure student progress by developing, implementing, and analyzing a formative assessment strategy with instructional feedback for one learning goal
4. Students will identify and create critical-input experiences along a continuum from simple to complex levels of knowledge aligned to the learning goal
5. Students will develop and implement a lesson plan that incorporates strategies and techniques that support hypothesis generating and testing
6. Students will develop and implement a lesson plan that incorporates strategies and techniques that foster high levels of student engagement
7. Students will design and implement an overall disciplinary plan, including a clearly defined strategy for high intensity situations
8. Students will analyze the research findings that provide an in-depth understanding of the dynamics that constitute and effective teacher-student relationship including concern, cooperation, guidance, and control
9. The student will demonstrate evidence of learning and competency across components of the art and science of teaching through the collection and analysis of course artifacts and self-reflection

The courses in the program include:

- EDAM 5040 Foundations of the Art and Science of Teaching (3 credits; prerequisite course)
- EDAM 5041 Establishing Learning Goals to Support Learning & Instructional Design (3 credits)
- EDAM 5042 Monitoring & Measuring Student Progress (3 credits)
- EDAM 5043 Actively Processing New Content (3 credits)
- EDAM 5044 Extending Student Learning (3 credits)
- EDAM 5045 Designing Instruction for Student Engagement (3 credits)
- EDAM 5046 Creating an Effective Classroom Environment (3 credits)
- EDAM 5047 Developing Relationships and High Expectations for Student Learning (3 credits)
- EDAM 5048 Applying the Art and Science of Teaching (6 credits)

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 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 or call 888-235-6555 for more information on payment options and the registration process.

ENGINEERING

ELECTRICIAL ENGINEERING AND PHYSICS

Interim Chair: John Hepp, Ph.D.

- Master of Science in Electrical Engineering (M.S.E.E.)
- Master of Science in Engineering Management

MECHANICAL ENGINEERING

Chair: Henry Castejon, Ph.D.

- Master of Science in Mechanical Engineering (M.S.M.E.)
- Master of Science in Engineering Management

BIOENGINEERING

Gregory Harms, Ph.D., Program Co-director & Advisor – Biomedical Track
William Terzaghi, Ph.D., Program Co-director & Advisor - Synthetic Biology Track

- Master of Science in Bioengineering

MASTER OF SCIENCE IN BIOENGINEERING

Master of Science in Bioengineering

Point of Contact: Prahlad Murthy, Ph.D.

Program Features

Wilkes University's Master of Science degree in Bioengineering combines engineering concepts and analysis with biology, medicine, health, and computer science to teach students the fundamentals of developing new medical devices, treatments and materials. The 36-credit program offers students the opportunity to select from one of two available majors, Biomedical Engineering or Synthetic Biology Engineering. Biomedical Engineers develop artificial limbs, joints, tissues and organs as well as design diagnostic equipment, monitoring devices and drug delivery systems. Synthetic Biology Engineers create organisms, which either produce useful biochemicals for therapeutic applications, or perform unique functions, such as creating useful biochemicals for therapeutic and industrial applications or detecting or detoxifying biohazardous chemicals.

Students will have the opportunity to work with faculty who are leaders in their fields, including specialists in the latest medical device designs, imaging systems, bioengineering and metabolic technologies.

Admissions Requirements

The Wilkes program is designed for those with a bachelor's degree in engineering or biology seeking training in bioengineering and also for those seeking to strengthen credentials for medical or other professional schools. Individuals with undergraduate degrees in other life science disciplines may also be considered. Applicants must submit an online application, official undergraduate transcripts, and 2 letters of reference from science or engineering faculty.

International applicants must also submit a statement of financial guarantee and a WES evaluation of their undergraduate transcript.

All applicants must submit an official Test of English as a Foreign Language (TOEFL) or International English Language Testing System (IELTS) score, in addition to the previously-listed admissions requirements if the language of instruction of the applicant's undergraduate degree was not English. In some cases, proof of the applicant's language of undergraduate instruction may be requested and required.

Program Requirements

Students enrolling in the Bioengineering program will be assigned an advisor in the chosen track at the time of admission. Students are strongly encouraged to contact their advisor to discuss program prerequisites, course selections, research opportunities, and other programmatic questions.

The program has a common set of core courses for both majors. All students must take the 6 credits of core bioengineering courses, BEGR 409 Introduction to Bioengineering and BEGR 411 Integrated Product Development, at the start of the program. Students then enroll in 6 courses (18 credits) designated for their chosen major and 6 credits of electives. Students will complete their program with 6 credits of thesis work or can request in special cases and with the directors' approval to do a 3 credit project and take one additional elective course, for a total of 36 program credits.

Core courses- 6 credits
Major courses - 18 credits
Electives - 6 credits
Thesis/Project - 6 credits
36 total program credits

Provided below is a sample program plan for each major. Plans are based on full-time enrollment, which is 9 credits per semester for graduate students. Students electing to enroll part-time should discuss course scheduling with their advisor to ensure timely completion of all program requirements. In addition, students should select elective credits in consultation with their advisors, particularly if specialization knowledge is desired.

Biomedical Major Program Plan

First Semester (Fall)
BEGR 401: Applied Engineering Analysis
BEGR 409: Introduction to Bioengineering
BEGR 411: Integrated Product Development

Second Semester (Spring)
BEGR 421: Biofluidics and Microfluidics
BEGR 415: 3-D Modeling of Human Anatomy and Physiology
BEGR 488: Biomedical Devices and Design

Third Semester (Fall)
BEGR 451: Mechatronics/Bioinstrumentation
BEGR 474: Imaging in Biomedicine
BEGR 599: Thesis/Project (3 Credits)

Fourth Semester (Spring)
BEGR 599: Thesis/Project (3 Credits)
Elective
Elective

Suggested electives for Biomedical majors include:

- BEGR 452: Nanotechnology
- BEGR 477: Cellular Biophysics
- BEGR 408: BioMEMs
- BEGR 498: Biomechanics – Muscular-Skeleton Mechanics

Students may also elect to take courses from the Synthetic Biology track, in consultation with their advisor, for their elective credits.

Synthetic Biology Program Plan

First Semester (Fall)
BEGR 409: Introduction to Bioengineering
BEGR 411: Integrated Product Development
BEGR 430: Introduction to Bioinformatics Applications

Second Semester (Spring)
BEGR 424: Molecular Biology
BEGR 465: Biochemistry
BEGR 477: Cellular Biophysics

Third Semester (Fall)
BEGR 501: Practicum in Synthetic Biology I
BEGR 599: Thesis/Project (3 Credits)
Elective

Fourth Semester (Spring)
BEGR 502: Practicum in Synthetic Biology II
BEGR 599: Thesis/Project (3 Credits)
Elective

Possible electives for Synthetic Biology majors include:

- BEGR 426: Immunology and Immunochemistry
- BEGR 427: Medical Microbiology
- BEGR 429: Virology
- BEGR 474: Imaging in Biomedicine

Students may also elect to take courses from the Biomedical track, in consultation with their advisor, for their elective credits.

Degree Requirements

All candidates for the Master of Science in Bioengineering degree must complete a program of thirty-six (36) credits.

MASTER OF SCIENCE IN ELECTRICAL ENGINEERING (M.S.E.E.)

Master of Science in Electrical Engineering (M.S.E.E.)

Point of Contact: Prahald Murthy, Ph.D.

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).

MASTER OF SCIENCE IN ENGINEERING MANAGEMENT

Master of Science in Engineering Management

Point of Contact: Prahlad Murthy, Ph.D.

The Master of Science in Engineering Management is a 36 credit-hour program that integrates 9 credit hours of required MBA program content with 27 hours of graduate engineering and elective content. The 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.

The 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 technical staff and technology management such as project planning and execution, production flow, logistics, demand forecasting, and quality improvement. The program also prepares students for further academic endeavors that may lead to post-graduate or doctoral studies in Engineering Management, Industrial Engineering or other related disciplines

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:

1. Experience
   Post-baccalaureate industrial/professional work experience preferred.
2. Application:
   Submitted with payment of appropriate application fee. (International students: Refer to the International Students section of this bulletin for additional admission requirements).
3. 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 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 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 EGM 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

1. Professional Recommendations
   Applicants must submit two letters of professional recommendation.

Degree Requirements

The Masters of Science Degree in Engineering Management 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

EGM 510, EGM 515, EGM 516, EGM 520, EGM 525, EGM 530, MBA 501, MBA 505 and MBA 552.

Elective Options: Students have three options for distributing the remaining 9 hours of graduate elective credit:

1. Thesis option: 6 hrs thesis (EGM 590 & 591) plus 3 hrs approved elective coursework (EGM/EE/CSE/MBA).
2. Industry project option: 3 hrs project (EGM 580 & 581) plus 6 hrs approved elective coursework (EGM/EE/CSE/MBA).
3. 9 hours approved coursework distributed as follows: EGM/EE - 3 hrs; EGM/EE/CSE/MBA - 6 hrs.

MASTER OF SCIENCE IN MECHANICAL ENGINEERING (M.S.M.E.)

Point of Contact: Prahlad Murthy, Ph.D.

Admission Requirements

Applications are invited from individuals who possess a B.S. degree in Mechanical Engineering or close fields 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:

- Submit to the Graduate Admissions Office a completed graduate application for admission with payment of appropriate application fee
- Submit two letters of recommendation from previous academic faculty and/or from current or previous supervisors, if employed.
- Demonstrate satisfactory performance as an undergraduate by providing a complete set of official undergraduate transcripts.
- International students: Refer to page 10 for additional admissions requirements.
- To be accepted on a regular basis, candidates for the 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 program.

Degree Requirements

The Master of Science in Mechanical Engineering program requires thirty (30) credits of graduate level course work. The program consists of 15 credits of mandatory core courses. Students have the option of a six-credit thesis or a three-credit project with an additional three-credit technical elective. Students may select 9/12 additional credits hours from the list of technical electives.

Typical Course Sequence

First Semester	Second Semester
ME-401 – Applied Engineering Analysis	ME-436 – Solid Mechanics
ME-411 – Product Development	ME-442 – Material Science
Technical Elective	Technical Elective
Third Semester	**Fourth Semester**
ME-427 – Graduate Education Continuum	ME-599 – Thesis **OR** Project
Technical Elective	Technical Elective
Technical Elective	Technical Elective
Start of Project or Thesis	

Core Courses

Applied Engineering Analysis ME 401; Product Development ME 411; Transport Phenomena ME 427; Solid Mechanics ME 436; Materials Science ME 442.

Thesis/Project Option:

Graduate students are strongly recommended to select the thesis option to complete their graduate course work. However, they may choose a three-credit hour project option.

Technical Electives

Technical electives may be selected from the technical elective graduate course list. In addition, up to one graduate level course from any Engineering or Science field is transferable.

Non-thesis option: 3 credits of ME 599 are required. Students should submit a well-documented report to the department.

Thesis option: Six credits of thesis ME 599 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: structural Analysis, Thermal Sciences, Finite Element Method, Solid Mechanics, Dynamics, MEMS, control Systems; Robotics, Mechatronics, energy conversion.

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 three (3) 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).

Academic Integrity

At Wilkes the faculty and the entire University community share a deep commitment to academic honesty and integrity. The following are considered to be serious violations and will not be tolerated:

1. Plagiarism: the use of another's ideas, programs, or words without proper acknowledgment
2. Collusion: improper collaboration with another in preparing assignments, computer programs, or in taking examinations
3. Cheating: giving improper aid to another, or receiving such aid from another, or from some other source.
4. Falsifying: the fabrication, misrepresentation, or alteration of citations, experimental data, laboratory data, or data derived from other empirical methods.

MATHEMATICS

Chairperson: Dr. Barbara A. Bracken

The courses of study are intended for:

1. Those with an undergraduate degree from a traditional mathematics program. 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 e mathematics.

Admission

To be considered for admission, the applicant must submit the following:

1. A completed graduate application for admission with payment of appropriate application fee
2. Two letters of recommendation from previous academic faculty and/or from current or previous supervisors, if employed.
3. A complete set of official undergraduate transcripts from all academic institutions previously attended.

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.

MASTER OF SCIENCE IN EDUCATION

Requirements

Candidates for the degree of Master of Science in Education with a concentration in Secondary Education/Mathematics must complete thirty (30) credits of approved courses offered by the Department of Mathematics/ Computer Science and the Department of Education. Of these thirty credits, eighteen (18) credits shall be in approved 400-level 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.

MASTER OF SCIENCE IN MATHEMATICS

Candidates for the degree of Master of Science in Mathematics must complete thirty (30) credits of approved 400-level courses offered by the Department of Mathematics and Computer Science numbered 400 or above, with a minimum of six (6) credits completed in 500-level courses.

A thesis option is available whereby a candidate can write and defend a written thesis under the direction of a faculty advisor. At most, six of the required thirty credits may be earned through thesis work. Students electing a thesis option should consult the department chairperson for details regarding thesis-preparation guidelines.

NURSING

Deborah A. Zbegner, Ph.D., CRNP, WHNP-BC; Dean of Nursing; Associate Professor
570-408-4086
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Kathleen Hirthler, DNP, CRNP, FNP-BC; Chair, Graduate Nursing Program; Associate Professor
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The Passan School of Nursing Faculty reserves the right to revise the Graduate Nursing Program requirements and policies as deemed necessary at any time to prepare students for new and emerging roles in nursing.

Polices of the Passan School of Nursing graduate nursing program may be more stringent than other graduate programs. *The Passan School of Nursing GraduateProgram Student Handbook* details these policies and is available at Nursing Graduate Student Handbook.

State Requirements for Online/Distance education

Authorization requirements for distance education vary by state. Wilkes University is currently in the process of pursuing individual state authorizations and approvals, as necessary, for its online course delivery. Wilkes is not required to have state authorization in all 50 states and may choose not to enroll students from states where we are not authorized. Any questions related to the university's approval to offer graduate education programs in a specific state should be forwarded to our Graduate Admissions team. Please note: Since distance education requirements vary by state, distance education students who change their residency to a state in which Wilkes University is not approved to operate may be unable to remain enrolled at Wilkes University or may have their academic progression delayed until proper approvals may be obtained.
Further details can be obtained at http://www.wilkes.edu/about-wilkes/accreditation-and-rankings/state-authorization-and-registration.aspx

FEES*

Additional fees exist for software products employed in graduate nursing programs, which promote student achievement of course outcomes in the distance education environment.
*Fees are subject to change.

Category	Course(s) Required	Approximate Fee
Shadow Health	NSG 500	$89.00; one-time fee
Certified Background	All clinical and practicum courses for RN-MS, MS, posts graduate, and DNP students.	Varies by state of residence; range $100.00-$200.00; one-time fee
Proctor Now	NSG 500, 530, 533, 552, 550, and most NP theory courses.	$15.00/test
Typhon	Nurse practitioner clinical courses	$80.00; one-time fee
Residency	NSG 500 and clinical courses for NP students based upon location of precepted clinical settings.	Students are responsible for all expenses related to the residency.
SPSS	NSG 601	Price varies based upon source of package chosen; minimum $50.00
Professional Liability Insurance for Students in Clinical/Practicum Courses	Clinical and practicum courses where logged clinical hours are a course requirement	The fee is collected by the university for each clinical or practicum course; $15.00/clinical or practicum course

ADULT-GERONTOLOGY PRIMARY CARE NURSE PRACTITIONER

Nurse Practitioner Student Learning Outcomes

Students in the Nurse Practitioner Program at Wilkes University will:

1. Synthesize theoretical, scientific, and clinical knowledge in providing comprehensive, evidence-based care.
2. Perform comprehensive health history and physical examination to diagnose health conditions involving critical analysis, differential diagnosis, and data interpretation.
3. Assume leadership roles in collaboration with other health professionals to achieve optimum patient health.
4. Integrate health care policy as it impacts the decision-making ability to provide quality patient care.
5. Negotiate healthcare delivery systems to promote quality health outcomes for individuals, communities, and organizational systems.
6. Coordinate care for patients with complex conditions through referrals and collaboration.
7. Participate in life-long learning through higher education, continuing education, certification and evaluation.

Adult-Gerontology Primary Care Nurse Practitioner (16 Credits)

NSG 550	Diagnostic Reasoning for Nurse Practitioners	2 credits
NSG 553	Adult Health Perspectives of Culturally Diverse, Rural, and Underserved Populations	2 credits
NSG 554	Advanced Practice in Adult-Gerontology I	3 credits
NSG 555	Advanced Practice in Adult-Gerontology II	3 credits
NSG 506	Advanced Practice in Adult-Gerontology Clinical I	3 credits
NSG 515	Advanced Practice in Adult-Gerontology Clinical II	3 credits

Psychiatric / Mental Health Clinical Nurse Practitioner (18 Credits)

NSG 526	Clinical Modalities in Advanced Psychiatric/ Mental Health Nursing Practice	3 credits
NSG 527	Psychopathology, Theories, and Advanced Clinical Modalities	3 credits
NSG 535	Advanced Practice in Psychiatric/Mental Health Nursing I	3 credits
NSG 536	Advanced Practice in Psychiatric/Mental Health Nursing II	3 credits
NSG 550	Diagnostic Reasoning for Nurse Practitioners	2 credits
NSG 551	Mental Health Perspectives of Culturally Diverse Rural, and Underserved Populations	2 credits
NSG 552	Psychopharmacology	2 credits

DOCTOR OF NURSING PRACTICE (DNP)

Doctor of Nursing Practice (DNP)

Purpose

The distance education program leading to the Doctor of Nursing Practice degree at Wilkes University is linked to the mission statements of the University and the Passan School of Nursing as well as, AACN's definition of advanced nursing practice. The doctoral program focuses on two primary elements: applied research and clinical practice. These two elements are embedded in courses throughout the program with opportunities to apply acquired knowledge to clinical practice in the students' respective fields for improving safety and quality in health care organizations.

DNP Program Outcomes

The DNP Program at Wilkes University prepares students to:

1. Apply scientific inquiry and information technology to become leaders in advancing nursing practice.
2. Demonstrate application of scholarship and research for solving the nation's complex health problems.
3. Translate evidence based research into clinical practice.
4. Integrate and disseminate knowledge for improving patient and population health outcomes.
5. Engage in health care policy.

DNP Student Learning Outcomes

Students in the DNP Program at Wilkes University will:

1. Synthesize nursing science to manage complex health problems and improve health outcomes in advanced nursing practice.
2. Develop and evaluate knowledge and skills in organizational and systems leadership to improve health care practice and policy.
3. Critically analyze information technology, research methodology, quality improvement methodology to implement the best evidence based practice.
4. Design and analyze patient care technology and information systems to enhance quality of health care delivery.
5. Evaluate health care policies to improve health care policy outcomes at the local, state, and national levels.
6. Employ specialized knowledge and leadership skills when collaborating and leading other interprofessional health care teams in complex health care delivery systems.
7. Analyze health disparities, cultural diversity, environmental and societal needs in the care of individuals, aggregates, and populations.
8. Develop, demonstrate, and sustain advanced levels of clinical judgment, systems thinking and accountability to implement and evaluate evidence based care disparities, cultural diversity, environmental and societal needs in the care of individuals, aggregates, and populations.

Admission Requirements

Regular Acceptance

- Master of Science in Nursing degree - advanced practice registered nurse (APRN), nurse executive, nursing informatics, clinical nurse leader, or health policy concentrations only
- GPA of 3.5 or higher from master's-degree-granting institution which is programmatically (ACEN, NLNAC, CCNE) accredited. Students who have graduated from a non-programmatically accredited institution and meet all other admission requirements will be evaluated on a case by case basis. Admission is not guaranteed.
- RN license; and advanced practice registered nurse (APRN) license and national board certification, as appropriate
- Completed application and CV
- Proof of completion of supervised clinical practice hours during master's or post-graduate certificate program. Verification of completed hours must be provided by the nursing program where the clinical hours were completed. Transcripts are not considered official verification and will not be accepted as verification.(Please note: The DNP degree requires completion of a total of 1000 clinical hours earned during master's/post-graduate certificate, and the DNP program)
- Two recommendations from graduate-prepared nurses or faculty who can attest to the candidate's potential for advanced practice studies and leadership
- Official transcripts from master's degree and post-graduate certificate granting institutions
- Evidence of completion for advanced health assessment, advanced pharmacology, and advanced pathophysiology by APRN students (Nurse Practitioners, Clinical Nurse Specialists, Nurse Anesthetists and Nurse Midwives) who do not hold current national certification

Provisional Acceptance (collateral)*

- Master of Science in Nursing degree - advanced practice registered nurse (APRN), nurse executive, nursing informatics, clinical nurse leader, or health policy concentrations only
- GPA of 3.5 or higher from master's-degree-granting institution which is programmatically (ACEN, NLNAC, CCNE) accredited. Students who have graduated from a non-programmatically accredited institution and meet all other admission requirements will be evaluated on a case by case basis. Admission is not guaranteed.
- RN license; and advanced practice registered nurse (APRN) license and national board certification, as appropriate
  Completed application and CV.\
- Proof of completion of supervised clinical practice hours during master's or post-graduate certificate program. Verification of completed hours must be provided by the nursing program where the clinical hours were completed. Transcripts are not considered official verification and will not be accepted as verification.(Please note: The DNP degree requires completion of a total of 1000 clinical hours earned during master's/post-graduate certificate, and the DNP program).
- Two recommendations from graduate-prepared nurses or faculty who can attest to the candidate's potential for advanced practice studies and leadership.
- Unofficial transcripts* from master's degree and post-graduate certificate granting institution.
- Evidence of completion for advanced health assessment, advanced pharmacology, and advanced pathophysiology is required by APRN students (Nurse Practitioners, Clinical Nurse Specialists, Nurse Anesthetists and Nurse Midwives) who do not hold current national certification

*Official transcript from degree-granting institution due prior to start of second course

Conditional Acceptance (academic)**

- Master of Science in Nursing degree - advanced practice registered nurse (APRN), nurse executive, nursing informatics, clinical nurse leader, or health policy concentrations only

- GPA of 3.0-3.49 from master's-degree-granting institution which is programmatically (ACEN, NLNAC, CCNE) accredited. Students who have graduated from a non-programmatically accredited institution and meet all other admission requirements will be evaluated on a case by case basis. Admission is not guaranteed.
- RN license; and advanced practice registered nurse (APRN) license and national board certification, as appropriate
- Completed application and CV
- Proof of completion of supervised clinical practice hours during master's or post-graduate certificate program. Verification of completed hours must be provided by the nursing program where the clinical hours were completed. Transcripts are not considered official verification and will not be accepted as verification.(Please note: The DNP degree requires completion of a total of 1000 clinical hours earned during master's/post-graduate certificate, and the DNP program)
- Letter of Intent addressing reason for pursuing DNP, reason for GPA less than 3.5 in graduate studies, and steps student will take to ensure successful completion of DNP program
- Three recommendations from graduate-prepared nurses or faculty who can attest to the candidate's potential for advanced practice studies and leadership
- Official transcripts from master's degree and post-graduate certificate granting institutions
- Evidence of completion for advanced health assessment, advanced pharmacology, and advanced pathophysiology by APRN students (Nurse Practitioners, Clinical Nurse Specialists, Nurse Anesthetists and Nurse Midwives) who do not hold current national certification

**Admitted students must achieve a cumulative 3.0 GPA in first two courses to move forward in program of study.

The Curriculum

DNP Core (MS-DNP) (30 Credits)

NSG 600	Nursing Informatics	3 credits
NSG 601	Biostatistics	3 credits
NSG 602	Ethical Principles for Advanced Nursing Practice	3 credits
NSG 603	Application of Nursing Research	3 credits
NSG 604	Epidemiology and Environmental Health	3 credits
NSG 605	Collaboration in Health Care Delivery	3 credits
NSG 606	Diversity and Social Issues	3 credits
NSG 607	Leadership in Advanced Nursing Practice	3 credits
NSG 608a	Scholarly Project	3 credits
NSG 608b	Scholarly Project	3 credits

**NSG 608 a and b are completed over the last 2 courses in the DNP program.*

Elective practicum courses are available for students entering the MS-DNP program with less than 400 hours from their master's degree and post grad certificate programs. These courses provide students with additional time to complete the required 1000 hours for the DNP degree, prior to the start of the scholarly project. Students could take the following elective practicum courses after completing NSG 603:
NSG 609: DNP Program Practicum I; 150 clinical hours; 2 credits
NSG 610: DNP Program Practicum II; 150 clinical hours; 2 credits

Degree Requirements

MS-DNP students are required to complete the 30 (30) credit DNP core.

Length of DNP Program

DNP program offers courses consecutively over 8 weeks with two, 2 week breaks built into the academic calendar.

Clinical Requirements

Students in the DNP program need to secure a clinical mentor prior to entering NSG 608a: Scholarly Project. The DNP program requires completion of a total of 1000 hours of practice experience beyond the bachelor's level of nursing education. The hours will be conducted in the scholarly project courses. Students who have completed practicum hours to satisfy past curriculum requirements may be credited with hours from their master's program and/or post master's graduate/ APRN certificate in nursing. Validation of those hours is required by a letter from the degree granting academic institution verifying the number of practicum hours which is part of the enrollment process. Further details of clinical requirements are outlined in the graduate student nursing handbook.

Scholarly Project

Students in the graduate program are required to complete a scholarly project that demonstrates mastery of theoretical content through analysis and synthesis. Students should have a topic prior to entering the program and will research the topic throughout their DNP coursework. DNP scholarly project oversight is provided by an assigned Scholarly Project Chairperson. One other committee member is chosen by the student to serve as a reader and can include graduate faculty members or community members, who are serving as scholarly project mentors. The scholarly project validates that candidates have achieved competency in *The Essentials of Doctoral Education for Advanced Nursing Practice* (AACN, 2006) through the application of research and clinical implementation. The Scholarly Project is 6 credits and completion is over the last 2 courses of the DNP program.

MASTER OF SCIENCE IN NURSING

MASTER OF SCIENCE IN NURSING (MSN)

Purpose

The purpose of the distance education Master of Science in Nursing at Wilkes University is to prepare the Nurse Practitioner, Nurse Executive, Nursing Educator, and Informatics Nurse Specialist for advancing nursing practice. The demand is growing for master's degree nurses who are innovative and clinically focused. This multidisciplinary program provides a foundation for further study in nursing and continued professional development. Graduates are eligible for national certification in their respective concentration.

Master of Science in Nursing Program Outcomes

The Master of Science in Nursing program at Wilkes University prepares students to:

1. Engage in lifelong learning in a constantly evolving and multicultural world.
2. Demonstrate competence in the development of scientific inquiry relevant to clinical practice, administration, or education.
3. Utilize leadership strategies that foster improvement of patient and population health.
4. Advance nursing practice by translating evidence in a variety of roles and areas of practice.
5. Improve healthcare outcomes through interprofessional collaboration.
6. Participate in lifelong learning as a part of advancing nursing practice.

Master of Science in Nursing Student Learning Outcomes

Students in the Master of Science in Nursing program at Wilkes University will:

1. Synthesize advanced knowledge of nursing and related disciplines for the development of advanced nursing practice in the roles of the Nurse Practitioner, Nurse Executive, and Nurse Educator.
2. Develop expertise in the Nurse Practitioner, Nurse Executive, and Nurse Educator role to advance nursing practice.
3. Develop skills and abilities to assume leadership roles in advanced nursing practice.
4. Evaluate nursing research for its applicability to advance nursing practice.
5. Evaluate applicable knowledge and concepts in nursing to deal with the complexities of a dynamic society.

Admission Requirements

Regular Acceptance

- GPA of 3.0 or higher from an associate's-(for RN to MSN program) or baccalaureate- (for full MSN program) degree-granting institution which is programmatically (ACEN, NLNAC, CCNE) accredited. Students who have graduated from a non-programmatically accredited institution and meet all other admission requirements will be evaluated on a case by case basis. Admission is not guaranteed.
- RN License
- Completed application
- Resume
- Minimum one year of clinical experience
- Official transcripts from degree-granting institution.

Provisional Acceptance (collateral) *

- GPA of 3.0 or higher from an associate's- (for RN to MSN program) or baccalaureate- (for full MSN program) degree-granting institution which is programmatically (ACEN, NLNAC, CCNE) accredited. Students who have graduated from a non-programmatically accredited institution and meet all other admission requirements will be evaluated on a case by case basis. Admission is not guaranteed.
- RN License
- Completed application
- Resume
- Minimum one year of clinical experience
- Unofficial transcript from degree-granting institution*.

*Official transcripts from degree-granting institution due prior to start of second course

Conditional Acceptance (academic) ** (NP students are not admitted under conditional acceptance)

- GPA between 2.5-2.99 from an associate's- (for RN to MSN program) or baccalaureate- (for full MSN program) degree-granting institution which is programmatically (ACEN, NLNAC, CCNE) accredited. Students who have graduated from a non-programmatically accredited institution and meet all other admission requirements will be evaluated on a case by case basis. Admission is not guaranteed.
- RN License
- Completed application
- Minimum one year of clinical experience
- Resume
- Official transcripts from degree-granting institution.
- Letter of Intent (must include reason for pursuing MSN degree and reason GPA is less than 3.0)
- Two letters of recommendation (letters of recommendation must be from supervisors and/or those who can attest to candidate's ability to be successful in graduate nursing education)

** Admitted students must achieve a cumulative 3.0 GPA in first two courses to move forward in program of study.

The Curriculum

Graduate Nursing Core (24 Credits).

MSN students complete the 24 credit core in addition to credits of their chosen concentration.

NSG 500	Advanced Health Assessment	3 credits
NSG 501	Theoretical Foundations of Nursing Science	3 credits
NSG 502	Advanced Nursing Research	3 credits
NSG 504	Advanced Role Development in Nursing	3 credits
NSG 505	Health Policy and Politics for Advancing Nursing Practice	3 credits
NSG 530	Advanced Pathophysiology	3 credits
NSG 533	Advanced Pharmacology	3 credits
NSG 590*	Scholarly Review	3 credits

**Students in the Post Graduate/APRN Certificate Programs have an option to complete (1) credit for national certification preparation.*

Concentrations

Adult - Gerontology Primary Care Nurse Practitioner

Nurse Practitioner Student learning outcomes

Students in the Nurse Practitioner program at Wilkes University will:

1. Synthesize theoretical, scientific, and clinical knowledge in providing comprehensive, evidence-based care.
2. Perform comprehensive health history and physical examination to diagnose health conditions involving critical analysis, differential diagnosis, and data interpretation.
3. Assume leadership roles in collaboration with other health professionals to achieve optimum patient health.
4. Integrate health care policy as it impacts the decision-making ability to provide quality patient care.
5. Negotiate healthcare delivery systems to promote quality health outcomes for individuals, communities, and organizational systems.
6. Coordinate care for patients with complex conditions through referrals and collaboration.
7. Participate in life-long learning through higher education, continuing education, certification and evaluation.

Adult - Gerontology Primary Care Nurse Practitioner (16 Credits)

Total: 40 credits

NSG 550	Diagnostic Reasoning for Nurse Practitioners	2 credits
NSG 553	Adult Health Perspectives of Culturally Diverse, Rural, and Underserved Populations	2 credits
NSG 554	Nurse Practitioners in Primary Care I	3 credits
NSG 555	Nurse Practitioners in Primary Care II	3 credits
NSG 506	Advanced Practice in Adult-Gerontology Clinical I	3 credits
NSG 515	Advanced Practice in Adult-Gerontology Clinical I	3 credits

Psychiatric/Mental Health Nurse Practitioner (18 Credits)

Total: 42 credits

NSG 526	Clinical Modalities in Advanced Psychiatric Mental Health Nursing Practice	3 credits
NSG 527	Psychopathology, Theories, and Advanced Modalities	3 credits
NSG 535	Advanced Practice in Psychiatric/Mental Health Nursing I	3 credits
NSG 536	Advanced Practice in Psychiatric/Mental Health Nursing II	3 credits
NSG 550	Diagnostic Reasoning for Nurse Practitioners	2 credits
NSG 551	Mental Health Perspectives of Culturally Diverse Rural, and Underserved Populations	2 credits
NSG 552	Psychopharmacology	2 credits

Nurse Executive (15 Credits)

Total: 39 credits

Students in the Nurse Executive program at Wilkes University will:

1. Examine innovations for leadership and management to meet the challenges in delivering quality health care.

2. Critically analyze the challenges and issues facing nurse executives for maintaining healthcare workforces.
3. Discuss the role of the nurse executive as a leader in advancing nursing practice.
4. Apply evidence based practice as an organizational leader in redesigning healthcare delivery systems.

Nurse Executive (15 Credits)*
***Theory courses are 8 weeks and practicum courses are 16 weeks in length.**

NSG 560	Healthcare Operations for the Nurse Executive	3 credits
NSG 561	Organizational Leadership for the Nurse Executive	3 credits
NSG 562	Advanced Leadership Topics for the Nurse Executive	3 credits
NSG 563	Nurse Executive Practicum I	3 credits
NSG 564	Nurse Executive Practicum II	3 credits

NURSING EDUCATION STUDENT LEARNING OUTCOMES

Students in the Nursing Education program at Wilkes University will:

1. Analyze theoretical and evidence-based research specific to nursing education.
2. Develop expertise in education assessment, teaching/learning strategies, evaluation and testing.
3. Design a curriculum that addresses a dynamic complex nursing environment.
4. Demonstrate leadership abilities through classroom and clinical teaching in a variety of community agencies.

Nursing Education (15 Credits)*

Total: 39 credits
All courses are 8 weeks length.

NSG 540	The Nursing Curriculum: Development and Implementation	3 credits
NSG 541	Teaching Methodologies and Strategies in Nursing	3 credits
NSG 542	Evaluation in Nursing Education	3 credits
NSG 544	Classroom Practicum in Nursing Education	3 credits
NSG 545	Clinical Practicum in Nursing Education	3 credits

NURSING INFORMATICS STUDENT LEARNING OUTCOMES

Students in the Nursing Informatics program at Wilkes University will:

1. Discuss the role of the informatics nurse specialist for advancing nursing practice.
2. Apply informatics nurse specialist competencies as a nursing leader on healthcare organization, interprofessional teams.
3. Integrate nursing knowledge and technology for improving patient quality of care.
4. Demonstrate an ability to incorporate data analysis and management techniques for achieving efficiency and quality in healthcare organizations.

Nursing Informatics (15 credits)*

Total: 39 credits
*All courses are 8 weeks in length

NSG 565	Foundations of Nursing Informatics	3 credits
NSG 566	Data Management in Healthcare	3 credits
NSG 567	Nursing Informatics Leadership in Healthcare Systems and Project Designs	3 credits
NSG 568	Nursing Informatics Practicum I	3 credits
NSG 569	Nursing Informatics Practicum II	3 credits

Length of Program

The total number of credits to complete the Master of Science in Nursing program varies depending on the chosen program concentration. See the individual program descriptions for the specific credit requirements of each graduate nursing concentration.

Courses for the Nurse Practitioner program are 12 weeks in length. The Nurse Executive sequence is 8 week theory courses and 16 week practicum courses. The Nursing Education and Nursing Informatics sequences are 8 week courses.

RESIDENCY REQUIREMENTS

An on-site residency is required for nurse practitioner students only, who are enrolled in NSG 500, Advanced Health Assessment, in order to demonstrate advanced physical assessment skills. In addition, nurse practitioner students in the following clinical courses may be required to complete an on-site residency, based upon the location of the clinical practice site. During residency, direct supervision and evaluation of the student will be completed by nurse practitioner clinical faculty at his/her designated clinical practice sites. Each course syllabus dictates the terms of the specific course residency.

- NSG 506 – Advanced Practice in Adult-Gerontology Clinical I
- NSG 515 – Advanced Practice in Adult-Gerontology Clinical II
- NSG 535 – Advanced Practice in Psychiatric/Mental Health Nursing I
- NSG 536 – Advanced Practice in Psychiatric/Mental Health Nursing II

Clinical Requirements

The student is responsible for arranging all clinical experiences. A preceptor from a practice setting that promotes attainment of course objectives is identified by the student. Further details of clinical requirements for each concentration area are provided to students in The Passan School of Nursing Graduate Program Student Handbook.

RN to-MSN Program

Purpose

This distance education program is designed for the experienced, practicing registered nurse with a nursing-focused associate's degree (AAN or ASN) who plans to earn a career-enhancing advanced nursing degree to the master's level. The curriculum starts with two bridge courses totaling 10 credit hours, which brings the student to the baccalaureate level of study. **** A pass-through bachelor's degree in nursing is not granted as part of this program.***After completing these bridge courses, students continue in completing a concentration for completion of the Master of Science in Nursing degree of their choice (see Master of Science in Nursing section of the Bulletin). Graduates are eligible for national board certification in their respective concentration at the end of the program.

Admission Requirements

See the Master of Science with Major in Nursing admission requirements above.

Curriculum

Courses are completed in 8 week or 12 week sessions based upon the master's concentration chosen. The two bridge courses include:

- NSG 290 Transition to Baccalaureate Nursing - 7 credits (6 Credits Theory; 1 Credit Clinical)
- NSG 347 Leadership and Management Practicum - 3 credits (2 Credits Theory; 1 Credit Clinical)

Degree Requirements

The total number of credits required for completion of the RN to-MSN degree is based upon the concentration chosen (see Master of Science in Nursing section of the bulletin). The total credits range between 49-52.

RN to-MSN students enter this program as graduate students of the university and follow the policies of the Passan School of Nursing graduate nursing program.

NURSING EDUCATION

Purpose

This program is designed for professional nurses who have earned a Master's or Doctoral Degree in Nursing and seek further education in advanced nursing practice. Concentrations offered are the Adult-Gerontology Primary Care and Psychiatric/ Mental Health Nurse Practitioner; Adult-Gerontology and Psychiatric/ Mental Health Clinical Nurse Specialist; Nurse Executive; and Nursing Education. No degree will be awarded.

Admission Requirements

- Master's or Doctoral 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.)
- 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

NURSING EDUCATION STUDENT LEARNING OUTCOMES

Students in the Nursing Education program at Wilkes University will:

1. Analyze theoretical and evidence-based research specific to nursing education.
2. Develop expertise in education assessment, teaching/learning strategies, evaluation and testing.
3. Design a curriculum that addresses a dynamic complex nursing environment.
4. Demonstrate leadership abilities through classroom and clinical teaching in a variety of community agencies.

Nursing Education (24 Credits)

NSG 500	Advanced Health Assessment	3 credits
NSG-530	Pathophysiology for Advanced Practice	3 credits
NSG-533	Pharmacotherapeutics for Advanced Practice Nursing	3 credits
NSG-540	The Nursing Curriculum: Development and Implementation	3 credits
NSG-541	Teaching Methodologies and Strategies in Nursing	3 credits
NSG-542	Evaluation in Nursing Education	3 credits
NSG-544	Clinical Practice in Education I	3 credits
NSG-545	Clinical Practice in Education II	3 credits

Students must take N 533 or have completed a 3-credit advanced pharmacotherapeutics course within the past five years.

Required number of credits for each concentration is at the discretion of the Director of Graduate Nursing Programs.

RESIDENCY REQUIREMENTS

An on-site residency is required for students enrolled in NSG500, Advanced Health Assessment, in order to demonstrate advanced physical assessment skills. In addition, students in the following clinical courses are required to complete an on-site

residency. During residency, direct supervision and evaluation of the student will be completed by nurse practitioner faculty at their designated clinical practice sites.

- NSG 506 – Advanced Practice in Adult-Gerontology Clinical I
- NSG 515 – Advanced Practice in Adult-Gerontology Clinical II
- NSG 535 – Advanced Practice in Psychiatric Mental Health Nursing I
- NSG 536 – Advanced Practice in Psychiatric Mental Health Nursing II

Clinical Requirements

The student is responsible for arranging all clinical experiences. A preceptor from a practice setting that promotes attainment of course objectives is identified by the student. The preceptor must have a graduate degree in the appropriate healthcare discipline. Approval of clinical preceptors is granted by Graduate Nursing faculty after completion of a comprehensive vetting process.

It is the student's responsibility to meet any agency requirements related to the practicum experience that exceed those required by the School of Nursing (OSHA, HIPAA, training). Oversight of compliance occurs prior to the beginning of the clinical practice experience. Students are required to utilize the web based program for managing the clinical requirements. Students begin completion of clinical hours after approval is granted by Graduate Nursing faculty. Oversight of the practice experience is conducted by the Graduate Nursing clinical faculty.

State Requirements for Online/Distance Education

Authorization requirements for online/distance education vary by state. Wilkes University is currently in the process of pursuing individual state authorizations and approvals, as necessary, for its online course delivery. Wilkes is not required to have state authorization in all 50 states and may choose not to enroll students from states where we are not authorized. Any questions related to the university's approval to offer graduate nursing programs in a specific state should be forwarded to our Graduate Admissions team.

Note: Since online/distance education requirements vary by state, online students who change their residency to a state in which Wilkes University is not approved to operate may be unable to remain enrolled at Wilkes University or may have their academic progression delayed until proper approvals may be obtained.

POST GRADUATE/APRN CERTIFICATE

Post Graduate/APRN Certification

Purpose

This distance education program is designed for the experienced registered nurse who has earned a master's or doctoral degree in Nursing and seeks to expand their education in a new specialty area. Certificate programs are offered in all concentrations available in the Master of Science in Nursing degree program. Graduates of our accredited online certificate programs are eligible to sit for national certification exams. A review of official transcripts will determine a student's course of study. No degree is awarded.

Students admitted to the nurse practitioner program who have previously taken an Advanced Pharmacology course are advised to contact their State Board of Nursing to determine if their Pharmacology course meets the criteria set by State Board for length of time that is allowed from taking the course to the date of applying for prescriptive privileges.

Admission Requirements

Regular Acceptance

- Master of Science in Nursing or Doctoral degree in Nursing
- GPA of 3.0 or higher from master's-degree-granting institution which is programmatically (ACEN, NLNAC, CCNE) accredited. Students who have graduated from a non-programmatically accredited institution and meet all other admission requirements will be evaluated on a case by case basis. Admission is not guaranteed.
- RN License; and Advanced Practice Registered Nurse (APRN) license and national board certification, as appropriate
- Completed application
- Resume
- Minimum one year of clinical experience
- Official transcript from degree-granting institution.

Provisional Acceptance (collateral) *

- Master of Science in Nursing or Doctoral degree in Nursing
- GPA of 3.0 or higher from master's-degree-granting institution
- Students must have graduated from a programmatically (ACEN, NLNAC, CCNE) accredited institution within one year prior to receiving programmatic accreditation. Students who have graduated from a non-programmatically accredited institution and meet all other admission requirements will be evaluated on a case by case basis. Admission is not guaranteed.
- RN License; and Advanced Practice Registered Nurse (APRN) license and national board certification, as appropriate
- Completed application
- Resume
- Minimum one year of clinical experience
- Unofficial transcript from degree-granting institution*

*Official transcripts from all schools attended due prior to start of second course.

Conditional Acceptance (academic) ** (NP students are not admitted under conditional acceptance)

- Master of Science in Nursing or Doctoral degree in Nursing
- GPA of 2.50-2.99 from master's-degree-granting institution which is programmatically (ACEN, NLNAC, CCNE) accredited. Students who have graduated from a non-programmatically accredited institution and meet all other admission requirements will be evaluated on a case by case basis. Admission is not guaranteed.
- RN License; and Advanced Practice Registered Nurse (APRN) license and national board certification, as appropriate
- Completed application
- Resume
- Minimum one year of clinical experience
- Official transcript from degree granting institution
- Letter of Intent addressing reason for pursuing post-graduate certificate, reason for GPA less than 3.0 in graduate studies,
- Two letters of recommendation (letters of recommendation must be from supervisors and/or those who can attest to candidate's ability to be successful in graduate nursing education)

** Admitted students must achieve a cumulative 3.0 GPA in first two courses to move forward in program of study

Student outcomes for each of the following concentrations can be found in the Master of Science in Nursing section of this handbook. Students in the Post Graduate/APRN Certificate programs have an option to complete (1) billable credit of national certification preparation in NSG 590: Scholarly Review.

The Curriculum

CONCENTRATIONS

Adult –Gerontology Primary Care Nurse Practitioner (25 Credits)
All courses are 12 weeks in length.

NSG 500	Advanced Health Assessment	3 credits
NSG 530	Advanced Pathophysiology	3 credits
NSG 533	Advanced Pharmacology	3 credits
NSG 550	Diagnostic Reasoning for Nurse Practitioners	2 credits
NSG 553	Adult Health Perspectives of Culturally Diverse, Rural, and Underserved Populations	2 credits
NSG 554	Nurse Practitioners in Primary Care I	3 credits
NSG 555	Nurse Practitioners in Primary Care II	3 credits
NSG 506	Advanced Practice in Adult-Gerontology I	
NSG 515	Advanced Practice in Adult-Gerontology II	3 credits*

Psychiatric/Mental Health Nurse Practitioner (27 Credits)

NSG 500	Advanced Health Assessment	3 credits
NSG 530	Advanced Pathophysiology	3 credits
NSG 533	Advanced Pharmacology	3 credits
NSG 526	Clinical Modalities in Advanced Psychiatric/ Mental Health Nursing Practice	3 credits
NSG 527	Psychopathology, Theories, and Advanced Clinical Modalities	3 credits
NSG 535	Advanced Practice in Psychiatric/ Mental Health Nursing I	3 credits
NSG 536	Advanced Practice in Psychiatric/ Mental Health Nursing II	3 credits
NSG 550	Diagnostic Reasoning for Nurse Practitioners	2 credits
NSG 551	Mental Health Perspectives of Culturally Diverse, Rural, and Underserved Populations	2 credits
NSG 552	Psychopharmacology	2 credits

Nurse Executive (24 Credits)
*Theory courses are 8 weeks and practicum courses are 16 weeks in length.

NSG 500	Advanced Health Assessment	3 credits
NSG 530	Advanced Pathophysiology	3 credits
NSG 533	Advanced Pathophysiology	3 credits
NSG 560	Healthcare Operations for the Nurse Executive	3 credits
NSG 561	Organizational Leadership for the Nurse Executive	3 credits
NSG 562	Advanced Leadership Topics for the Nurse Executive	3 credits
NSG 563	Nurse Executive Practicum I	3 credits
NSG 564	Nurse Executive Practicum II	3 credits

Nursing Education (24 Credits)

*All courses are 8 weeks in length

NSG 500	Advanced Health Assessment	3 credits
NSG 530	Advanced Pathophysiology	3 credits
NSG 533	Advanced Pathophysiology	3 credits
NSG 540	The Nursing Curriculum: Development and Implementation	3 credits
NSG 541	Teaching Methodologies and Strategies in Nursing	3 credits
NSG 542	Evaluation in Nursing Education	3 credits
NSG 544	Classroom Practicum in Nursing Education	3 credits
NSG 545	Clinical Practicum in Nursing Education	3 credits

Nursing Informatics (24 credits)
*All courses are 8 weeks in length

NSG 500	Advanced Health Assessment	3 credits
NSG 530	Advanced Pathophysiology	3 credits
NSG 533	Advanced Pathophysiology	3 credits
NSG 565	Foundations of Nursing Informatics	3 credits
NSG 566	Data Management in Healthcare	3 credits
NSG 567	Nursing Informatics Leadership in Healthcare Systems and Project Designs	3 credits
NSG 568	Nursing Informatics Practicum I	3 credits
NSG 569	Nursing Informatics Practicum II	3 credits

Residency Requirements
An on-site residency is required for nurse practitioner students only, who are enrolled in NSG 500, Advanced Health Assessment, in order to demonstrate advanced physical assessment skills. In addition, nurse practitioner students in the following clinical courses may be required to complete an on-site residency, based upon the location of the clinical practice site. During residency, direct supervision and evaluation of the student will be completed by nurse practitioner clinical faculty at his/her designated clinical practice sites. Each course syllabus dictates the terms of the specific course residency.

- NSG 506 – Advanced Practice in Adult-Gerontology Clinical I
- NSG 515 – Advanced Practice in Adult-Gerontology Clinical II
- NSG 535 – Advanced Practice in Psychiatric Mental Health Nursing I
- NSG 536 – Advanced Practice in Psychiatric Mental Health Nursing II

Clinical Requirements

The student is responsible for arranging all clinical experiences. A preceptor from a practice setting that promotes attainment of course objectives is identified by the student. Further details of clinical requirements for each concentration area are provided to students in the *The Passan School of Nursing GraduateProgram Student Handbook* .

Accelerated tracks are available in the MS-DNP, MSN (excluding NP concentrations), and RN to MSN (after successful completion of the bridge courses) programs. Further details are available in *The Passan School of Nursing GraduateProgram Student Handbook* .

RN-MS PROGRAM

RN to MSN 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 curriculum for the Master of Science in Nursing program remains intact and prepares the registered nurse for advancing nursing practice. Program plans are individualized for each student. The total time to completion of the program is dependent on the number of transfer credits, as well as the number of credits taken in any semester.

Regular admission to Wilkes University is necessary and will include evaluation of transfer credits.

Admission Requirements

- A nursing degree with a GPA of 3.0 or higher on a 4.0 scale
- Licensure as a Registered Nurse.
- A completed admission application
- One year of clinical experience
- Official transcripts from all schools attended

State Requirements for Online/Distance Education

Authorization requirements for online/distance education vary by state. Wilkes University is currently in the process of pursuing individual state authorizations and approvals, as necessary, for its online course delivery. Wilkes is not required to have state authorization in all 50 states and may choose not to enroll students from states where we are not authorized. Any questions related to the university's approval to offer graduate nursing programs in a specific state should be forwarded to our Graduate Admissions team.

Please note: Since online/distance education requirements vary by state, online students who change their residency to a state in which Wilkes University is not approved to operate may be unable to remain enrolled at Wilkes University or may have their academic progression delayed until proper approvals may be obtained.

Degree Requirements

The total number of credits to complete the RN to MSN program varies depending on the courses completed prior to admission. A program plan will be designed for you upon admission.

PHARMACY

Dean: Dr. Bernard W. Graham
Assistant/Associate Deans: Dr. Julie Olenak, Dr. Jonathon Ference, Dr. Jenifer Malinoski
Chairperson, Department of Pharmacy Practice: Dr. Edward F. Foote
Chairperson, Department of Pharmaceutical Sciences: Dr. Zbigniew Wiczak

Faculty

Professors: Foote, Graham, Kristeller, Witczak
Associate Professors: Bolesta,, Bommereddy, J. Ference, K. Ference, Jacobs, Longyhore, Malinowski, Manning, McManus, Olenak, Roke-Thomas, Trombetta, VanWert
Assistant Professors: Franco, Hong, Kheloussi, Patel, Pezzino
Instructors: Holt-Macey, Koos, Powers
Professor Emeritus: Kibbe

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

Our Mission

Our mission is to develop pharmacists who will provide high quality health care and to make meaningful contributions to the science and practice of pharmacy.

Our Vision

We will be recognized as an exceptional pharmacy program through innovative education, contemporary practice, and valuable scientific contributions.

Our Values

Teamwork, Professionalism, Lifelong Learning, Cultural Competency, Personalized Attention, Community Engagement

Accreditation

Wilkes University's Doctor of Pharmacy program is accredited by the Accreditation Council for Pharmacy Education, 135 South LaSalle Street, Suite 4100, Chicago, IL 60503; 312-664-3575; FAX 312-664-4652; www.acpe-accredit.org.

Professional Program

The Professional Program is four years and leads to the Doctor of Pharmacy (Pharm.D.) degree after successful completion of a pre-professional program of at least two years. 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: 72)

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 pre-pharmacy courses, number of courses repeated, typical course loads, PCAT scores, total academic career, and references, as well as a successful interview. If applicable, the committee will also consider the most recent academic performance for those non-traditional students returning to college life after a hiatus. Each spring, a select group of applicants is invited for an interview, based upon a complete evaluation of all submitted application materials. Any missing documentation will compromise the application.
The number of seats in the professional program available through the application process is dependent on the number of Pre-pharmacy Guaranteed Seat students able to claim a seat. A portion of remaining seats is available on an academically competitive basis to Wilkes students with overall and prerequisite GPAs above a 2.5, and a portion of seats is available to transfer students with overall and prerequisite GPAs above a 2.5 on a competitive basis. To be classified as a Wilkes student, the student 1) must complete and be enrolled at Wilkes University for two full-time consecutive semesters before enrollment in the

Professional Program, AND 2) must complete 18 credits of prerequisite courses at Wilkes University by the end of the spring semester prior to enrollment in the Professional Program. Failure to meet both of these criteria will result in classification as a "transfer student."
Applicants should review the technical standards set forth by the School of Pharmacy, which are available at:

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

These technical standards describe non-academic abilities that are required for admission to, continuation in, and graduation from the School of Pharmacy to obtain a Pharm.D. degree.

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
or download an application from www.wilkes.edu/include/academics/pharmacy/apply.doc

Please note: The School of Pharmacy application is in addition to the Wilkes University application. All applicants must complete the application and return it before **January 15th** 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. A maximum of two deficient General Education courses will be considered for admission into the pharmacy program. Students with more than two deficient General Education courses may appeal to the Student Affairs Committee of the School of Pharmacy for consideration.
- must successfully (2.0 or higher) complete the Pharmacy Prerequisite Courses listed below by the end of the spring term prior to fall 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) by the end of the spring semester prior to admission. Preferential consideration will be given to Wilkes students with GPAs of 3.0 or higher.

Prerequisite grades less than 2.0 may be repeated with the higher grade factoring into the GPA. However, applications will be placed at a lower priority for repeated courses of less than 2.0 in prerequisite courses are recorded. In addition, repeating courses in which a grade above a 2.0 was earned will not factor into the GPA. However, exceptions to the above rules will be considered on an individual basis and only if students can provide written explanation of extenuating circumstances.

(Note: admission into the 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), including the writing sample, by January 15th. Please note only PCAT scores taken prior to January are accepted.

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.

Technical Standards

Students applying to and enrolling in the School of Pharmacy are expected to read, acknowledge, and understand the Technical Standards. These technical standards describe non-academic abilities that are required for admission to, continuation in, and graduation from the School of Pharmacy to obtain a Pharm.D. degree.
A candidate must have abilities and skills in the following five areas: 1) observational skills; 2) communication skills; 3) motor skills; 4) intellectual, conceptual, integrative, and quantitative skills; and 5) behavioral and social skills. Detailed descriptions of the Technical Standards are provided in the School of Pharmacy Application or by contacting the School of Pharmacy Dean's office.

Progression Requirements

All students in the Professional Program of the School of Pharmacy are required to meet minimum standards for progression. Academic progression requirements include a minimum semester and 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 of Student Affairs 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 Nesbitt School of Pharmacy Student Handbook distributed annually. APPE progression is described in the APPE Course Manual.

Experiential Curriculum Component

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

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

These criteria are fully described throughout the curriculum, including deadlines and ramifications of non-compliance.

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 hours) 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 hours) 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. IPPE V is a self-directed IPPE and consists of 20 hours of independent pharmacy-related, service-oriented learning earned during the P1 through P3 years. IPPE's occur at practice sites and in the community in the Wilkes-Barre/Scranton area, not on campus.

The Advanced Pharmacy Practice Experience (APPE) occurs during the fourth professional year (the P-4 year) of the professional program. 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 APPEs. 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, except where noted.

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.
Students applying with degrees or courses from foreign colleges or universities will be evaluated to ensure significant portions of the General Education Requirements are satisfied.

All non-degreed students entering the Professional Programs are encouraged to complete the General Education Requirements prior to beginning the Professional Curriculum. As mentioned, a student may be deficient in two General Education requirements and be granted admission into the program. Student will receive consultation and documentation from their advisor that these courses must be completed prior to graduation. Students with more than two deficient General Education courses may appeal to the Student Affairs Committee of the School of Pharmacy for consideration. This requirement is in place since there is no room within the professional curriculum, including summers, to complete the courses. As a matter of record, non-degreed students who have successfully completed the second professional year (P-2) in the School of Pharmacy AND completed all General Education Requirements will be awarded a

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.

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

ADVANCED PHARMACY PRACTICE EXPERIENCE#

DOCTOR OF PHARMACY

Recommended Course Sequence

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
Total Credits		**18**

P-1 Spring Semester

PHA 302	Pharmaceutical Care Lab I	1
PHA 304	Foundations 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
Total Credits		**18**

P-1 Summer

PHA 335	Intro. Pharmacy Practice Experience I (IPPE I)	2

P-2 Fall Semester

PHA 401	Pharmacy Care Lab II	1
PHA 405	Pharmaceutical Care Systems	2
PHA 411	Biopharm/Clinical Kinetics	3
PHA 421	Pharmacotherapeutics I	2
PHA 423	Pharmacotherapeutics II	2
PHA 425	Pharmacotherapeutics III	3
	Elective	2-3
Total Credits		**16-17**

P-2 Spring Semester

PHA 402	Pharmacy Care Lab III	1
PHA 410	Biotechnology/ Immunology	3
PHA 412	Mgt. of Pharm. Operations	3
PHA 426	Pharmacotherapeutics IV	2
PHA 428	Pharmacotherapeutics V	4
PHA 430	Pharmacotherapeutics VI	2
PHA 440	IPPE II	1
	Elective	2-3
Total Credits		**18-19**

P-2 Summer

PHA445	Intro. Pharmacy Practice Experience III (IPPE III)	2

P-3 Fall Semester

PHA 501	Pharmacy Care Lab IV	1
PHA 503	Longitudinal Care I	1
PHA 505	Pharmacy Law	2
PHA 509	Economic Evaluation of Pharm.	3
PHA 521	Pharmacotherapeutics VII	2
PHA 523	Pharmacotherapeutics VIII	4
PHA 525	Pharmacotherapeutics IX	2
	Elective	2-3
Total Credits		**17-18**

P-3 Spring Semester

PHA 502	Pharmacy Care Lab V	1
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	0.5
PHA 560	IPPE V	0.5
	Professional Elective	2-3
Total Credits		**16-17**

P-4 Advanced Pharmacy Practice Experiential Year

The APPE portion of the curriculum consists of 7 rotations for a total of 35 credit hours in various settings. Rotation #1 is 6 weeks in duration. Rotations #2-7 are 5 weeks in duration.

There are four required APPE rotations. In addition there are three elective APPE rotations. Information will be provided during the P-3 year.

PHA 510	General Medicine
PHA 511	Ambulatory Care
PHA 512	Community Practice
PHA 513	Health System

In addition, there are three elective APPE rotation. Information will be provided during the P-3 year.

INTRODUCTORY PHARMACY EXPERIENCE

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.

Course Descriptions

AUT. AUTISM

AUT-501. AUTISM DIAGNOSIS AND TREATMENT
Credits: 3

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. A 20 hour field experience is required.

AUT-502. APPLIED BEHAVIORAL ANALYSIS AND AUTISM
Credits: 3

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. A 20 hour field experience is required.

AUT-503. AUTISM SCOPE AND SEQUENCE
Credits: 3

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. A 20 hour field experience is required.

AUT-504. ADVANCED AUTISM INSTRUCTION AND INTERVENTION
Credits: 3

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. A 20 hour field experience is required.

BEGR. BIOENGINEERING

BEGR-401. APPLIED ENGINEERING ANALYSIS
Credits: 3 (Two hours of lecture and two hours of lab per week)

This course is a graduate level course whose focus is to present, illustrate and apply the calculus of single, multivariable and vector-valued functions to a variety of mechanical and electrical engineering and physics topics at an advanced level. Topics include ordinary differential equations, series solutions of ordinary differential equations and special functions, inner product spaces, vector analysis, operator algebra, matrix methods and eigenvalue problems, Fourier series and integrals, complex variables, Sturm-Liouville theory, transform methods and partial differential equations. (Cross-listed with ME-401)

BEGR-408. BIOMEMS
Credits: 3 (Three hours of lecture and three hours of lab per week)
Fees: Lab Fee - $104

This course is about the basic foundations for the understanding of electrical, mechanical and chemical transducers in biomedical applications through learning fabrication, design and analysis. The course will have lectures to cover the theory and practical applications of imaging. Some of the lectures and assignments will be in our materials fabrication laboratories.

BEGR-409. INTRODUCTION TO BIOENGINEERING
Credits: 3 (Three hours of lecture per week)

This course first covers some essential information of bioengineering and includes the required research ethics curriculum for the program. The course also samples the wide variety of bioengineering options for students who plan to enter one of the degree tracks. The beginning lectures briefly describe the scientific basis for bioengineering both from biological and engineering standpoints. Bioengineering faculty will then describe the bioengineering options in the particular engineering tracks and courses as well as the research conducted by faculty in the department. (Required for all students in Bioengineering)

BEGR-411. INTEGRATED PRODUCT DEVELOPMENT
Credits: 3 (Three hours of lecture per week)

Organizational issues and decision-making for capital investments in new technologies. The product development and commercialization process is traced from research and development and marketing activities through the implementation phase involving the manufacturing function. Term project is a commercialization plan for a new manufacturing technology. (Cross-listed with ME-411) (Required for all students in Bioengineering)

BEGR-415. 3-D MODELING IN HUMAN ANATOMY AND PHYSIOLOGY
Credits: 3 (Two hours of lecture and three hours of lab per week)
Fees: Lab Fee - $104

This is a one-semester course that will provide a foundation in Human Anatomy and Physiology for Graduate Engineering students in preparation for the design and evaluation of biomedical devices. Topics to be covered include: anatomical terminology; cell, tissue and organ structure; as well functional anatomy of muscles, joints, nervous, cardiovascular, respiratory, digestive, and urinary systems. Laboratory exercises will include 3D modeling of these systems and physiological recording of muscle contraction, action potentials, EEG, ECG, heat rate, pulse, and respiratory movements.

BEGR-421. BIOFLUIDICS AND MICROFLUIDICS
Credits: 3 (Three hours of lecture and three hours of lab per week)
Fees: Lab Fee - $104

Students learn how to mathematically and quantitatively describe fluid flow throughout organ systems and biomedical devices. Other topics covered include how flow correlates with diseases.

BEGR-424. MOLECULAR BIOLOGY
Credits: 3 (Three hours of lecture and three hours of lab per week)
Fees: Lab Fee - $104

An introduction to molecular biology and how it is studied. Topics covered include genome structure, transcription, translation, chromatin structure and its role in gene expression, and techniques for studying gene expression and for genetic engineering. The goal is to learn enough molecular biology to figure out how to identify target genes or combinations of genes and how they might be engineered to produce desired products or to engineer organisms with desired capabilities. (Cross-listed with BIO-324)

BEGR-426. IMMUNOLOGY AND IMMUNOCHEMISTRY
Credits: 3 (Three hours of lecture and three hours of lab per week)
Fees: Lab Fee - $104

Immunology and Immunochemistry provides an introduction to mammalian host defense. The molecular mechanisms that account for the antigen-antibody interaction are explored, as are ways in which this interaction influences the evolution of lymphocyte populations. Mechanisms of acquired immunity, including interactions among lymphocyte subpopulations, are discussed. Lymphocyte differentiation is addressed as a developmental problem, and defense against infection is approached as an integrated response. (Cross-listed with BIO-326)

BEGR-427. MEDICAL MICROBIOLOGY
Credits: 3 (Three hours of lecture and three hours of lab per week)
Fees: Lab Fee - $104

Medical Microbiology provides a professional-level introduction to microbiology that is focused on application of microbiology to the study of infectious disease. Principles of molecular cell biology and biochemistry are applied to an understanding of factors influencing interactions between microbial pathogens and their hosts. Adaptations that have evolved in vertebrate hosts to limit infection are considered along with parasite adaptations that have evolved to overcome such defenses. Infection control strategies - epidemiological and chemical - are also introduced. (Cross-listed with BIO-327)

BEGR-429. VIROLOGY
Credits: 3 (Three hours or lecture per week)

Virology provides an introduction to the biology of viruses and virus-like agents. A consideration of viruses in terms of their molecular architecture and genome organization is followed by a survey of strategies employed for reproductive success of viruses, focused on the traditional 'stages' of attachment, entry, transcription, translation, genome replication, assembly and release. The course provides an overview of the major groups in the Baltimore classification, and introduces topics in host interaction and control. (Cross-listed with BIO-329)

BEGR-430. BIOINFORMATICS
Credits: 3 (Online course; Three hours of lecture per week)

An introduction to the ways computers are used to make sense of biological information, especially the data generated by genome projects. 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, generating and analyzing high-throughput sequencing data, DNA fingerprinting, rational drug design and metabolic simulation. (Cross-listed with BIO-330)

BEGR-451. MECHATRONICS/BIOINSTRUMENTATION
Credits: 3 (Two hours of lecture and one hour of lab per week)
Fees: Lab Fee - $104

Mechatronics is a multidiscipline technical area defined as the synergistic integration of mechanical engineering with electronic and intelligent computer control in the design and manufacture of industrial products and processes. This course covers topics such as actuators and drive systems, sensors, programmable controllers, microcontroller programming and interfacing, and automation systems integration. (Cross-listed with ME-451)

BEGR-452. NANOTECHNOLOGY
Credits: 3 (Two hours of lecture and three hours of lab per week)
Fees: Lab Fee - $104

This course explores the fundamentals of nanotechnology and its applications for colloidal suspension, Electrophoretic deposition and nano-sensing by understanding materials properties, micro-machining, sensor and actuator principles. Two hours of lecture and three hours of lab per week. (Cross-listed with ME-452)

BEGR-465. BIOCHEMISTRY
Credits: 3 (Three hours of lecture per week)

An introduction to metabolism and how it is studied together with an introduction to the physical and chemical properties of macromolecules and their precursors. The goal is to learn enough biochemistry and metabolism to figure out how to identify target pathways and how they might be engineered to produce desired products or to engineer organisms with desired capabilities. (Cross-listed with CHM-365)

BEGR-474. IMAGING IN BIOMEDICINE
Credits: 3 (Three hours of lecture and three hours of lab per week)
Fees: Lab Fee - $104

Biological and medicinal imaging techniques. This course will cover different aspects of imaging important to biomedicine including optical, scanning probe, ultrasound, X-ray and nuclear radiation techniques. The course will have lectures to cover the theory and practical applications of imaging. Some of the lectures and assignments will be in our imaging laboratories both at Wilkes and/or at our partner institutions.

BEGR-477. CELLULAR BIOPHYSICS
Credits: 3 (Three hours of lecture per week)

Cells are complex micron-sized machines that may best be understood by reverse systems engineering, which means that the understanding originated from detailed analysis of cellular functions and how they were optimized. This course focuses on a quantitative understanding of cellular processes. It is designed for students who feel comfortable with and are interested in analytical and quantitative approaches to cell biology and cell physiology.

BEGR-488. BIOMEDICAL DEVICES AND DESIGN
Credits: 3 (Two hours of lecture and one hour of lab per week)
Fees: Lab Fee - $104

This course discusses the design development and evaluation of medical devices. The goal is to develop the thinking and research tools that will enable students to understand medical devices as products as commercially available technological solutions to medical needs. This total understanding is based upon the coordinate separated understandings of: 1) underlying medical science and clinical practice; 2) underlying technologies and the potential choices between available technologies; 3) engineering design; and 4) technological and business direction of companies.

BEGR-498. BIOMECHANICS – MUSCULAR-SKELETON MECHANICS
Credits: 3 (Three hours of lecture and three hours of lab per week)
Fees: Lab Fee - $104

Instruction will be given towards the mechanical structure of humans and vertebrates, including the concerted motion of bone, muscles and joints as well as the stress and strain of human movements and motion. One example practical outcome of the course is towards the design of prosthetics.

BEGR-501. BIOENGINEERING EXPERIMENTATION AND ANALYSIS
Credits: 3 (Three hours of lecture and three hours of lab per week)
Fees: Lab Fee - $104

This course will provide a hands-on introduction to bioengineering. Students will use molecular techniques to genetically engineer an organism, and then evaluate how the modified organism performs using techniques for studying gene expression, biochemistry and cell physiology. They will also learn statistical procedures for evaluating the significance of their findings.

BEGR-502. MOLECULAR AND CELLULAR BIOENGINEERING
Credits: 3 (Three hours of lecture and three hours of lab per week)
Fees: Lab Fee - $104

This course will introduce students to modern concepts and techniques in bioengineering through a genuine research experience in bioengineering. Rather than following a set series of lectures, we will pick a bioengineering project and see where it leads us. We will use the information given in lectures and reading assignments to design a project, and then evaluate progress and solve problems.

BEGR-599. THESIS/PROJECT
Credits: 3-6 (Three to six credits of research, proposal writing, presentation, and thesis per week)

Students have the option of selecting up to six credits- hours of thesis or three credit hour of project under guidance of a thesis/project advisor. The thesis will have a committee of three members; at least two members (including the advisor) must be Wilkes faculty members. The thesis/project should be presented in an open forum.

BIO. BIOLOGY

BIO-406. INVERTEBRATE BIOLOGY
Credits: 4

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: $120. Offered in alternate years.

Pre-Requisites

Biology 121-122, 225-226, or permission of instructor.

BIO-411. COMPARATIVE PHYSIOLOGY
Credits: 4

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: $120. Offered in alternate years.

Pre-Requisites

Biology 121-122, 225-226, or permission of instructor.

BIO-412. PARASITOLOGY
Credits: 4

Parasitology is the study of organisms that live on or within other organisms and the relationship of these organisms to their hosts. This course deals with the common parasites that infect man and other animals. Lecture, three hours a week; laboratory, three hours a week. Laboratory fee: $120. Offered in alternate years.

Pre-Requisites

Biology 121-122, 225-226, or permission of instructor.

BIO-414. COMPARATIVE VERTEBRATE ANATOMY
Credits: 4

This course deals with the evolution and anatomy of the organ systems of vertebrates. Lectures survey the comparative anatomy of the vertebrate classes. Laboratory Dissections include the Lamprey, Shark, Mud Puppy, and Cat in detail. Lecture three hours per week, laboratory three hours per week. Laboratory fee: $120. Offered in alternate years.

Pre-Requisites

Biology 121-122.

BIO-421. MAMMALIAN PHYSIOLOGY
Credits: 4

This course examines the function of mammalian systems with regard to homeostasis, metabolism, growth and reproduction. Normal physiological processes as well as some pathophysiological situations are covered. 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: $120. Offered in alternate years.

Pre-Requisites

Biology 121-122, 226, or permission of instructor.

BIO-423. FUNCTIONAL HISTOLOGY
Credits: 4

This course emphasizes the microscopic examination of mammalian tissues from morphological and physiological perspectives. Reference is made to organ embryogenesis to support the understanding of organ form and function. Tissue preparation for histological examination is demonstrated. Lecture, three hours; laboratory, three hours per week. Laboratory fee: $120. Offered in alternate years.

Pre-Requisites

Biology 121-122, 225-226, or permission of instructor.

BIO-425. ENDOCRINOLOGY
Credits: 4
Fees: $120

This course will focus on the structure, biochemistry, and function of mammalian hormones and endocrine glands; arian, 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

Pre-Requisites

Biology 121-122, 225-226, or permission of instructor.

BIO-426. IMMUNOLOGY AND IMMUNOCHEMISTRY
Credits: 4

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: $120. Offered in alternate years.

Pre-Requisites
Biology 121-122, 225-226, or permission of instructor.

BIO-427. MEDICAL MICROBIOLOGY
Credits: 4

Medical Microbiology provides a professional-level introduction to microbiology that is focused on application of microbiology to the study of infectious disease etiology and epidemiology. The laboratory covers techniques used in isolation and identification of microorganisms. Lecture: three hours a week; Laboratory: three hours per week. Laboratory fee: $120.

Pre-Requisites
Biology 121-122, Chemistry 231-232.

BIO-428. DEVELOPMENTAL BIOLOGY
Credits: 4

A course dealing with the principles of animal development from descriptive, experimental, and evolutionary perspectives. Laboratory work includes both descriptive and experimental embryology as well as more molecular techniques. Lecture, three hours; laboratory, three hours a week. Laboratory fee: $120. Offered in alternate years.

Pre-Requisites
Biology 121-122, 225-226, or permission of instructor.

BIO-429. VIROLOGY
Credits: 3

Virology provides an introduction to the biology of animal viruses. Description of viral molecular architecture and genome organization is followed by a survey of strategies employed for multiplication and regulation of gene expression. Pathogenesis of viral infections is considered from perspectives of viral reproduction strategies and host defense.

Pre-Requisites
Biology 121-122, 225-226; Chemistry 231-232, 233-234.

BIO-430. INTRODUCTION TO BIOINFORMATICS
Credits: 3

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
Credits: 3

This lecture course is designed to explore the various concepts and mechanisms associated with the origins, elaborations and future developments in cellular transformation and carcinogenesis. Emphasis is placed on the molecular biology and physiology of these processes; therefore, a solid background in basic biology is required. Oncogenes, tumor suppressor genes and the disruption of homeostasis are covered in detail, while the medical phenomena typically receive a more general level of coverage.

Pre-Requisites
Biology 121-122, 226; CHM-231-232.

BIO-441. FRESHWATER ECOSYSTEMS
Credits: 3

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: $120. Offered in alternate years.

Pre-Requisites
Biology 121-122, 225-226, or permission of instructor.

BIO-443. MARINE ECOLOGY
Credits: 3

An examination of the biology of marine life within the context of modern ecological principles. The structure and physiology of marine organisms will be studied from the perspectives of adaptation to the ocean as habitat, biological productivity, and interspecific relationships. Emphasis will be placed on life in intertidal zones, estuaries, surface waters, and the deep sea. Two hours of lecture and three hours of laboratory per week. Laboratory fee: $120. Offered in alternate years.

Pre-Requisites
Biology 121-122, EES 230, or permission of instructor.

BIO-444. ECOLOGY
Credits: 4

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.

Pre-Requisites
Biology 121-122, 225-226, or permission of instructor.

BIO-445. GENETICS
Credits: 4

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: $120. Offered every fall.

Pre-Requisites
Biology 121-122, 225-226, or permission of instructor.

BIO-446. ANIMAL BEHAVIOR
Credits: 4

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: $120. Offered in alternate years.

Pre-Requisites

Biology 121-122, 225-226, or permission of instructor.

BIO-461. PLANT FORM AND FUNCTION
Credits: 4

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: $120. Offered every fall.

Pre-Requisites

Biology 121-122, 225-226, or permission of instructor.

BIO-462. PLANT DIVERSITY
Credits: 4

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: $120. Offered every spring.

Pre-Requisites

Biology 121-122, 225-226, or permission of instructor.

BIO-466. FIELD BOTANY
Credits: 3

This is a specialized summertime field course which emphasizes a taxonomic, phylogenetic, and ecological survey of higher plants indigenous to Northeastern Pennsylvania.

Pre-Requisites

Biology 121-122, or permission of instructor. Offered in alternate years.

BIO-468. MEDICAL BOTANY
Credits: 3

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.

Pre-Requisites

Biology 121-122, 225, CHM-232, or permission of instructor.

BIO-498. TOPICS
Credits: variable

A study of topics of special interest not extensively treated in regularly offered courses.

Pre-Requisites

Biology 121-122, 225-226, or permission of instructor.

CHM. CHEMISTRY

CHM-422. ADVANCED INORGANIC CHEMISTRY
Credits: 3

A survey of current topics in Inorganic Chemistry. The first half of the course offers a survey of main group chemistry, including individual group trends. The second half of the course covers Crystal Field Theory, Ligand Field Theory, reaction mechanisms, and organometallic compounds.

Pre-Requisites

CHM-116

CHM-461. BIOCHEMISTRY I
Credits: 3

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.

Pre-Requisites

CHM-232

CHM-462. BIOCHEMISTRY II
Credits: 3

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.

Pre-Requisites

CHM-232

CHM-498. TOPICS
Credits: 3

A study of topics of special interest not extensively treated in regularly offered courses.

Pre-Requisites

Permission of the instructor

CS. COMPUTER SCIENCE

CS-419. PRINCIPLES OF PROGRAMMING LANGUAGES
Credits: 3

A study of the principles that govern the design and implementation of programming languages. Topics include language structure, data types, and control structures. Programming projects will familiarize students with the features of programming languages through their implementation in interpreters.

Pre-Requisites

CS-226 or equivalent

CS-421. SIMULATION AND DATA ANALYSIS
Credits: 3

Methods of handling large databases including statistical analysis and computer simulations. The emphasis will be upon discrete simulation models with a discussion of relevant computer languages, SLAM, GPSS, and/or SIMSCRIPT.

Pre-Requisites

CS-125 (or the equivalent programming experience) and one semester of calculus.

CS-423. THEORY OF COMPUTATION
Credits: 3

This course formalizes many topics encountered in previous computing courses. Topics include: languages, grammars, finite automata, regular expressions and grammars, context-free languages, push-down automata, Turing machines and computability.

Pre-Requisites

MTH-231 (Discrete Mathematics) and CS-126 (or the equivalent programming experience).

CS-424. SYSTEMS ANALYSIS
Credits: 3

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.

Pre-Requisites

CS-226 or equivalent

CS-425. DATABASE MANAGEMENT
Credits: 3

Practical experience in solving a large-scale computer problem including determination of data requirements, appropriate data organization, data manipulation procedures, implementation, testing and documentation.

Pre-Requisites

CS-126 or permission of the instructor.

CS-426. OPERATING SYSTEM PRINCIPLES
Credits: 3

Analysis of the computer operating systems including Batch, Timesharing, and Realtime systems. Topics include sequential and concurrent processes, processor and storage management, resource protection, processor multiplexing, and handling of interrupts from peripheral devices.

Pre-Requisites

CS-226 or equivalent

CS-427. COMPILER DESIGN
Credits: 3

A study of compiler design including language definition, syntactic analysis, lexical analysis, storage allocation, error detection and recovery, code generation and optimization problems.

Pre-Requisites

CS-226 or equivalent

CS-428. ALGORITHMS
Credits: 3

Theoretical analysis of various algorithms. Topics are chosen from sorting, searching, selection, matrix multiplication and multiplication of real numbers, and various combinational algorithms.

Pre-Requisites

CS-226 or equivalent and MTH-202 (Set Theory and Logic).

CS-430. COMPUTER ARCHITECTURE
Credits: 3

A study of the design, organization, and structure of computers, ranging from the microprocessors to the latest 'supercomputers.'

Pre-Requisites

CS-226 or equivalent

CS-434. SOFTWARE ENGINEERING
Credits: 3

A course in 'programming in the large.' Topics include software design, implementation, validation, maintenance and documentation. There will be one or more team projects. Prerequisite CS-226 or equivalent

CS-435. ADVANCED DATABASE CONCEPTS
Credits: 3

Practical experience involving unstructured data collections. Topics cover big data, data mining, predictive modeling, decision analysis, and indexing and retrieval including probabilistic, clustering, thesauri, and passage based retrieval strategies.

Pre-Requisites

CS-325 (Database Management) or CS340 Artificial Intelligence

CS-440. ARTIFICIAL INTELLIGENCE
Credits: 3

This course will provide an overview of artificial intelligence (AI) application areas and hands-on experience with some common AI computational tools. Topics include search, natural language processing, theorem proving, planning, machine learning, robotics, vision, knowledge-based systems (expert systems), and neural networks.

Pre-Requisites

CS-126 (Unix) and equivalent programming experience in a high-level language.

CS-450. OBJECT-ORIENTED PROGRAMMING
Credits: 3

Object-oriented concepts and their application to human-computer interaction. Concepts to be covered include objects, classes, inheritance, polymorphism, design patterns, GUI interface guidelines and design of interfaces. There will be programming projects in object-oriented languages.

Pre-Requisites

CS-226 or equivalent

CS-455. COMPUTER NETWORKS
Credits: 3

This course introduces basic concepts, architecture, and widely used protocols of computer networks. Topics include the Open System Interconnection (OSI) model consisting of physical link layer, data layer, network layer, transport layer, session layer, presentation layer, and application layer, medium access sublayer and LAN; various routing protocols; Transmission Control Protocol (TCP) and Internet Protocol (IP) for internetworking.

Pre-Requisites

Either CS-225 or CS-126 and CS-224 or equivalent

CS-463. OPERATIONS RESEARCH
Credits: 3

A survey of operations research topics such as decision analysis, inventory models, queueing models, dynamic programming, network models, and linear programming. (Cross-listed with MTH-463)

Pre-Requisites

Programming experience in a high-level language and completion of one semester of calculus.

CS-464. NUMERICAL ANALYSIS
Credits: 3

An introduction to numerical algorithms as tools to providing solutions to common problems formulated in mathematics, science, and engineering. Focus is given to developing the basic understanding of the construction of numerical algorithms, their applicability, and their limitations. (Cross-listed with MTH-464)

Pre-Requisites

Programming experience in a high-level language and completion of a one-year calculus sequence.

CS-467. COMPUTER GRAPHICS
Credits: 3

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.

Pre-Requisites

CS-226 or equivalent

CS-483. WEB DEVELOPMENT
Credits: 3

An introduction to the development of dynamic, database-driven sites, including active server pages, PHP, authentication, session tracking and security, and the development of shopping cart and portal systems.

Pre-Requisites

CS-283 (Web Development I) and CS-325 (Database Management).

CS-498. TOPICS IN COMPUTER SCIENCE
Credits: variable

Variable creditStudy of one or more special topics in computer science. May be repeated for credit provided a different topic is selected.

CW. CREATIVE WRITING

CW-616R. WRITING IN EDUCATION/PUBLISHING
Credits: 3- Residency Course

Students will be required to make a formal paper presentation during this residency to complete CW 612. Students will complete work generated by team-taught modules to prepare them for either a teaching or publishing internship. They will meet with peers, mentoring faculty and create and deliver mini-lesson plans for proposed courses or a study plan in publishing. Such work must be drawn upon the best practices of the pedagogy of teaching creative writing or working in publishing in a variety of settings. Students will continue to sharpen their own oral and writing skills as they build an acceptable syllabus, course materials/internship goals for an internship and sample lessons/work plan by week's end. By week's end, students will have an internship experience and internship supervisor assigned to them.

CW-502. WRITING FICTION
Credits: 3

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
Credits: 3

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
Credits: 3

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
Credits: 3

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 conversations, and dramatic forms.

CW-506. WRITING CREATIVE NON-FICTION
Credits: 3

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 short creative nonfiction samples that demonstrate their understanding of basic narrative elements, point of view, factual research, and narrative prose styles.

CW-512. GENRE AND CONTEXT
Credits: 3

CW 512F. Genre and Context in Fiction
Students will read, analyze, critique, and discuss in-depth their agreed upon fiction 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 512P. Genre and Context in Poetry
Students will read, analyze, critique, and discuss in-depth their agreed upon poetry 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 512S. Genre and Context in Screenwriting
Students will read and view, analyze, critique, and discuss in-depth their agreed upon film 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 512L. Genre and Context in Playwriting
Students will read and view, analyze, critique, and discuss in-depth their agreed upon playwriting 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 512N. Genre and Context in Nonfiction.
Students will read, analyze, critique, and discuss in-depth their agreed upon nonfiction 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 512U. Genre and Context in Publishing.
Students will research, analyze, critique, and discuss in-depth their agreed upon publishing house list with a mentor editor/publisher. Individually the student will write responses to each assigned company and complete an annotated bibliography (of the list approved by the writer mentor).

CW 512D. Genre and Context in Making Documentary Films
Students will read and view, analyze, critique, and discuss in-depth their agreed upon documentary film reading/viewing list with a mentor filmmaker. Individually the student will write responses to each assigned text and complete an annotated bibliography (of the reading list approved by the mentor).

CW-514. DRAFTING PROJECT
Credits: 3

CW 514F. Drafting Project in Fiction
Students will complete a draft of a new work in fiction that may include a novel, story collection, linked story collection, or novella. All proposed projects must be approved by the writer mentor and program director.

CW 514P. Drafting Project in Poetry
Students will complete a draft of a new work in poetry that may include a chapbook, collection, or novel in verse. All proposed projects must be approved by the writer mentor and program director.

CW 514S. Drafting Project in Screenwriting
Students will complete a draft of a new work in screenwriting that may include many of various feature-length film genres. All proposed projects must be approved by the writer mentor and program director.

CW 514L. Drafting Project in Playwriting
Students will complete a draft of a new work in playwriting that may include a full-length play, an extended one-act, or a collection of one-act plays. All proposed projects must be approved by the writer mentor and program director.

CW 514N. Drafting Project in Nonfiction
Students will complete a draft of a new work in nonfiction that may include a collection of essays, memoir, biography, or another related nonfiction form. All proposed projects must be approved by the writer mentor and program director.

CW 514U. Drafting Project in Publishing
Students will complete a draft of an overall business plan, mission, goals statements, and creative strategy to build their own publishing company, journal, or other approved publishing project. All proposed projects must be approved by the mentor and program director.

CW 514D. Drafting Project in Making Documentary Films
Students will complete the research, writing, and preliminary filming for a documentary film project. All proposed projects must be approved by the mentor and program director.

CW-520. FINAL PROJECT
Credits: 6

CW 520F. Final Project/Fiction Thesis
CW 520P. Final Project/Poetry Thesis
CW 520S. Final Project/Screenwriting Thesis
CW 520L. Final Project/Playwriting Thesis
CW 520N. Final Project/Nonfiction Thesis
CW 520U. Final Project/Publishing Thesis
CW 520D. Final Project/Documentary Film Thesis

Students will revise, polish, and prepare their final M.A. project for review by an outside evaluator who will be an agent, producer, publisher, or editor, depending upon the course project. All proposed projects must be approved by the mentor and program director.

CW-530. CONTINUOUS REGISTRATION
Credits: 1-6

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.

CW-612. LITERARY ANALYSIS
Credits: 6

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 area of study-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
Credits: 3

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.

CW-620. WRITING IN EDUCATION/PUBLISHING INTERNSHIP
Credits: 6

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
Credits: 1-6

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.

EDAM. EDAM

EDAM-5001. EARLY LITERACY: GUIDING PRINCIPLES AND LANGUAGE DEVELOPMENT
Credits: 3

This course is the prerequisite for all other courses in the Early Childhood Literacy program. It outlines the philosophical base for the program as well as key understandings central to young children's early literacy development. Course topics will include guiding principles for developing children's early literacy skills, language development stages, theories of language acquisition, linguistic diversity, language assessment, communicative disorders, and school-home connection.

EDAM-5002. WORD STUDY
Credits: 3

This course examines the instructional building blocks of successful reading skills. Educators will explore developmentally appropriate instructional and assessment methods for teaching children how to recognize word patterns so they can become accurate readers.

Pre-Requisites

EDAM-5001 Early Literacy Guiding Principles and Language Development

EDAM-5003. FLUENCY AND VOCABULARY DEVELOPMENT
Credits: 3

This course presents effective, developmentally appropriate methods for building students' oral reading fluency and vocabulary skills to improve overall comprehension.

Pre-Requisites

EDAM-5001 Early Literacy Guiding Principles and Language Development

EDAM-5004. DEVELOPING COMPREHENSION, PART I
Credits: 3

This course presents an introduction to comprehension instruction as a key component of effective reading instruction. The course focuses on helping students apply their understanding of structure and elements of text and genres to create meaning as they are reading. Educators will integrate developmentally appropriate practices to adapt instruction that meets the diverse needs of learners.

Pre-Requisites

EDAM-5001 Early Literacy Guiding Principles and Language Development

EDAM-5005. DEVELOPING COMPREHENSION, PART II
Credits: 3

This course explores the development and assessment of students' coordinated use of comprehension strategies to make sense of text. Educators will learn how to effectively model developmentally appropriate comprehension text strategies for students.

Pre-Requisites

EDAM-5001 Early Literacy Guiding Principles and Language Development, EDAM-5004 Developing Comprehension Part I

EDAM-5006. DEVELOPING COMPREHENSION, PART II (2-3)
Credits: 3

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.

Pre-Requisites

EDAM-5001 Early Literacy Guiding Principles and Language Development, EDAM-5004 Developing Comprehension Part I

EDAM-5007. DIFFERENTIATED SMALL GROUP INSTRUCTION
Credits: 3

This course focuses on implementing developmentally appropriate differentiated small group instruction to meet the needs of all learners. Course topics include components of differentiated instruction and using assessment data to group students.

Pre-Requisites

EDAM-5001 Early Literacy Guiding Principles and Language Development

EDAM-5008. DIFFERENTIATED SMALL GROUP INSTRUCTION (2-3)
Credits: 3

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.

Pre-Requisites
EDAM-5001 Early Literacy Guiding Principles and Language Development

EDAM-5009. DEVELOPING INDEPENDENT READERS
Credits: 3

This course examines methods for fostering and managing independent reading in a developmentally appropriate way, and explores research-based school/home/community partnerships.

Pre-Requisites
EDAM-5001 Early Literacy Guiding Principles and Language Development

EDAM-5010. CONNECTING READING AND WRITING
Credits: 3

This course explores the reciprocal processes of reading and writing as well as the strategies for helping students become strategic writers who are able to write to learn and write to demonstrate learning. Course topics include the writing process, strategies and assessments, genres of writing, writing across the curriculum, and developmentally appropriate instructional procedures.

Pre-Requisites
EDAM-5001 Early Literacy Guiding Principles and Language Development

EDAM-5011. CONNECTING READING AND WRITING (2-3)
Credits: 3

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.

Pre-Requisites
EDAM-5001 Early Literacy Guiding Principles and Language Development

EDAM-5012. DEVELOPING A RESULTS-DRIVEN EARLY LITERACY CLASSROOM
Credits: 6

Pre-Requisites
EDAM-5001, EDAM-5002, EDAM-5003, EDAM-5004, EDAM-5005, [[EDAM 5007]], EDAM-5009, EDAM-5010, EDAM-5013

EDAM-5013. TEACHER LEADERSHIP
Credits: 3

Teacher leaders are agents of change. This course guides educators in facilitating change at their schools by exploring school culture and experiencing the power of reflective practice.

Pre-Requisites
None

EDAM-5020. INSTRUCTIONAL COACHING I
Credits: 3

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.

Pre-Requisites
EDAM-5013 Teacher Leadership

EDAM-5021. INSTRUCTIONAL COACHING II
Credits: 3

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.

Pre-Requisites
EDAM-5020 Instructional Coaching I

EDAM-5022. PROBLEM-BASED APPROACH TO INSTRUCTIONAL COACHING
Credits: 3

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.

Pre-Requisites
EDAM-5013 Teacher Leadership

EDAM-5023. PROBLEM-BASED APPROACH TO K-3 LITERACY COACHING
Credits: 3

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.

Pre-Requisites
EDAM-5013 Teacher Leadership

EDAM-5030. TEACHING IN THE 21ST CENTURY
Credits: 3

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
Credits: 3

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.

Pre-Requisites
EDAM-5030 Teaching in the 21st Century

EDAM-5032. USING ASSESSMENT TO GUIDE INSTRUCTION
Credits: 3

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).

Pre-Requisites
EDAM-5030 Teaching in the 21st Century

EDAM-5033. DEVELOPING READING & WRITING ACROSS THE CURRICULUM
Credits: 3

The attainment of higher levels of literacy in adolescent learners requires the development of literacy skills across all curricular areas. This course will enable educators to develop and refine secondary students' skills in reading and writing, as well as speaking and listening through the design of integrative experiences in content area instruction that are both student-centered and performance-based.

Pre-Requisites
EDAM-5030 Teaching in the 21st Century

EDAM-5034. APPLYING ADVANCED TECHNOLOGY TO SUPPORT STANDARDS-BASED INSTRUCTION
Credits: 3

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.

Pre-Requisites
EDAM-5030 Teaching in the 21st Century

EDAM-5035. TEACHING AUTHENTIC CONTENT IN THE 21ST CENTURY
Credits: 3

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.

Pre-Requisites
EDAM-5030 Teaching in the 21st Century

EDAM-5036. DIFFERENTIATED INSTRUCTION TO MEET THE NEEDS OF ALL LEARNERS
Credits: 3

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.

Pre-Requisites
EDAM-5030 Teaching in the 21st Century

EDAM-5037. INQUIRY-BASED LEARNING IN THE 21ST CENTURY
Credits: 3

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 allow 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.

Pre-Requisites
EDAM-5030 Teaching in the 21st Century

EDAM-5038. PROJECT-BASED LEARNING IN THE 21ST CENTURY
Credits: 3

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

Pre-Requisites
EDAM-5030 Teaching in the 21st Century

EDAM-5039. APPLYING 21ST CENTURY TEACHING TO EDUCATIONAL PRACTICE
Credits: 3

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.

Pre-Requisites
EDAM-5030, EDAM-5031, EDAM-5032, EDAM-5033, EDAM-5034, EDAM-5035, EDAM-5036, EDAM-5037, EDAM-5038

EDAM-5040. FOUNDATIONS OF THE ART AND SCIENCE OF TEACHING
Credits: 3

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.

Pre-Requisites
None

EDAM-5041. ESTABLISHING LEARNING GOALS TO SUPPORT LEARNING & INSTRUCTIONAL DESIGN
Credits: 3

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.

Pre-Requisites
EDAM-5040 Foundations of the Art & Science of Teaching

EDAM-5042. MONITORING & MEASURING STUDENT PROGRESS
Credits: 3

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.

Pre-Requisites
EDAM-5040 Foundations of the Art & Science of Teaching and EDAM-5041 Establishing Learning Goals to Support Learning & Instructional Design

EDAM-5043. ACTIVELY PROCESSING NEW CONTENT
Credits: 3

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.

Pre-Requisites
EDAM-5040 Foundations of the Art & Science of Teaching

EDAM-5044. EXTENDING STUDENT LEARNING
Credits: 3

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.

Pre-Requisites
EDAM-5040 Foundations of the Art & Science of Teaching

EDAM-5045. DESIGNING INSTRUCTION FOR STUDENT ENGAGEMENT
Credits: 3

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.

Pre-Requisites
EDAM-5040 Foundations of the Art & Science of Teaching

EDAM-5046. CREATING AN EFFECTIVE CLASSROOM ENVIRONMENT
Credits: 3

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.

Pre-Requisites
EDAM-5040 Foundations of the Art & Science of Teaching

EDAM-5047. DEVELOPING RELATIONSHIPS AND HIGH EXPECTATIONS FOR STUDENT LEARNING
Credits: 3

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.

Pre-Requisites
EDAM-5040 Foundations of the Art & Science of Teaching

EDAM-5048. APPLYING THE ART AND SCIENCE OF TEACHING
Credits: 6

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.

Pre-Requisites

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

EDAM-5049. CONTENT LITERACY
Credits: 3

The purpose of this course is to introduce research that supports the teaching of literacy across content areas. In addition, the course provides students the opportunity to engage in content literacy strategies, with emphases on comprehension, vocabulary development, and writing.

EDAM-5060. FOUNDATIONS OF LITERACY AND LANGUAGE ACQUISITION
Credits: 3

This course introduces the foundations of language and literacy acquisition focusing on the components of a comprehensive literacy program, early reading skills, and classroom environment. The learner will explore historical perspectives in reading instruction, the importance of developing early reading skills, and best practices for developing a classroom environment that fosters early literacy development. **Prerequisite for Reading Specialist program.**

EDAM-5061. ASSESSING LITERACY
Credits: 3

This course begins with an introduction to the basic elements of assessing literacy. Learners will explore several areas of assessment related to core competencies in literacy including emergent literacy, oral reading and fluency, comprehension and strategic knowledge, and determining affective factors. Throughout the course, learners will engage in hands-on activities enabling them to practice planning, administering, scoring, and interpreting a variety of literacy assessments. For the culminating activity, learners will select a student who has been struggling with reading using course assessment results to support their selection and develop a reading profile for this student.

EDAM-5062. VOCABULARY AND COMPREHENSION DEVELOPMENT
Credits: 3

This course focuses on using research-based strategies to develop vocabulary and comprehension. Learners will be introduced to the vocabulary-comprehension connection and how recognizing genre and literary and informational elements of text improves comprehension. During this course, the learner will practice selecting, implementing, and evaluating appropriate strategies for use with text comprehension instruction.

EDAM-5063. DEVELOPING READING THROUGH WRITING
Credits: 3

This course focuses on using research-based strategies to develop vocabulary and comprehension. Learners will be introduced to the vocabulary-comprehension connection and how recognizing genre and literary and informational elements of text improves comprehension. During this course, the learner will practice selecting, implementing, and evaluating appropriate strategies for use with text comprehension instruction

EDAM-5064. INSTRUCTIONAL STRATEGIES TO SUPPORT INDEPENDENT READERS
Credits: 3

In this course, teachers will develop an understanding of instructional practices for supporting their students as independent readers. Learners will practice applying knowledge in the following areas: Guided Reading, Matching Texts with Readers, Independent Reading, and Literature Study. During the culminating activity, learners will synthesize their learning by developing a comprehensive weekly schedule incorporating the key components of a reading block.

EDAM-5065. LITERACY LEADERSHIP AND COACHING
Credits: 3

In this course learners will explore the three areas of expertise required of all 21st century reading specialists: instruction, leadership, and assessment. Learners will study and practice leadership principles related to conducting meetings, providing professional development, and literacy coaching. In addition, learners will investigate the responsibilities of the reading specialist in writing proposals, developing external partnerships, and becoming an agent of change for the school's literacy program

EDAM-5066. ACCOMMODATIONS AND ADAPTATIONS IN LITERACY FOR DIVERSE LEARNERS
Credits: 3

In this course students will learn the dimensions of literacy and the analytic process to prepare for differentiation of instruction so that all children can access literacy instruction. The student will learn a problem-solving model guided by inquiry and resulting in learning activities that will address a child's specific literacy needs. Teachers will expand their repertoire for supporting students as literacy learners. They will learn to gather and interpret relevant information to differentiate instruction for diverse learners. These techniques will help teachers to provide instruction to a wide range of talents and abilities in the classrooms of today.

EDAM-5067. READING SPECIALIST INTERNSHIP
Credits: 6

This culminating experience prepares students for the role of reading specialist while working in an instructional setting under the supervision of a licensed reading specialist. Interns will implement reading programs, plan interventions, and apply a range of reading assessments and instructional strategies in the diagnosis and remediation of reading problems. Interns will demonstrate the ability to manage the instructional environment and effectively communicate to promote the development of literacy.

EDAM-5068. EMERGENT LITERACY
Credits: 3

This course provides an in-depth examination of reading development from birth to kindergarten as well as child development as it relates to emergent literacy. This course is based on the combination of the scientifically based reading research approach to literacy instruction as well as the emergent literacy perspective, which creates a "value-added" or blended approach to language and literacy teaching and learning. Research literature will be reviewed as it pertains to children's literacy development and best practice instructional methodologies. Students will develop instruction based on the foundation of reading that includes oral language, phonemic and phonological awareness, as well as alphabet knowledge, vocabulary and comprehension.

EDAM-5069. DIAGNOSTIC ASSESSMENT & INTERVENTION IN LITERACY
Credits: 3

This course is designed to advance the knowledge of the participants to refine and expand the diagnostic and assessment process in determining reading difficulties and interventions. Research based strategies for the assessment and instruction of diverse learners will be examined.

EDIL. EDIL

EDIL-5001. VISION AND MISSION TO GUIDE INTERNATIONAL SCHOOLS
Credits: 3

Vision and Mission to Guide International Schools: This course enables participants to examine the importance of a school's vision and mission and identify methods to create a vision and mission that provide guiding principles for school direction. Students will explore processes to implement the vision and mission within a school and recognize how it should be regularly reviewed for its success and/or continuing appropriateness.

EDIL-5002. LEADING FOR STAFF AND STUDENT LEARNING IN INTERNATIONAL SCHOOLS
Credits: 3

This course equips future international school leaders with the knowledge and skills to develop and implement appropriate curriculum across grade levels. Students will learn how to make strong instructional decisions that are based on data as various approaches are taken to meet students' needs and support life-long learning.

EDIL-5003. GOVERNANCE IN INTERNATIONAL SCHOOLS
Credits: 3

This course equips students with the knowledge and skills to effectively govern a school board, as positive relationships are built with members, guidance in decision- making is provided, and each member is assisted to define their individual role and responsibilities. Participants will recognize the importance of a partnership that is exemplified by effective communication with the board in formal meetings, written reports, development plans, and professional dialogue. Participants will demonstrate their ability to successfully direct a board by creating an action plan.

EDIL-5004. INTERNATIONAL SCHOOL MANAGEMENT AND LEADERSHIP
Credits: 3

This course focuses on the many and varied responsibilities that a school leader takes on. These include that the mission and vision are clearly communicated to the school community and that they guide managerial and leadership decisions. Participants will demonstrate the importance of creating and maintaining systems and procedures through the use of technology to ensure the efficient and cost effective implementation of the educational program. Participants will identify a variety of leadership and management styles, explore examples of processes and procedures for school management, and investigate how to efficiently manage resources within a school.

EDIL-5005. BUILDING AND SUSTAINING A HEALTHY INTERNATIONAL SCHOOL CULTURE
Credits: 3

This course examines how school leaders can exercise effective cross-cultural communication to the wider school community and local communities as diversity is embraced and celebrated. Participants will learn how to promote cultural awareness as well as how to rectify conflicts and provide support while being sensitive to multi-national groups of students, families, and staff.

EDIL-5006. ETHICAL LEADERSHIP IN INTERNATIONAL SCHOOLS
Credits: 3

This course enables participants to examine how to exercise leadership practices and high-principled beliefs and values in the daily operations of a school. Participants will apply laws, regulations, and procedures wisely and deeply investigate the role of ethical leadership.

EDIL-5007. SITUATIONAL AWARENESS AND DIPLOMACY IN INTERNATIONAL SCHOOLS
Credits: 3

This course introduces students to the complexity of the legal and cultural situations within which they will be leading and managing. Participants will examine the importance of establishing a positive relationship with the school's local community, as its beliefs and values are recognized.

EDIL-5008. CONTINUOUS PROFESSIONAL GROWTH FOR INTERNATIONAL SCHOOL LEADERS
Credits: 3

This course is designed to provide students with a mentor with whom they can engage in conversations, participate in a PLC, and work together to complete the required assignments for the digital portfolio.

EDIM. EDIM

EDIM-501. COGNITION & TECHNOLOGY: ALIGNING BRAIN BASED RESEARCH & TECHNOLOGY INTEGRATION
Credits: 3

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
Credits: 3

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
Credits: 3

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
Credits: 3

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. GLOBALIZATION AND ADVOCACY
Credits: 3

This course examines the impact globalization and technologies have on education and the need for educators to adapt to the changing needs of a global society. In addition, the importance of advocacy and how it can affect change will be examined.

EDIM-508. DIGITAL MEDIA IN THE CLASSROOM
Credits: 3

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 Discovery Education streaming, podcasting/ vodcasting and shared-screen presentations. Imaginative ways to visualize ideas and concepts through the acquisition and manipulation of digital images will be explored.

EDIM-510. WEB 20: IMPACTING LEARNING ENVIRONMENTS
Credits: 3

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
Credits: 3

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
Credits: 3

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
Credits: 3

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.

EDIM-515. BYOD: MOBILE DEVICES FOR TEACHING AND LEARNING
Credits: 3

This course will highlight significant ways that mobile devices can help to enhance and extend classroom learning. It will also address the unique challenges that schools face when adopting students' own devices as learning tools. Research and practical K-12 examples will be provided to support and address the many nuances of using mobile devices in the classroom. Previously titled BYOD: Mobile Learning in Education.

EDIM-516. SUSTAINING DIGITAL LITERACY
Credits: 3

This course will examine current issues and trends in educational technology. Topics will focus on skills pertinent to maintaining digital literacy, including use of communication and collaboration tools, analysis and digital curation of information, and evaluation of technological trends and associated pedagogy. Students will understand the importance of digital citizenship as it relates to the application of new technologies in the classroom environment and in education as a whole.

EDML. EDML

EDML-5000. FOUNDATIONS OF THE EDUCATION PROFESSION
Credits: 3

Students are oriented to the education profession through foundational knowledge and field work required of teachers entering the profession. Graduate students seeking initial certification are required to complete this course in their first year of the program upon acceptance. A field experience is required as part of this course. Department permission required.

EDML-5001. TEACHING ADOLESCENT LEARNERS AT THE MIDDLE LEVEL
Credits: 3

This course builds a deeper understanding of diverse adolescent learners at the middle level. Cognitive, emotional, and social needs of adolescents in middle school that inform innovative curriculum development, research-based instructional strategies, and effective assessment practices will be examined.

EDML-5002. MATHEMATICS IN MIDDLE LEVEL INSTRUCTION
Credits: 3

This course consists of an overview of basic concepts pertaining to the study of middle level mathematics (grades 4-8) with developmentally appropriate pedagogy for middle level mathematics instruction. This course is not required for students selecting a middle level mathematics concentration.

EDML-5003. SCIENCE IN MIDDLE LEVEL INSTRUCTION
Credits: 3

This course consists of the basic concepts pertaining to the study of middle level (grades 4-8) science. Topics include the main concepts within science inquiry, physical science, chemistry, earth and space science, and life science with developmentally appropriate pedagogy for middle level science instruction. This course is not required for students selecting a middle level science concentration.

EDML-5004. ENGLISH AND LANGUAGE ARTS IN MIDDLE LEVEL EDUCATION
Credits: 3

This course provides an overview of language arts and reading strategies for use at the middle level (4-8) with emphasis on the following: reading fiction and nonfiction texts, critical literacy, understanding different types of writing, and common approaches to composition. This course is not required for students selecting a middle level English concentration.

EDML-5005. SOCIAL STUDIES IN MIDDLE LEVEL EDUCATION
Credits: 3

This course presents the basic concepts pertaining to instruction of middle level (grades 4-8) social studies. Topics include the main concepts from within the social studies disciplines: U.S. history, world history, geography, government and civics, and economics. This course is not required for students selecting the middle level social studies concentration.

EDML-5007. DEVELOPMENT OF THE ADOLESCENT LEARNER AT THE MIDDLE LEVEL
Credits: 3

This course builds a deeper understanding of early adolescent learners with an emphasis on cognitive, emotional, physical, psychosocial, and abnormal development and how this can impact teaching and learning.

EDML-5008. STUDENT TEACHING INTERNSHIP IN MIDDLE LEVEL EDUCATION
Credits: 6

This is the culminating course for middle level certification (4-8). Students seeking initial Pennsylvania teaching certification will apply their knowledge of middle-level content and research-based practices in the field by working with young adolescents. For initial certification, 12 weeks of student teaching are required.

Pre-Requisites

Successful completion of all required EDML program coursework.

EDML-5009. INTERNSHIP IN MIDDLE LEVEL EDUCATION
Credits: 3

This is the culminating course for middle level certification (4-8). Students will apply their knowledge of content and research-based practices in the field by working with young adolescents. A 90-hour teaching internship is required for PA certified teachers having no documented evidence of successful teaching at the middle level.

Pre-Requisites

Successful completion of all required EDML program coursework.

EDML-5010. NUMBER THEORY FOR MIDDLE LEVEL EDUCATION
Credits: 3

This course examines topics that encompass the three main categories in the Number and Operations strand of Principles and Standards of School Mathematics (NCTM): understanding numbers and number systems, operations with numbers and how they relate to one another, computation and estimation. Also included are content-related pedagogy and best-practice instructional strategies.

EDML-5011. CONCEPTS OF MEASUREMENT FOR MIDDLE LEVEL EDUCATION
Credits: 3

This course explores concepts and procedures for measuring and learning about standard units in the metric and customary systems, the relationships among units, and the approximate nature of measurement. Topics are how measurement can illuminate mathematical concepts such as irrational numbers, properties of circles, and area and volume formulas. Also included are content-related pedagogy and best-practice instructional strategies.

EDML-5012. DATA ANALYSIS, PROBABILITY AND STATISTICS IN MIDDLE LEVEL EDUCATION
Credits: 3

This course introduces statistics as a problem-solving process. Skills are built through investigations of ways to organize and represent data and describe and analyze variation in data. The association between two variables, probability, random sampling, and estimation are covered. Also included are content-related pedagogy and best-practice instructional strategies.

EDML-5013. ALGEBRAIC CONCEPTS IN MIDDLE LEVEL EDUCATION
Credits: 3

This course explores the 'big ideas' in algebraic thinking. Topics include algebraic thinking, patterns in context, functions and algorithms, proportional reasoning, linear functions and slope, solving equations, nonlinear functions, and algebraic structure. Also included are content-related pedagogy and best-practice instructional strategies.

EDML-5014. GEOMETRY ESSENTIALS IN MIDDLE LEVEL EDUCATION
Credits: 3

This course introduces the essentials of geometry as a method for problem solving. Content includes exploring the properties of geometric figures, making constructions using pencil and paper and dynamic software, using mathematical language to express ideas to justify reasoning while exploring the basis of formal mathematical proofs and solid geometry. Also included are content-related pedagogy and best-practice instructional strategies.

EDML-5015. MATHEMATICAL PROBLEM SOLVING IN MIDDLE LEVEL EDUCATION
Credits: 3

This course provides a context for teachers to explore issues about learning and teaching mathematics. Interactions of middle level students engaged in authentic mathematical activities are examined with implications for learning, teaching and assessment. This course is an elective in the middle level mathematics program.

EDML-5020. SCIENTIFIC INQUIRY FOR MIDDLEMIDDLE LEVEL SCIENCE
Credits: 3

This course focuses on addressing the demands required of students to comprehend discipline-specific scientific text. Strategies learned in this course support students in learning how to read a wide range of scientific genres. Students will focus on the implementation of inquiry learning and the positive aspects of this approach as related to various scientific disciplines.

EDML-5021. PHYSICS AND SCIENTIFIC TECHNIQUES FOR MIDDLE LEVEL EDUCATION
Credits: 3

This course presents the basic concepts pertaining to physical and chemical properties of matter. Topics include nuclear and anatomic structure, thermodynamics, heat, energy, matter, laboratory safety procedures, data manipulation, measurement and mathematics, and the methodology and philosophy of science, as well as effective pedagogy to teach these concepts. This course is an elective in the middle level science program.

EDML-5022. BIOLOGY AND LIFE SCIENCES FOR MIDDLE LEVEL EDUCATION
Credits: 3

This course presents the basic concepts pertaining to the study of the biological sciences. Topics include the nature of science, anatomy and physiology of structures associated with life functions of organisms, the cell, evolution, genetics, ecology, as well as effective inquiry-based pedagogy to teach these concepts.

EDML-5023. PHYSICAL SCIENCES FOR MIDDLE LEVEL EDUCATION
Credits: 3

This course presents the basic concepts of physics including: basic relationships between matter and energy, mechanics, electricity, magnetism, and waves. Topics include the conservation of energy, heat and thermal dynamics, atomic and nuclear structure, electricity, and the effective pedagogy to teach these concepts.

EDML-5024. EARTH AND SPACE SCIENCES FOR MIDDLE LEVEL EDUCATION
Credits: 3

This course examines the essential concepts pertaining to the study of the Earth as a constantly changing and dynamic system. Major topics include astronomy, meteorology, oceanography, historical geology and physical geology, as well as effective inquiry-based pedagogy to teach these concepts.

EDML-5025. BASIC CHEMISTRY FOR MIDDLE LEVEL EDUCATION
Credits: 3

This course presents the basic principles of chemistry with an overview of theories and research addressing the chemical and physical properties of matter. Topics covered include atomic and molecular structure, chemical and physical properties, chemical bonding, and the phases of matter, as well as effective pedagogy to teach these concepts at the middle level.

EDML-5030. ADOLESCENT LITERATURE
Credits: 3

This intensive reading course presents major works and authors of adolescent literature explored within historical and cultural contexts. Critical approaches will be used to apply knowledge of various authors, and literary and historical periods.

EDML-5031. LITERARY FORMS & MEDIA LITERACY IN MIDDLE LEVEL EDUCATION
Credits: 3

This course will focus on literary devices, literary forms, and text structures for middle level learners. Media literacy will include common research techniques, appropriate documentation of sources to avoid plagiarism, and locating and evaluating sources including multi-media sources.

EDML-5032. READING STRATEGIES IN MIDDLE LEVEL EDUCATION
Credits: 3

The focus of this course is literacy development as it relates to middle level students, with emphasis on comprehension, fluency, vocabulary, and writing. The course also provides research and practical applications of literacy instructional strategies in the middle level classroom.

EDML-5033. TEACHING AND EVALUATING WRITING I IN MIDDLE SCHOOL
Credits: 3

The focus of this course is writing instruction and evaluation as it relates to middle level students. This course presents the teacher as writer and students will write for a variety of purposes. Elements of grammar are examined. Research on writing instruction, best practices, and assessment of writing will be addressed.

EDML-5034. TEACHING & EVALUATING WRITING II IN MIDDLE LEVEL EDUCATION
Credits: 3

This is the second part of the Teaching and Evaluating Writing series. The focus of this course is writing instruction and evaluation as it relates to middle level students. This course provides an in-depth examination of the traits of writing. Students will develop lessons, assessments, and instructional materials to effectively teach writing to adolescents.

EDML-5040. US HISTORY IN MIDDLE LEVEL EDUCATION
Credits: 3

This course provides knowledge and skills for teaching U.S. History at the middle school level. Chronological accounts of major developments in U.S. History, from colonization through the 20th century, will be explored to understand how major themes have shaped the growth of the United States, its people, and its culture.

EDML-5041. TEACHING GEOGRAPHY IN MIDDLE LEVEL EDUCATION
Credits: 3

Geographic literacy, map skills, physical geography, and human geography are explored within the context of middle school geography standards. Skills needed to teach fundamental knowledge related to U.S. and World geography and it relationship to patterns of cultural, governmental, and economic activities will be studied.

EDML-5042. GOVERNMENT AND CIVICS IN MIDDLE LEVEL EDUCATION
Credits: 3

This course provides the foundational knowledge required to teach government and civics at the middle school level. Key concepts include the study of the Constitution, federalism, political parties, and citizenship. International structures and systems will also be explored.

EDML-5043. WORLD HISTORY IN MIDDLE LEVEL EDUCATION
Credits: 3

This course focuses on major developments and themes related to World History. Skills needed to teach early humans and societies to the modern world at the middle school level will be studied, as well as relevant histories, cultures, and societal elements.

EDML-5044. FUNDAMENTALS OF ECONOMICS IN MIDDLE LEVEL EDUCATION
Credits: 3

This course differentiates between microeconomics and macroeconomics and teaches how that knowledge can be applied in the middle level social studies curriculum. Market structures, GDP, unemployment, and inflation are included as well as how government intervention and policy affect the US and global economies.

ENGLISH. ENGLISH

ENGLISH-431. STUDIES IN MEDIEVAL ENGLISH LITERATURE
Credits: 3

A study of English literature to 1500, exclusive of Chaucer.

ENGLISH-432. STUDIES IN SIXTEENTH-CENTURY LITERATURE
Credits: 3

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
Credits: 3

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
Credits: 3

Study of eighteenth-century authors and culture.

ENGLISH-435. STUDIES IN ROMANTIC LITERATURE
Credits: 3

Study of the chief poets and prose writers of the Romantic Period.

ENGLISH-436. STUDIES IN VICTORIAN LITERATURE
Credits: 3

Study of major writers, works, and topics of the Victorian era.

ENGLISH-440. STUDIES IN CHAUCER
Credits: 3

A study of selected major and minor works by Chaucer.

ENGLISH-442. STUDIES IN SHAKESPEARE
Credits: 3

A study of selected plays by Shakespeare.

ENGLISH-444. STUDIES IN MILTON
Credits: 3

A study of Milton's selected poetry and prose.

ENGLISH-450. STUDIES IN THE ENGLISH NOVEL
Credits: 3

Study of the novel in English, excluding American writers.

ENGLISH-451. STUDIES IN POSTMODERNISM
Credits: 3

A study of the major postmodern writers from the 1960s to the present.

ENGLISH-452. STUDIES IN THE AMERICAN NOVEL
Credits: 3

Study of the American novel from its eighteenth-century beginnings to the present day.

ENGLISH-453. STUDIES IN POSTCOLONIAL LITERATURE
Credits: 3

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
Credits: 3

Study of twentieth-century texts focused on a particular theme or movement, as determined by instructor.

ENGLISH-458. STUDIES IN CONTEMPORARY FICTION
Credits: 3

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
Credits: 3

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
Credits: 3

Study of the drama from 1660-1780.

ENGLISH-465. STUDIES IN MODERN DRAMA
Credits: 3

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
Credits: 3

A study of major American and/or British playwrights and movements, focus to be determined by instructor.

ENGLISH-468. STUDIES IN CONTEMPORARY DRAMA
Credits: 3

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
Credits: 3

Study of major British poetry of the twentieth century.

ENGLISH-476. STUDIES IN MODERN AMERICAN POETRY
Credits: 3

Study of major movements and representative figures in modern American poetry.

ENGLISH-494. LITERARY CRITICISM
Credits: 3

A study of literary theory and techniques of analysis.

ENGLISH-497. SEMINAR
Credits: 3

Presentations and discussions of selected topics.

Pre-Requisites

Approval of department chairperson.

ENGLISH-498. TOPICS
Credits: 3

The study of a special topic in language, literature, or criticism.

ESL. ESL

ESL-501. APPROACHES TO TEACHING SECOND LANGUAGES
Credits: 3

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
Credits: 3

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.

ESL-503. SECOND LANGUAGE ASSESSMENT
Credits: 3

This course introduces the key concepts of second language assessment, including validity, reliability; standards based instruction, standardized testing, and second language test design and evaluation. Students will participate in a 15 hour field experience culminating in a comprehensive case student of second language assessment policies. Prerequisite course to all other ESL courses

ESL-504. INTERCULTURAL COMMUNICATION FOR LANGUAGE TEACHERS
Credits: 3

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
Credits: 3

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-507. SOCIOLINGUISTICS AND SECOND LANGUAGE ACQUISITION
Credits: 3

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
Credits: 3

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
Credits: 3

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 AND EVALUATION FROM THEORY TO PRACTICE
Credits: 3

This capstone course provides practical field experience in lesson planning, L1/L2 research, administration, evaluation of teaching, curriculum and assessment, and the opportunity to reflect on applying theory to practice in the field of TESL. A culminating portfolio documenting evaluation experiences and demonstration of expertise in the field of TESL will be constructed and submitted as evidence of student mastery of TESOL standards.

ED. EDUCATION

ED-508. INTERCULTURAL COMMUNICATION
Credits: 3

This course examines the ways cultural differences, ethical perspectives, and characteristics of the communication process influence interaction in intercultural settings. The course focuses upon critical issues in intercultural communication. Special emphasis is given to intercultural competence in educational settings.

ED-510. PSYCHOLOGICAL FOUNDATIONS OF EDUCATION
Credits: 3

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

ED-511. PHILOSOPHICAL FOUNDATIONS OF EDUCATION
Credits: 3

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

ED-512. SOCIAL FOUNDATIONS OF EDUCATION
Credits: 3

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.

ED-513. COMPARATIVE FOUNDATIONS OF EDUCATION
Credits: 3

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.

ED-515. COGNITION
Credits: 3

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.

ED-517. PRINCIPAL AS AN EDUCATIONAL LEADER
Credits: 3

This course will focus on the leadership roles and responsibilities of the principal. Leadership theories, ethics, organizational models, data-driven decision making, managing change and conflict, effective communication, diversity, and community relations are critical areas that will be analyzed, assessed and practiced. This course requires a minimum of 30 hours of field experience. Students are conditionally admitted to the EDLS program until successful completion of this course. Required for K-12 principal certification.

EDUCATION-518. SCHOOL LAW
Credits: 3

An examination of school law at the federal, state and local levels; review, discussion and analysis of court decisions which affect schools.

ED-519. ISSUES, LAWS AND TRENDS IN EDUCATION
Credits: 3

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

ED-520. USING ASSESSMENT TO GUIDE INSTRUCTION
Credits: 3

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).

ED-521. USING TECHNOLOGY FOR ASSESSMENT
Credits: 3

This course will explore the use of various technological tools in assessment that helps improve teaching and learning in both face-to-face and online environments. Students will examine practices and strategies for developing effective assessments and utilizing assessment data.

ED-522. CURRICULUM AND INSTRUCTION
Credits: 3

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.

ED-523. ADMINISTRATIVE LEADERSHIP IN CURRICULUM AND INSTRUCTION
Credits: 3

This course familiarizes future principals with the nature of curriculum and the impact of national and state standards on the instructional program. The importance of the role of the principal in developing an organizational structure for curricular change to provide the most appropriate instructional environment for all students will be embedded throughout the course. This course requires a 30 hour field experience focusing on school curriculum leadership. Pre-requisite: ED-517 Principal as Educational LeaderRequired for K-12 principal certification.

ED-524. ACTION RESEARCH FOR EDUCATIONAL CHANGE
Credits: 3

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. (Cross-listed with EDAM-5031)

ED-525. INTRODUCTION TO EDUCATIONAL RESEARCH / MASTER'S LEVEL
Credits: 3

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.

ED-526. INTERNET LITERACY FOR EDUCATORS
Credits: 3

(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.

ED-527. MULTIMEDIA DESIGN FOR DIGITAL LEARNING
Credits: 3

(Previously titled Authoring Systems/Instructional Design - do not repeat for additional credit)
This course explores how multimedia is used for teaching and learning. Research-based principles of multimedia design will be explored to enhance competency and skills in multimedia development.

ED-528. PRINT MEDIA IN THE DIGITAL CLASSROOM
Credits: 3

(Previously titled Using Print Media to Support Education/Desktop Publishing - do not repeat for additional credit)
This course will explore research-based visual design principles for the design and production of print and web-based media utilizing 21st century digital tools for teaching and learning. **Required for Classroom Technology Program.**

ED-530. UTILIZING EMERGING TECHNOLOGIES TO IMPROVE LEARNING
Credits: 3

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.

ED-531. CHILDREN'S LITERATURE
Credits: 3

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

ED-539. ADVANCED STUDIES IN TEACHING AND LEARNING
Credits: 3

This capstone course offers a culminating experience to demonstrate the attainment and integration of program outcomes. Students will be provided an in-depth opportunity to synthesize learning, think critically about their role as life-long learners, and apply new knowledge in creative ways.

Pre-Requisites

Completion of required International Teaching and Learning program coursework. Department permission required.

ED-541. DESIGNING MOTIVATION FOR ALL LEARNERS
Credits: 3

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.

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ED-542. MEANINGFUL ACTIVITIES TO GENERATE INTERESTING CLASSROOMS (MAGIC)
Credits: 3

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.

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ED-543. ACHIEVING STUDENT OUTCOMES THROUGH COOPERATIVE LEARNING
Credits: 3

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

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ED-548. PURPOSEFUL LEARNING THROUGH MULTIPLE INTELLIGENCES
Credits: 3

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.

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ED-552. TEACHING THROUGH LEARNING CHANNELS
Credits: 3

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

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ED-553. BRAIN-BASED WAYS WE THINK AND LEARN
Credits: 3

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.

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ED-554. SUCCESSFUL TEACHING FOR ACCEPTANCE OF RESPONSIBILITY
Credits: 3

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.

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ED-555. CLASSROOM MANAGEMENT: ORCHESTRATING A COMMUNITY OF LEARNERS
Credits: 3

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.

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ED-557. DIFFERENTIATED INSTRUCTION FOR TODAY'S CLASSROOM
Credits: 3

This course equips experienced and beginner educators with the essential knowledge and skills to implement differentiated instruction (DI) successfully in their own classrooms. In a highly interactive learning environment that models the DI principles and processes, class members will gain expertise in understanding and implementing a broad range of strategies associated with the essential, distinguishing components of DI.

ED 541 through ED 561, ED 5020, ED 5024, and ED 5401-5405 were developed by educators at PLS 3rd Learning. 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 3rd Learning courses only, contact the PLS 3rd Learning office directly @ 1-866-757-2527 or visit www.plsweb.com.

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ED-558. TOPICS COURSES
Credits: 3

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

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ED-559. BEHAVIORAL, ACADEMIC, AND SOCIAL INTERVENTIONS FOR THE CLASSROOM
Credits: 3

This course provides educators with research-based interventions in the behavioral, academic, and social areas of student performance. Through a multitiered response to intervention model, educators implement a solution-seeking cycle for gathering information, identifying issues, and planning and assessing early and effective interventions.

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ED-560. BUILDING COMMUNICATION AND TEAMWORK IN THE CLASSROOM
Credits: 3

This course equips experienced and beginner educators with the essential knowledge and skills necessary to foster an emotionally engaging classroom. The selected strategies participants will learn and practice are designed to improve teacher expertise in five specific areas: leadership, communication and listening, positive thinking, student support, and team building.

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ED-561. READING ACROSS THE CURRICULUM
Credits: 3

This course provides research-based active reading comprehension strategies that participants can apply to their grade level or content area. By learning how to implement these metacognitive reading strategies, participants will be able to plan lessons more effectively. Emphasis is on learning styles, types of text, notation systems, content-area reading, assessments, fluency, motivation, and grade-level vocabulary.

ED 541 through ED 561, ED 5020, ED 5024, and ED 5401-5405 were developed by educators at PLS 3rd Learning. 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 3rd Learning courses only, contact the PLS 3rd Learning office directly @ 1-866-757-2527 or visit www.plsweb.com.

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ED-569. TEACHING DIVERSE LEARNERS USING INCLUSIVE CLASSROOM PRACTICES
Credits: 3

Research-based strategies for the instruction of diverse learners in inclusive settings will be examined in this course. Participants will examine effective teaching practices including the research and theories to support such practices. Students will apply the practices to an educational setting. Instructional strategies such as Differentiated Instruction, Universal Design for Learning, co-teaching, differentiated instruction, Understanding by Design/ (UbD), formative assessments, and other effective inclusive classroom practices will be explored.

ED-571. SPECIAL EDUCATION PROGRAMMING AND ADMINISTRATION
Credits: 3

This course will familiarize future principals with methods and strategies to design and implement programs for students with disabilities that are compliant with legal requirements and current research in improving student achievement. The importance of the role of the principal in developing an organizational structure that facilitates the most appropriate teaching and learning environment for students with disabilities will be embedded throughout the course. This course requires a 30 hour field experience focusing on special education administration from the principal's perspective. Pre-requisite: ED-517 Principal as Educational Leader Required for K-12 principal certification.

ED-573. EVALUATION OF EDUCATIONAL PROGRAMS
Credits: 3

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. Pre-requisite: ED-517 Principal as Educational Leader. Required for K-12 principal certification.

ED-575. SCHOOL LAW FOR PRINCIPALS
Credits: 3

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. Pre-requisite: ED-517 Principal as Educational Leader. Required for K-12 principal certification.

ED-576. SCHOOL MANAGEMENT AND COMMUNICATIONS
Credits: 3

This course focuses on the study of administrative functions in educational institutions. Topics include: school budget planning, facilities management, resource allocation, establishing and maintaining positive school and community relations, and effective communication strategies for principals. Pre-requisite: ED-517 Principal as Educational Leader Required for K-12 principal certification.

ED-577. PRINCIPLES OF INFORMATION SECURITY
Credits: 3

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

Pre-Requisites

ED-588.

ED-578. STAFF DEVELOPMENT AND SUPERVISION
Credits: 3

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. Pre-requisite: ED-517 Principal as Educational LeaderRequired for K-12 principal certification.

ED-579. MEDIA DESIGN
Credits: 3

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.

ED-583. COURSEWARE DESIGN AND CONSTRUCTION
Credits: 3

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.

ED-585. INTEGRATING TECHNOLOGY INTO THE CURRICULUM
Credits: 3

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, Special Education, and Educational Development and Strategies Programs.

ED-587. TECHNOLOGY LEADERSHIP
Credits: 3

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 degree and & the master's degree in Educational Leadership.**

ED-588. OPERATING SYSTEMS & NETWORKING
Credits: 3

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

ED-589. INSTRUCTIONAL TECHNOLOGY: MODELS AND METHODS
Credits: 3

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.

ED-591. INTERNSHIP (INSTRUCTIONAL TECH)
Credits: 3

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.**

Pre-Requisites
ED-587, ED-588, ED-589 (or equivalent) and permission of Director.

ED-592. K-12 PRINCIPAL INTERNSHIP
Credits: Parts A & B - two semesters at 3 credits each

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, 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 K-12 principal certification.

Pre-Requisites
Completion of the 21 credits required for principal certification. Required for K-12 principal certification.

ED-598. TOPICS
Credits: 3

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

ED-610. ETHICS FOR EDUCATIONAL LEADERS
Credits: 3

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.

ED-612. LEADERSHIP, DIVERSITY AND SOCIETAL CHANGE
Credits: 3

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. ORGANIZATIONAL AND LEADERSHIP THEORY
Credits: 3

This course focuses on organizational and leadership theories as they relate to K-12 and higher education institutions. The central aim of this course is to enable students to understand the structure and function of organizations and leadership from multiple theoretical perspectives. Through the linking of theory to practice, future educational leaders will be empowered to make conscious, deliberate decisions utilizing multiple, and at times divergent, theoretical frames.

ED-616. PUBLIC RELATIONS: ISSUES AND TRENDS FOR EDUCATIONAL LEADERS
Credits: 3

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.

ED-620. EDUCATIONAL INSTITUTIONS AND SYSTEMS
Credits: 3

This course will focus on historic foundations, institutional structures, long-standing debates, and challenges related to American Education, including pre-K-12, 2-yr institutions, public and private 4-yr. institutions, and for-profit schools. Governance, funding, and mission, and current issues will be examined. Required for Leadership Studies concentration.

ED-623. EDUCATIONAL TECHNOLOGY LEADERSHIP
Credits: 3

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 K-12 Administration and Educational Technology specialization.

ED-625. PROFESSIONAL DEVELOPMENT & SUPERVISION
Credits: 3

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 specialization.

ED-626. POLITICS AND POLICY FOR EDUCATIONAL LEADERS
Credits: 3

This course will explore the roles of public policy and politics in education at the federal, state, and local levels. through the course students will examine policy models, frameworks, and processes as they relate to policy issues in the k-12 and higher education arenas. A second major area of focus will be the political forces that influence and shape decision-making processes, reform efforts, and community relations.

ED-627. ADVANCED ISSUES IN EDUCATIONAL LAW
Credits: 3

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, Curriculum and Instruction, and Higher Education Administration specializations.

ED-628. HUMAN RESOURCE DEVELOPMENT AND LABOR NEGOTIATIONS
Credits: 3

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. Require for Ed.D. program/K-12 Administration and Higher Education specializations.

ED-629. STRATEGIC PLANNING FOR PUBLIC AND NON-PROFIT ORGANIZATIONS
Credits: 3

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 specializations.

ED-632. COGNITION AND LEARNING
Credits: 3

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
Credits: 3

This course will explore design and production of instructional materials using text, video, audio and photographic formats for use in both distance learning and traditional classrooms instruction. . Required for Educational Technology specialization.

ED-635. INTEGRATING TECHNOLOGY FOR DIVERSE LEARNERS
Credits: 3

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 specialization.

ED-637. SYSTEMS INFRASTRUCTURE & MANAGEMENT
Credits: 3

Students will explore the design of present-day technology infrastructures. Topics include computer hardware, telecommunications, networking and general operating systems. Required for Pennsylvania Instructional Technology Specialist certification.

ED-638. INFORMATION SECURITY
Credits: 3

This course will cover the principles of information security, within the educational environment, the foundations of information security, and the principles on which managerial strategy can be formulated and the technical solutions available to technology coordinators. Required for Pennsylvania Instructional Technology Specialist certification.

Pre-Requisites

ED-637 Systems Infrastructure & Management.

ED-639. INTERNSHIP IN EDUCATION TECHNOLOGY LEADERSHIP
Credits: 3

This course is tailored to meet the needs of students who will work as leaders in technology within educational institutions. The internship is designed to provide experience in the completion of identified tasks related to technology under the guidance of a mentoring administrator. A Leadership Competency Portfolio and internship will provide evidence of the leadership competencies attained.

Pre-Requisites

Completion of the Ed.D. Leadership core and Educational technology courses with the exception of 639. Department permission required.

ED-640. INSTRUCTIONAL DESIGN AND DEVELOPMENT
Credits: 3

In this course students will analyze various theories of instructional design through research and application. Required for /Educational Technology specialization.

ED-643. TRENDS AND INNOVATION IN INSTRUCTIONAL TECHNOLOGY
Credits: 3

This course will explore the present trends and future vision of technology as influenced by its foundations. Factors that are likely to influence the future of the instructional technology will be explored, such as distance education and virtual environments. Required for Educational Technology specialization.

ED-644. GRAPHIC DESIGN FOR INSTRUCTION
Credits: 3

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
Credits: 3

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
Credits: 3

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 specialization.

ED-647. WEB DESIGN AND DEVELOPMENT FOR LEARNING
Credits: 3

Students will apply the tools and skills of competent designers as they construct web-based learning activities. Topics such as creative applications and project-based learning will be explored. Required for the Educational Technology specialization.

ED-650. CURRICULUM, INSTRUCTION AND ASSESSMENT
Credits: 3

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 specialization.

ED-652. SPECIAL EDUCATION ADMINISTRATION
Credits: 3

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 specialization.

ED-654. SCHOOL FINANCE AND FACILITIES ADMINISTRATION
Credits: 3

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 specialization.

ED-658. ADVANCED STUDIES IN SCHOOL DISTRICT LEADERSHIP

Credits: 3

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 Leadership Competency Portfolio, and determine the focus areas to begin the superintendent internship.

Pre-Requisites

Completion of Ed.D. Leadership core and K-12 School Administration courses with the exception of ED-659. Department permission required.

ED-659. SUPERINTENDENT INTERNSHIP (90 HOURS)

Credits: 3

This course will prepare future school district leaders for complex situations and specialized functions that are performed as part of district-wide oversight in the central office. Students will continue the superintendent internship, review prior learning in K-12 administration using the Leadership Competency Portfolio, and implement and complete the internship project.

Pre-Requisites

Completion of Ed.D. Leadership core and all K-12 School Administration courses. Department permission required.

ED-660. HIGHER EDUCATION INSTITUTIONS AND ADULT LEARNERS

Credits: 3

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 specialization.

ED-662. FACULTY AND ACADEMIC GOVERNANCE IN HIGHER EDUCATION

Credits: 3

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 specialization.

ED-663. FACULTY DEVELOPMENT & CURRICULUM MANAGEMENT

Credits: 3

Three creditsThis 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 specialization.

ED-664. FINANCIAL MANAGEMENT IN HIGHER EDUCATION

Credits: 3

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 specialization.

ED-665. INSTITUTIONAL ADVANCEMENT IN HIGHER EDUCATION

Credits: 3

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

Credits: 3

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 specialization.

ED-669. INTERNSHIP IN HIGHER EDUCATION ADMINISTRATION (90 HOURS)

Credits: 3

This internship is tailored to address the leadership needs and goals of students in higher education administration. It is designed to provide experience in the completion of identified administrative tasks within an institution of higher education under the guidance of a mentoring administrator. A Leadership Competency Portfolio and internship project will provide evidence of the leadership competencies attained. .

Pre-Requisites

completion of the Ed.D. Leadership core and Higher Education Administration courses. Department permission required.

ED-670. CURRICULUM THEORY

Credits: 3

This course will focus on the theory of curriculum and its philosophical and historical foundations and the ideologies that influence and shape curriculum. governance, control, and macro and micro perspectives of curriculum will be examined.

ED-671. MEASUREMENT AND ASSESSMENT
Credits: 3

This course provides an introduction to issues in educational measurement and assessment with an emphasis on applications in both k-12 and higher education settings. Topics include: types of assessments including standardized tests; portfolios, performance tasks; computer adaptive tests; test development; item writing and analysis; test administration; evaluating tests and items including reliability and validity; and interpreting test results.

ED-672. CURRICULUM DESIGN AND INSTRUCTIONAL MODELS
Credits: 3

This course will engage students in the practical aspects of curriculum design and implementation, its evaluation, and the alignment of curriculum, instruction, and assessment, instructional models appropriate to addressing the needs of diverse learners in varied learning environments and delivery formats will be examined.

Pre-Requisites

ED-670 and ED-671

ED-673. CONTROVERSIES IN CURRICULUM, INSTRUCTION, AND ASSESSMENT
Credits: 3

This course explores the varying attitudes and beliefs of teaching, learning, and assessment as they relate to present-day curricular controversies. Students will analyze the cultural and social contexts of early childhood education, k-12 schooling, and post-secondary schooling. Specific emphasis will be given to the relevant salience of class, race, age, and gender as they relate to the study of everyday inequities in pre-k-20 education.

ED-679. INTERNSHIP IN CURRICULUM AND INSTRUCTION
Credits: 3

This course is tailored to meet the needs of students who will work as leaders in curriculum and instruction within educational institutions. The internship is designed to provide experience in the completion of identified tasks related to curriculum and instruction under the guidance of a mentoring administrator. a leadership competency portfolio and internship project will provide evidence of the leadership competencies attained.

Pre-Requisites

completion of the Ed.D leadership core and curriculum instruction courses/ department permission required.

ED-681. INTRODUCTION TO EDUCATIONAL RESEARCH
Credits: 3

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-682. QUANTITATIVE METHODS FOR EDUCATIONAL RESEARCH I
Credits: 3

This introductory quantitative methods course will provide students with a fundamental understanding of the types of quantitative designs and statistical techniques used in education research. The course will use hands-on activities and emphasize the interpretation of data. Statistical software is used throughout the course.

Pre-Requisites

ED-681 Introduction to Educational Research.

ED-683. QUALITATIVE METHODS IN EDUCATIONAL RESEARCH I
Credits: 3

This course will provide students with a foundational knowledge of qualitative research focusing on designs and methodologies, theoretical and interpretive frameworks, ethical considerations, standards of validation, and introductory data collection, analysis, and reporting.

Pre-Requisites

ED-681 Introduction to Educational Research.

ED-684. SPECIAL TOPICS IN EDUCATIONAL RESEARCH
Credits: 1-3

This is a one to three credit hour course open to students in the doctoral program in Educational Leadership, but specifically for those who have a background in educational research. Topics are designed to further student's understanding of educational research and can include topics like survey design and analysis, mixed method approaches, qualitative data analysis, or an in-depth look at a particular method of research. Prerequisites: ED-681, ED-682 or equivalent, ED-683 or equivalent. Department permission required.

Pre-Requisites

ED-681, ED-682 or equivalent, ED-683 or equivalent. Department permission required.

ED-685. QUANTITATIVE METHODS FOR EDUCATIONAL RESEARCH II
Credits: 3

This second-level quantitative methods course will provide students with the knowledge and skills necessary for using a variety of statistical methods in the analysis of educational research. This course covers advanced topics in quantitative research designs and statistical techniques. Statistical software is used throughout the course.

Pre-Requisites

ED-681 and ED-682. Department permission required.

ED-686. QUALITATIVE METHODS IN EDUCATIONAL RESEARCH II
Credits: 3

This course is intended for students interested in pursuing qualitative research. It is designed to provide students with an in-depth understanding of qualitative designs and methodologies as well as practice applying these designs and methodologies in original research. Through this course, students will build on the knowledge and skills learned in ED-683, with an increased focus on data collection, analysis, and reporting.

Pre-Requisites

ED-681 and ED-683.Department permission required.

ED-697. DISSERTATION PROPOSAL SEMINAR
Credits: 3

Doctoral students are required to register for 3 credits of dissertation proposal each semester until the proposal is successfully defended and meets all departmental requirements, at which time 3 credits will be awarded.

Pre-Requisites

Acceptance into the Ed.D. Program and successful completion of doctoral core and major coursework. Department permission required.

ED-698. DISSERTATION PROPOSAL
Credits: 3

Doctoral students are required to register for 3 credits of dissertation proposal each semester until the proposal is successfully defended and meets all departmental requirements, at which time 3 credits will be awarded.

Pre-Requisites

ED-697 Dissertation Proposal Seminar. Department permission required.

ED-699. DISSERTATION
Credits: 3

Doctoral students are required to register for 3 credits of dissertation each semester until the dissertation is successfully defended and meets all departmental requirements, at which time 3 credits will be awarded.

Pre-Requisites

Successful completion of the proposal defense in 698. Department permission required.

ED-5020. USING ONLINE RESOURCES TO BRING PRIMARY SOURCES TO THE CLASSROOM
Credits: 3

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.

ED 541 through ED 561, ED 5020, ED 5024, and ED 5401-5405 were developed by educators at PLS 3rd Learning. 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 3rd Learning courses only, contact the PLS 3rd Learning office directly @ 1-866-757-2527 or visit www.plsweb.com.

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ED-5024. EDUCATING THE NET-GENERATION
Credits: 3

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.

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ED-5030. INSTRUCTIONAL DESIGN FOR ONLINE EDUCATORS ™ (PLS)
Credits: 3

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. (Previously titled ED 5002 Instructional Design for Online Educators)

ED-5031. FACILITATING ONLINE LEARNING COMMUNITIES ™ (PLS)
Credits: 3

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. (Previously titled ED 5003 Facilitating Online Learning Communities)

ED-5032. ONLINE TEACHING FOR PENNSYLVANIA EDUCATORS (WILKES)
Credits: 3

Students will complete required field experience for the PDE Online Instruction Endorsement as they explore topics focused on the professional responsibilities, effectiveness, and competencies for Pennsylvania's online teachers. Special consideration will be given to the social and ethical issues in online teaching and learning. Required for PA Online Instruction Endorsement. 20 hours field experience.

ED-5033. SOCIAL AND ETHICAL ISSUES IN ONLINE LEARNING (WILKES)
Credits: 3

This course will lead students through the historical development of online education and the associated ethical and social issues that have accompanied it. Students will examine issues from multiple perspectives and formulate position statements that can be translated into policy and practice in educational settings. (Previously titled ED 5001 Social & Ethical Issues in Distance Learning)

ED-5034. ACTION RESEARCH IN THE E-LEARNING ENVIRONMENT ™ (PLS)
Credits: 3

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. (Previously titled ED 5004 Action Research in the E-Learning Environment)

ED-5035. BLENDED AND SYNCHRONOUS LEARNING DESIGN™ (PLS)
Credits: 3

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. (Previously titled ED 5021 Blended and Synchronous Learning Environments)

ED-5036. BUILDING ONLINE COLLABORATIVE ENVIRONMENTS™ (PLS)
Credits: 3

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. (Previously titled ED 5023 Building Online Collaborative Environments)

ED-5037. DEVELOPING ONLINE PROGRAMS (WILKES)
Credits: 3

This course will examine the critical resources, leadership, support, and planning needed to develop and sustain quality online programs.

ED-5038. TEACHING AND LEARNING IN THE ONLINE LEARNING ENVIRONMENT (WILKES)
Credits: 3

This culminating course is designed to examine the competencies that drive online teaching and learning. Students will explore ways that pedagogy and technology innovation intersect to drive change in education and create learning opportunities for all students.

ED-5080. TECHNOLOGY FOR ASSESSMENT & ADAPTATION
Credits: 3

Technology for Assessment & Adaptation is designed to provide Instructional Technology Specialists with an understanding of how technology supports various types of educational assessments and the purpose of assessment in the decision-making process. In addition, this course will provide students with an understanding of the multi-disciplinary evaluation process and ability to articulate and analyze the findings presented in an evaluation report.

ED-5081. TECHNOLOGY TO SUPPORT ALL LEARNERS
Credits: 3

Technology to Support All Learners is designed to provide Instructional Technology Specialists with an understanding of the varied characteristics of learners with disabilities and identify appropriate instructional strategies and resources to support diverse learners to achieve success within the school culture.

ED-5082. TECHNOLOGY TO SUPPORT CURRICULUM & INSTRUCTION
Credits: 3

Technology to Support Curriculum and Instruction is designed to provide Instructional Technology Specialists with the ability to identify instructional technology resources to support diverse learners. The course focuses on specific exceptionalities and requires students to use quantitative reasoning strategies to analyze data and draw conclusions using various forms of school-wide and district-wide data.

ED-5083. COMMON CORE STANDARDS IN PRACTICE
Credits: 3

The Common Core State Standards (CCSS), released in 2010 and adopted by the majority of states, clearly delineate the learning expectations for k-12 students. With the goal of college and career readiness, the CCSS have strong implications for curriculum, assessment, and instruction. This course provides an in-depth examination of their rationale, design, and impact on teaching and learning of all students. Research and practical application will be provided to guide effective implementation of the CCSS in English/ Language Arts and Math.

ED-5401. COLLABORATIVE INQUIRY FOR STUDENTS: PREPARING MINDS FOR THE FUTURE
Credits: 3

This course provides educators with research-based strategies for designing and implementing collaborative inquiry for students. Collaborative inquiry fosters the skills students need now and in the future to develop a deeper understanding and mastery of content knowledge and skills. Participants will experience and evaluate the collaborative inquiry models of problem-based learning, hypothesis-based learning, project-based learning, Appreciative Inquiry, performance-based learning, and live-event learning. Participants will identify desired results and acceptable evidence by developing standards-based essential questions, topic questions, and assessments. Participants explore the role of the facilitative leader as they learn strategies for teaching collaboration and designing collaborative inquiry experiences.

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ED-5402. CULTURAL COMPETENCE: A TRANSFORMATIVE JOURNEY
Credits: 3

This course equips experienced and beginning educators with the knowledge, awareness, and skills they need to work in today's diverse classroom settings for the goal of student success. Participants will have opportunities to critically examine how privilege and power impact educational outcomes and to understand the role of educators as agents of change for social justice. Learners will use the framework "know yourself, your students, and your practice" to better understand their roles in student achievement. By exploring diversity through multiple perspectives, participants will gain insight into how their own cultural lenses impact their relationships with students and families.

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ED-5403. STUDENT ENGAGEMENT AND STANDARDS-BASED LEARNING
Credits: 3

This course explores high-impact learning activities designed to help teachers optimize student learning. Participants will use standards as a basis for designing learning activities, assessments, and scoring guides and will prioritize learning based on curriculum. Using alignment criteria and the POINT design components, participants will evaluate, modify, expand, and design standards-based learning activities in order to maximize student learning, engagement, and achievement. A variety of learning activities aligned to standards and the QFL Process Skills are featured in this course as participants learn to address the needs of 21st century learners and foster progress toward deeper retention and transfer of learning.

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ED-5404. STRATEGIES FOR THE INCLUSIVE CLASSROOM
Credits: 3

This course provides practical, research-based strategies that enhance student achievement, learning and proficiency for the general population while meeting the unique and specific challenges of the exceptional learner.

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ED-5405. TEACHING THE ENGLISH LANGUAGE
Credits: 3

This course provides educators with the knowledge, skills, attitudes, insights, and resources to service English language learners. Guided by the Teachers of English to Speakers of Other Languages (TESOL) standards, students will explore theories and best practices promoting the construction of learning environments that support literacy development and content area achievement among English language learners.

ED 541 through ED 561, ED 5020, ED 5024, and ED 5401-5405 were developed by educators at PLS 3rd Learning. 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 3rd Learning courses only, contact the PLS 3rd Learning office directly @ 1-866-757-2527 or visit www.plsweb.com.

All courses listed with a "W" (for Wilkes credit) on the PLS 3rd Learning course schedule may be used toward the required 12 credits of PLS 3rd Learning courses for the Wilkes EDS degree.

This course provides practical, research-based strategies that enhance student achievement, learning and proficiency for the general population while meeting the unique and specific challenges of the exceptional learner.

ED 541 through ED 561, ED 5020, ED 5024, and ED 5401-5405 were developed by educators at PLS 3rd Learning. 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 3rd Learning courses only, contact the PLS 3rd Learning office directly @ 1-866-757-2527 or visit www.plsweb.com.

All courses listed with a "W" (for Wilkes credit) on the PLS 3rd Learning course schedule may be used toward the required 12 credits of PLS 3rd Learning courses for the Wilkes EDS degree.

EE. ELECTRICAL ENGINEERING

EE-403. COMPUTATIONAL TECHNIQUES IN ELECTRICAL ENGINEERING
Credits: 3
Fees: $100

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 LabWINDOWS 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 Lab fee: $100.

Pre-Requisites

Graduate standing

EE-405. ADVANCED LABORATORY EXPERIENCE FOR GRADUATE STUDENTS
Credits: 3

Laboratory and related analytical experience in different disciplines within electrical engineering, including but not limited to, electrical measurements, mechatronics, digital design, electromagentics, and communications systems. Real-world design problems will be assigned. Three hour lab per week. Lab fee: $100.

Pre-Requisites

Graduate standing

EE-410. LINEAR SYSTEM THEORY
Credits: 3

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
Credits: 3

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.

Pre-Requisites

Graduate standing

EE-415. DIGITAL CONTROL SYSTEMS DESIGN
Credits: 3

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.

Pre-Requisites

EE-414

EE-416. ROBOT VISION
Credits: 3

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.

Pre-Requisites

First course in Robotics

EE-418. CONTROLS AND KINEMATICS IN NAVIGATION
Credits: 3

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.

Pre-Requisites

EE-318, EE-460

EE-421. POWER SYSTEM ANALYSIS
Credits: 3

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.

Pre-Requisites

EE-321

EE-425. POWER ELECTRONICS
Credits: 3

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.

Pre-Requisites

EE-252, EE-321

EE-432. ELECTROMAGNETIC FIELDS AND WAVES
Credits: 3

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.

Pre-Requisites

EE-337

EE-435. MICROSTRIP CIRCUIT DESIGN
Credits: 3

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.

Pre-Requisites

EE-335/EE 337

EE-436. ANTENNA THEORY AND DESIGN
Credits: 3

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.

Pre-Requisites

EE-337

EE-441. DIGITAL SYSTEMS DESIGN
Credits: 3

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.

Pre-Requisites

EE-241

EE-442. MICROCOMPUTER OPERATION AND DESIGN
Credits: 3
Fees: $100

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. (same as CS-429)

Pre-Requisites

EE-345

EE-444. OPERATING SYSTEM PRINCIPLES
Credits: 3

Analysis of the computer operating systems including Batch, Timesharing, and Realtime systems. Topics include sequential and concurrent processes, processor and storage management, resource protection, processor multiplexing, and handling of interrupts from peripheral devices. (same as CS-426)

Pre-Requisites

CS-227

EE-445. COMPUTER ORGANIZATION
Credits: 3

Number representation, digital storage devices and computational units, bus structures; execution sequences and assembly language concepts; control units with horizontal and vertical microcoding; addressing principles and sequencing; microprocessors; basic input and output devices; interrupts; survey of RISC principles including pipelined execution. (same as CS-445)

Pre-Requisites

EE-241

EE-446. COMPUTER ARCHITECTURE
Credits: 3

A study of the design, organization, and architecture of computers, ranging from the microprocessors to the latest 'supercomputers.' (same as CS-430)

Pre-Requisites

EE-242 or EE-342

EE-451. OPTO-ELECTRONICS
Credits: 3

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; electroptic modulation of lasers; optical radiation interaction of light and sound; propagation, modulation, and oscillation in optical dielectric waveguides; laser applications; fiber optics and couplers.

Pre-Requisites

EE-337

EE-460. STOCHASTIC PROCESSES IN ENGINEERING
Credits: 3

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
Credits: 3

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 Mary systems; information theory.

Pre-Requisites

EE-361, EE-460

EE-465. DIGITAL SIGNAL PROCESSING
Credits: 3

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.

Pre-Requisites

EE-252

EE-471. ADVANCED SOLID STATE DEVICES
Credits: 3

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.

Pre-Requisites

EE-271

EE-474. INTEGRATED CIRCUIT DESIGN
Credits: 3

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.

Pre-Requisites

EE-241, EE-271

EE-481. ADVANCED MICROELECTRONICS LAB
Credits: 3
Fees: $100

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 gathering; 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.

Pre-Requisites

EE-271

EE-482. ADVANCED COMMUNICATION AND ANTENNA LAB
Credits: 3
Fees: $100

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.

Pre-Requisites

EE-335

EE-498. TOPICS IN ELECTRICAL ENGINEERING
Credits: 3

Three creditsSelected 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
Credits: 3

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.

Pre-Requisites

EE-410, EE-460

EE-514. OPTIMAL CONTROL THEORY
Credits: 3

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.

Pre-Requisites

EE-410

EE-516. ROBOTICS AND ARTIFICIAL INTELLIGENCE
Credits: 3

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.

Pre-Requisites

First course in Robotics

EE-521. COMPUTER AIDED ANALYSIS OF POWER SYSTEMS
Credits: 3

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.

Pre-Requisites

EE-421

EE-535. MICROWAVE CIRCUITS
Credits: 3

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.

Pre-Requisites

EE-435

EE-541. MICROPROCESSOR-BASED SYSTEMS DESIGN
Credits: 3

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.

Pre-Requisites

EE-342

EE-560. DETECTION AND ESTIMATION THEORY
Credits: 3

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.

Pre-Requisites

EE-460

EE-561. COMPUTER COMMUNICATION NETWORKS
Credits: 3

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.

Pre-Requisites

EE-461

EE-562. OPTICAL COMMUNICATION
Credits: 3

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.

Pre-Requisites

EE-432, EE-461

EE-565. DIGITAL IMAGE PROCESSING
Credits: 3

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.

Pre-Requisites

EE-460

EE-568. MODERN NAVIGATION SYSTEMS
Credits: 3

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.

Pre-Requisites

EE-418, EE-460

EE-571. MODERN SOLID STATE DEVICES AND DESIGN
Credits: 3

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.

Pre-Requisites

EE-471

EE-590. PROJECT/THESIS
Credits: 1-6

One to six creditsStudents 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 Project/Thesis Advisor as Chair. The project/thesis shall be presented in an open forum.

EE-598. ADVANCED TOPICS IN ELECTRICAL ENGINEERING
Credits: 3

Three creditsAdvanced 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.

EGM. ENGINEERING MANAGEMENT

EGM-510. ENGINEERING PROJECT DECISION PROCESSES
Credits: 3

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 students. Three hours lecture per week.

EGM-515. QUALITY PROCESSES FOR DESIGN AND PRODUCTION
Credits: 3

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 students. Three hours lecture per week.

EGM-516. MANAGEMENT SCIENCE
Credits: 3

Students learn how to structure complex problems, analyze available options, obtain information from data, and how to formulate analytical models for making optimal decisions.Topics may include (but are not limited to) regression and correlation analysis, time series analysis, forecasting models, and quality and productivity management. Course activities may include case analyses, research, application of advanced techniques, or and/or utilization of various information technologies. Required of all students. Three lecture hours per week.

EGM-520. OPERATIONS ANALYSIS AND RESOURCE ALLOCATION
Credits: 3

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 students. Three hours lecture per week.

EGM-525. PROJECT ANALYSIS AND RESOURCE ALLOCATION
Credits: 3

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 students. Three hours lecture per week.

EGM-530. STOCHASTIC MODELS IN ENGINEERING MANAGEMENT
Credits: 3

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 students. Three hours lecture per week.

EGM-534. MATERIAL & INTELLECTUAL PROPERTY
Credits: 3

A study of the history, fundamental strategies and issues relating to generating and protecting intellectual and material property rights. Topics include the subjects of and the present legal processes to protect trademarks, copyrights, patents, trade secrets, software and other intellectual property rights. Three lecture hours per week.

EGM-536. PRODUCT DESIGN & DEVELOPMENT
Credits: 3

This course focuses on the integration of the design, manufacturing, the ability to coordinate multiple interdisciplinary tasks and marketing functions in the process of creating new products. The course is intended to provide students with the necessary set of tools and methods for new product design and development. Several design frameworks are discussed in order to achieve a common objective. This course will reinforcement students specific knowledge from other courses through practice and reflection in an project-oriented setting. Three lecture hours per week.

EGM-538. AUTOMATION PRODUCTION AND SYSTEMS
Credits: 3

This course focuses on the use of a quantitative approach to simulate, analyze and optimize all engineering aspects of automated production systems. Several modeling frameworks are discussed, such as automata, State-charts, cutting-edge technologies and Petri nets. Solving automation problems is of critical importance to decrease the cost of production systems and increase the throughput and flexibility. This course aims to give the student a basic knowledge of the important results of current research on discrete event systems and how these results can be applied to production systems. Three lecture hours per week.

EGM-540. LEAN SIX SIGMA & LEAN MANUFACTURING
Credits: 3

This course focuses on developing the knowledge and skills of a typical industry based Six Sigma Green Belt candidate. The course includes the descriptive statistics and project management skills necessary to Define, Measure, Analyze, Improve and Control processes. Lecture topics include Six Sigma problem-solving techniques, continuous improvement, mistake proofing, Lean Six Sigma, Lean manufacturing, determining the cost of quality and more. Three lecture hours per week.

EGM-544. EMERGING TECHNOLOGIES
Credits: 3

This course aims to develop students' skills in monitoring emerging new technologies, innovation forecast and technology assessment, with an introduction of data mining tools and exploration of emerging technologies. Students will study new developments in emerging technologies, how to track pertinent developments, and discover what is going on in the research world. The course focuses on developing the capability to be a technology manager and a critical well-informed consumer of such technology. Three lecture hours per week.

EGM-545. APPLIED ENGINEERING ANALYSIS
Credits: 3

This course is intended for all engineering students and it provides a strong background in mathematical modeling of various systems relevant to mechanical, electrical and management problems. Typical topics covered include (but are not limited to) linear algebra, matrix and vector mechanics, eigenvalue problems, ordinary differential equations, Fourier analysis, partial differential equations and optimization. Three lecture hours per week.

EGM-580. GRADUATE PROJECT CONTINUUM
Credits: 1-3

One - Three CreditsEGM 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 EGM-580. At project completion, a completion grade will be awarded by converting one credit-hour of EGM-580 to one credit-hour of EGM-581 (Graduate Project Completion). EGM-580 credit does not apply toward meeting degree requirements until a grade for EGM-581 is recorded. Only two hours of credit for EGM-580 may apply toward 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).

EGM-581. GRADUATE PROJECT COMPLETION
Credits: 1

One CreditRecorded with grade by converting one credit-hour of EGM-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.

EGM-590. THESIS CONTINUUM
Credits: 1-6

One -Six CreditsStudents 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 EGM-590 Graduate Thesis Continuum to one credit-hour of EGM-591 Graduate Thesis Completion. EGM-590 credit does not apply toward meeting degree completion until a grade for EGM-591 is recorded. Only five hours of credit for EGM-590 may apply toward Engineering Management degree requirements (although the student may enroll in a total of more than five hours of continuum if thesis completion extends to additional semesters).

EGM-591. GRADUATE PROJECT COMPLETION
Credits: 1

One CreditRecorded with grade by converting one credit-hour of EGM-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.

HISTORY. HISTORY

HISTORY-421. AMERICAN CULTURAL AND SOCIAL HISTORY
Credits: 3

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
Credits: 3

A survey of the evolution of the American economy from colonial dependency to modern industrial maturity. Emphasis will be placed upon the development of the United States as an industrial world power since about 1850.

HISTORY-425. DIVERSITY IN PENNSYLVANIA HISTORY
Credits: 3

A study of the history of the Commonwealth with particular focus on ethnic and racial diversity.

HISTORY-428. HISTORY OF THE FOREIGN POLICY OF THE UNITED STATES
Credits: 3

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
Credits: 3

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
Credits: 3

Discovery, exploration and settlement; development of social, political, religious and intellectual institutions; independence and political reorganization.

HISTORY-432. THE NEW NATION
Credits: 3

A study of America's social, cultural, economic and political development in the first generations of nationhood, 1783-1840.

HISTORY-433. VICTORIAN AMERICA
Credits: 3

A study of the development of the United States from the end of the Civil War through the end of World War I. Special attention will be paid to urbanization and industrialization and their effects on everyday life.

HISTORY-434. THE UNITED STATES, 1900-1945
Credits: 3

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
Credits: 3

An examination of the political, social, and economic changes in the United States since World War II. Special attention is paid to America's dominant role in the immediate postwar world and how changing conditions over the past 40 years have altered this role.

HISTORY-445. HISTORY OF NORTHEASTERN EUROPE
Credits: 3

A study of the cultural, political, and intellectual history of the Poles, Czechs, Slovaks, Croats, Slovenes and Hungarians, who occupy the northern tier of Eastern Europe. Special attention is given to the roles of the Habsburg and Russian empires in shaping the historical destinies of these peoples and to the roots and consequences of the forces of nationalism in the region.

HISTORY-446. HISTORY OF THE BALKANS
Credits: 3

A study of the cultural, political and intellectual history of the Bulgarians, Serbs, Croats, Slovenes, Albanians, Greeks, Romanians and Turks, who occupy the southern, or Balkan, tier of Eastern Europe. Special attention is given to the roles of the Ottoman Turkish, Habsburg and Russian empires in shaping the historical destinies of these peoples, and to the roots and consequences in the region of such forces as Christian-Muslim cultural interrelationships and nationalism.

HISTORY-448. HISTORY OF RUSSIA
Credits: 3

A study of the political, social, and intellectual history of Russia. Emphasis is placed upon the emergence of Russia as a major power after 1700.

HISTORY-452. THE RENAISSANCE AND REFORMATION
Credits: 3

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
Credits: 3

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
Credits: 3

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
Credits: 3

A study of the political, social, and cultural development of Europe from the Congress of Vienna to World War I.

HISTORY-456. WORLD WAR I AND VERSAILLES EUROPE
Credits: 3

Examination of the international causes of World War I, the Treaty of Versailles, and the new Europe that resulted, leading to the outbreak of World War II in 1939.

HISTORY-457. THE WORLD SINCE 1945
Credits: 3

This course examines many important events and developments in the modern world since 1945. It considers incidents of largely historical significance, such as the Cold War between the United States and the Soviet Union, and those of continuing relevance, like the globalization and privatization of the economy.

HISTORY-476. WORLD WAR II
Credits: 3

Consideration of the causes of the war, military strategy and tactics, diplomatic interests of the participants, and resulting Cold War problems.

HISTORY-497. SEMINAR
Credits: 1-3

One to three creditsPresentations and discussions of selected topics. (May be repeated for credit) Prerequisite: Approval of the instructor is required.

Pre-Requisites

Approval of the instructor is required.

HISTORY-498. TOPICS
Credits: 3

Special topics in history. This course will be offered from time to time when interest and demand justify it.

MBA. MBA

MBA-501. FOUNDATIONS OF BUSINESS
Credits: 3

This course provides a foundation for all functional areas of business, including accounting, economics, finance, information systems, international business, management, marketing, law, operations management, and statistics.

MBA-505. FOUNDATIONS OF MANAGEMENT
Credits: 3

This course introduces the distinct objectives of the MBA program. Students will study social responsibility and diversity and how these relate to business ethics for ethical decision-making. Cross-cultural communication as used in a dynamic work environment is investigated from an executive perspective. Students are exposed to the variety of leadership forms in use at work. Professionalism is learned through the lenses of a global marketplace and team performance. Emphasis is placed on analyzing business problems while developing the use of the APA Reference Style.

MBA-512. BUSINESS RESEARCH DESIGN AND METHODS
Credits: 3

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.

Co-Requisites

MBA-501.

MBA-516. TOPICS IN OPERATIONS MANAGEMENT
Credits: 3

Operations management is an area of business concerned with the production of goods and services, and involves the responsibility of ensuring that business operations are efficient in terms of using as little resources as needed, and effective in terms of meeting customer requirements. This course will address select topics in operations management. The goal of the course is to enhance the student's ability to approach and understand various business-related problems by integrating operations methods and applications.

Pre-Requisites

MBA-512.

MBA-520. MARKETING MANAGEMENT
Credits: 3

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.

Co-Requisites

MBA-501.

MBA-526. TOPICS IN MARKETING
Credits: 3

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.

Pre-Requisites

MBA-520.

MBA-532. MANAGERIAL ECONOMICS
Credits: 3

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.

Co-Requisites

MBA-501.

MBA-536. ADVANCED TOPICS IN INTERNATIONAL BUSINESS
Credits: 3

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.

Pre-Requisites

MBA-501.

MBA-537. GLOBAL BUSINESS EXPERIENCE
Credits: 3

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.

MBA-540. FINANCIAL MANAGEMENT
Credits: 3

A survey of the tools and techniques currently employed by financial decision makers when evaluating organizational performance and developing future courses of action. Emphasis will be placed upon working capital management and capital budgeting techniques.

Co-Requisites

MBA-501.

MBA-546. TOPICS IN FINANCE
Credits: 3

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.

Pre-Requisites

MBA-540

MBA-552. ORGANIZATIONAL BEHAVIOR AND LEADERSHIP
Credits: 3

The purpose of this course is to examine organizational and leadership issues in the private and not-for-profit sectors. The course emphasizes how to become an effective leader by achieving mastery over the noisy, incessant, and rapidly changing environment. The course focuses on three central issues: (1) what makes a person an effective leader; (2) how does a leader encourage high performance and build commitment; and (3) how does a leader translate intention into reality, communicate those intentions, empower others, and stay on course while knowing when to change.

Co-Requisites

MBA-505.

MBA-555. HUMAN RESOURCES LAW AND COMPENSATION
Credits: 3

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.

Pre-Requisites

MBA-501.

MBA-560. FINANCIAL AND MANAGERIAL ACCOUNTING
Credits: 3

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.

Co-Requisites

MBA-501.

MBA-566. TOPICS IN ACCOUNTING
Credits: 3

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.

Pre-Requisites

MBA-560.

MBA-577. TOPICS IN HEALTH CARE MANAGEMENT
Credits: 3

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.

Pre-Requisites

MBA-501.

MBA-580. BUSINESS AND PUBLIC POLICY
Credits: 3

Three creditsThis course introduces students to the various public policies that impact directly and indirectly on business policy formation. Included is analysis of the ways in which the interests of the customer/client, the creditor, the shareholder, the employee, the government, and the society interface with optimal decision-making by business organizations. The course utilizes 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.

MBA-585. TOPICS IN ENTREPRENEURSHIP
Credits: 3

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

Pre-Requisites
MBA-501.

MBA-591. STRATEGIC MANAGEMENT AND POLICY
Credits: 3

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.

Co-Requisites
MBA-512, MBA-520, MBA-532, MBA-540, MBA-552, MBA-560, MBA-580.

MBA-592. ADVANCED PROJECTS IN BUSINESS
Credits: 3

This course requires that students perform advanced research and writing, while developing and honing their professional skills. Topics must be approved by the instructor in advance and research must be based upon (a) Independent Study; (b) Internship/Consulting; (c) Community Service; or (d) Mentorship. 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.

Co-Requisites
MBA-512, MBA-520, MBA-532, MBA-540, MBA-552, MBA-560, MBA-580.

MBA-598. TOPICS
Credits: 3

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

Pre-Requisites
MBA-501.

MBA-5032. FOUNDATIONS OF MICROECONOMICS
Credits: 1

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.

MBA-5041. FOUNDATIONS OF STATISTICS
Credits: 1

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
Credits: 1

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
Credits: 1

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.

MTH. MATHEMATICS

MTH-411. REAL ANALYSIS
Credits: 4

A rigorous treatment of fundamental concepts in analysis, with emphasis on careful reasoning and proofs. Topics covered include the completeness and order properties of real numbers; limits and continuity; conditions for integrability and differentiability; infinite sequences and series of functions. Basic notions of the topology of the real line are also introduced.

Pre-Requisites
MTH-202 (Set Theory & Logic) or consent of instructor

MTH-413. FUNCTIONS OF SEVERAL VARIABLES
Credits: 3

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.

Pre-Requisites
MTH-214 (Linear Algebra) and MTH-411 (Real Analysis) or consent of instructor.

MTH-414. COMPLEX ANALYSIS
Credits: 3

Complex functions, limit, continuity, analytic functions, power series, contour integration, Laurent expansion, singularities and residues.

Pre-Requisites
MTH-212 (Multivariable Calculus) or consent of instructor.

MTH-431. ABSTRACT ALGEBRA I
Credits: 4

A rigorous treatment of fundamental concepts in algebra, with emphasis on careful reasoning and proofs. Topics covered include equivalence relations, binary operations. Integers: divisibility, factorization, integers modulo n, elementary group theory, subgroups, cyclic groups, permutation groups, quotient groups. Homomorphisms and isomorphisms. Introductory topics in ring theory as time permits.

Pre-Requisites

MTH-202 (Set Theory & Logic) or consent of instructor

MTH-432. ABSTRACT ALGEBRA II
Credits: 3

A continuation of MTH-431. Includes the study of polynomial rings, ideals, field extensions and Galois Theory.

Pre-Requisites

MTH-431 (Abstract Algebra).

MTH-442. TOPOLOGY
Credits: 3

An introduction to point-set topology, including a study of metric spaces, topological spaces, countability and separation axioms, compactness, connectedness, product spaces.

Pre-Requisites

MTH-411 (Real Analysis) or consent of instructor.

MTH-443. GEOMETRY
Credits: 3

A study of selected topics from Euclidean and non-Euclidean geometry.

Pre-Requisites

MTH-202 (Set Theory & Logic) or consent of instructor

MTH-451. PROBABILITY AND MATHEMATICAL STATISTICS I
Credits: 3

Random variables, probability distributions, expectation and limit theorems, confidence intervals.

Pre-Requisites

A one-year calculus sequence or consent of instructor.

MTH-452. PROBABILITY AND MATHEMATICAL STATISTICS II
Credits: 3

Hypothesis testing, non-parametric methods, multivariate distributions, introduction to linear models.

Pre-Requisites

MTH-451 or consent of instructor.

MTH-454. STATISTICAL METHODOLOGY
Credits: 3

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.

Pre-Requisites

MTH-451 or consent of instructor.

MTH-461. PARTIAL DIFFERENTIAL EQUATIONS
Credits: 3
Fees: $40

Partial differential equations and boundary value problems, inner product spaces, orthogonal functions, eigen value problems, Sturm-Liouville equations, Fourier series, Fourier transforms, Green's functions, and classical equations of engineering and physics.

Offered fall of odd years.

Pre-Requisites

MTH-211 (Differential Equations)

MTH-462. ADVANCED CALCULUS
Credits: 3
Fees: $40

Topics from advanced calculus, including matrix representation of differentials and the multivariable chain rule, vector calculus, curvilinear coordinates, tensors, change of variables in higher dimensions, improper multiple integrals, applications of line and surface integrals, differential forms and the general Stokes' theorem, polential theory, and Taylor's formula for functions of several variables.

Offered fall of even years

Pre-Requisites

MTH-212 (Multivariable Calculus)

MTH-463. OPERATIONS RESEARCH
Credits: 3

A survey of operations research topics such as decision analysis, inventory models, queuing models, dynamic programming, network models, and linear programming. Cross-listed with CS-463. Offered in the spring semester of odd-numbered years when demand warrants.

Pre-Requisites

Programming experience in a high-level language and completion of a one-year calculus sequence.

MTH-464. NUMERICAL ANALYSIS
Credits: 3

An introduction to numerical algorithms as tools to providing solutions to common problems formulated in mathematics, science, and engineering. Focus is given to developing the basic understanding of the construction of numerical algorithms, their applicability, and their limitations. (Cross-listed with CS-464)

Pre-Requisites

Programming experience in a high-level language and completion of a one-year calculus sequence.

MTH-465. NUMERICAL LINEAR ALGEBRA
Credits: 3

Direct and iterative methods for the solution of systems of linear equations, matrix decompositions, computation of eigenvalues and eigenvectors, and relaxation techniques. The theoretical basis for error analysis including vector and matrix norms. Applications such as least squares and finite difference methods. Offered spring semester of even-numbered years.

Pre-Requisites

MTH 214 and CS 125 (or equivalent programming experience)

MTH-470. READINGS IN MATHEMATICS
Credits: 3

Pre-Requisites

Consent of Mathematics Department Chairperson May be repeated for credit if a different topic is selected.

MTH-511. MEASURE AND INTEGRATION
Credits: 3

Measures, measurable functions, integration, convergence theorems, product measures, signed measures.

Pre-Requisites

MTH-442 or consent of instructor.

MTH-513. FUNCTIONAL ANALYSIS
Credits: 3

Topics include: Banach spaces, Lp-spaces, Hilbert spaces, topological vector spaces, and Banach algebra.

Pre-Requisites

MTH-411 and a course in linear algebra.

MTH-532. MODERN ALGEBRA
Credits: 3

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.

Pre-Requisites

MTH-431, and a course in linear algebra or consent of instructor.

MTH-542. ALGEBRAIC TOPOLOGY
Credits: 3

Polyhedra, simplicial homology theory, cohomology rings, and homotopy groups.

Pre-Requisites

MTH-442.

MTH-590. THESIS WRITING
Credits: up-6

Pre-Requisites

Consent of Department Chairperson

ME. MECHANICAL ENGINEERING

ME-401. APPLIED ENGINEERING ANALYSIS
Credits: 3

This course is intended for physical science and engineering students. Topics include inner product spaces, operator algebra, eigenvalue problems, Fourier series, Sturm-Liouville theory, and partial differential equations. Cross list MTH-461

ME-402. ENGINEERING COMPUTATIONAL ANALYSIS
Credits: 3

This course introduces applications of Matrix algebra (Review only), solution of linear simultaneous equations , solving linear system of equations by iteration methods , roots of algebraic and transcendental equations , interpolation, methods of finding polynomial roots , Eigen values & eigenvectors, numerical integration, numerical differentiation, numerical solution of initial value problems, boundary value problems.

ME-411. PRODUCT DEVELOPMENT
Credits: 3

This course introduces organizational issues and decision-making for capital investments in new technologies. The commercialization process is traced from research and development and marketing activities through the implementation phase involving the manufacturing function. Term project is a commercialization plan for a new manufacturing technology.

ME-418. QUALITY CONTROL ENGINEERING
Credits: 3

This course addresses quality control in the manufacturing environment, statistical methods used in quality assurance, statistical process control.

ME-425. ENERGY SYSTEMS
Credits: 3

This course introduces fundamental principles of energy transmission and energy conversion. Comprehension of the physical systems in which the conversion of energy is accomplished. Primary factors necessary in the design and performance analysis of energy systems three credits.

ME-427. TRANSPORT PHENOMENA
Credits: 3

This course introduces theory and applications of heat, mass, and momentum transport. The fluid dynamics topics such as conservation laws, laminar and turbulent flow, Navier Stokes equations of motion and other related topics will be covered. Topics include free and forced convection, boiling and condensation, and the analogy between heat and mass transport. Practical problems of engineering applications in different areas will be discussed.

ME-432. VIBRATION OF DYNAMIC SYSTEMS
Credits: 3
Fees: $100

This course is an introductory course in mechanical vibration dealing with free and forced vibration of single and multi-degree of freedom for linear systems.

ME-436. SOLID MECHANICS
Credits: 3

This course is an introduction to continuum mechanics, variational methods, including vectors and tensors, state of stress and compatibility equation, plain stress and strain. Energy Principles and virtual work will be discussed.

ME-438. MACHINE DESIGN
Credits: 3

This course introduces design of machine elements and deals with theories of deformation, failure, and fatigue A study of shaft design, fasteners, welds, gears, balled roller bearings, belts, chains, clutches, and brakes.

ME-439. CLASSICAL MECHANICS
Credits: 3

This course is an introduction to classical mechanics. Topics covered include: Newtonian mechanics, oscillations, Lagrangian and Hamilton's principle, Dynamics of a systems of particles and rigid bodies.

ME-442. MATERIAL SCIENCE
Credits: 3

This course introduces advance materials for engineers, emphasizing the fundamentals of manufacturing/structure/property/function relation and applications. Topics include materials selection for machine design components in micro and nano-scales, biomaterials, nano-composites, and optimized materials for nano-sensors & actuator systems.

ME-451. MECHATRONICS
Credits: 3

This course is a multidiscipline technical area defined as the synergistic integration of mechanical engineering with electronic and intelligent computer control in the design and manufacture of industrial products and processes. This course covers topics such as actuators and drive systems, sensors, programmable controllers, microcontroller programming and interfacing, and automation systems integration.

ME-452. NANO-TECHNOLOGY
Credits: 3

This course explores the fundamentals of Nanotechnology and its applications for colloidal suspension, Electrophoretic deposition and nano sensing by understanding materials properties, micro-machining, sensor and actuator principles. Two hours lecture and three hours lab per week.

ME-454. CONTROL SYSTEMS
Credits: 3

Laplace transforms and matrices. Mathematical modeling of physical systems. Block diagram and signal flow graph representation. Time-domain performance specifications. Stability analysis; Routh-Hurwitz criterion. Steady state error analysis. Root-locus and frequency response techniques. Design and compensation of feedback systems. Introductory State space analysis.

ME-498. ADVANCED TOPICS IN MECHANICAL ENGINEERING
Credits: 1-3

This course includes selected topics in the field of mechanical engineering. These may include one or more of the following: control systems, automation, robotics, manufacturing systems, solid mechanics, energy systems, fluid flow, acoustics, computer systems, bio-mechanics.

ME-501. GRADUATE EDUCATION CONTINUUM
Credits: 1-9

Recorded with grade for one credit-hour. Occurs as a continuum bases till successful completion of thesis or project.

ME-599. THESIS/PROJECT
Credits: 3-6

Students have the option of selecting up to six credits- hours of thesis or three credit hour of project under guidance of a thesis/project advisor. The thesis will have a committee of three members; at least two members (including the adviser) must be Wilkes faculty members. The thesis/project should be presented in an open forum.

NSG. NURSING

NSG-608 A and B. SCHOLARLY PROJECT
Credits: 6

Completed over the last 2 semesters of the DNP program.

In this capstone course, the student, under the guidance of a selected faculty member, will analyze and synthesize theoretical and empirical research relevant to a clinical practice issue. Students will design a comprehensive and holistic approach to this problem using evidence-based presentation. This course provides opportunity for additional clinical practice needed for the development of advanced nursing practice competencies. Required clinical hours for DNP clinical competency are dependent upon educational / clinical background. This could vary from 500 to 1000 hours.

Pre-Requisites

NSG-600, NSG-601, NSG-602, NSG-603, NSG-604, NSG-605, NSG-606 and NSG-607

Co-Requisites

At the discretion of the Chair, Graduate Nursing Program.

NSG-290. TRANSITION TO BACCALAUREATE NURSING
Credits: 7 (6 credits theory, 1 credit clinical)

This course is designed to facilitate the transition of RN students from other educational routes to baccalaureate education and professional nursing practice. The course focuses on the integration of knowledge, skills, and attitudes in the development of the professional role to enhance quality outcomes for individuals, families, and populations across all healthcare settings and in complex healthcare environments.

NSG-347. LEADERSHIP AND MANAGEMENT PRACTICUM
Credits: 3 (2 credits theory, 1 credit clinical)

This course prepares the RN to BSN or RN to MSN student for professional role development in emerging health care delivery systems. The student synthesizes knowledge from previous nursing and supportive courses to manage care in an area of clinical practice consistent with career goals.

NSG-500. ADVANCED HEALTH ASSESSMENT
Credits: 3

This course presents an overview of the full and comprehensive health assessment of patients across the life span. Emphasis on multiple aspects of assessment including physical, functional, and mental health assessment along with transcultural variations, will prepare the student for advanced nursing practice. (Nurse Practitioner students are required to complete an onsite residency.)

NSG-501. THEORETICAL FOUNDATIONS OF NURSING SCIENCE
Credits: 3

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.

NSG-502. ADVANCED NURSING RESEARCH
Credits: 3

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.

NSG-504. ADVANCED ROLE DEVELOPMENT IN NURSING
Credits: 3

This course examines the development of roles for advancing nursing practice. The historical development of these roles along with current scope of practice in a variety of clinical settings will be explored. Focus will be placed on the legal, historical, political, social, and ethical aspects of advanced practice nursing.

NSG-505. HEALTH POLICY AND POLITICS FOR ADVANCING NURSING PRACTICE
Credits: 3

Complex and continuous changes in healthcare environments require that nursing professionals contribute to care delivery systems for improving population health outcomes. This course focuses on the role of the nurse advancing nursing practice through developing health policy, politics, and advocacy systems. Approaches to health issues for shaping policy on a local, state and federal level are analyzed in accordance with policy making processes, politics in healthcare and government, healthcare economics, and ethical frameworks.

NSG-506. ADVANCED PRACTICE IN ADULT GERONTOLOGY CLINICAL I
Credits: 3

Advance practice nursing students integrate theories from nursing and other sciences that are evidence-based and sensitive to cultural and ethical issues. Promoting quality outcomes in the adult-gerontology population across the spectrum of young adults, adults, and older adults is the focus of this clinical experience in primary care settings. Advanced health assessment, diagnostic reasoning, and development of therapeutic interventions for self-limiting conditions occurs. Opportunities for interdisciplinary experience and collaborative practice are provided. The seminar component of the course is designed to develop critical-thinking and clinical decision-making skills through case presentations. (Seminar, Residency and 250 clinical practice hours).

Pre-Requisites
NSG-550

NSG-515. ADVANCED PRACTICE IN ADULT GERONTOLOGY CLINICAL II
Credits: 3

Advanced Practice nursing students integrate theories from nursing and other sciences that are evidence-based and sensitive to cultural and ethical issues. Promoting quality outcomes in the adult and gerontology population across the spectrum of young adults, adults, and older adults is the focus of this clinical experience in primary care settings. Advanced health assessment, diagnostic reasoning and development of therapeutic interventions for complex health conditions occurs. Opportunities for interdisciplinary experience and collaborative practice are provided. The seminar component of the course is designed to develop critical-thinking and clinical decision-making skills through case presentations. (Seminar, Residency and 250 clinical practice hours)

Pre-Requisites
NSG-550

NSG-526. CLINICAL MODALITIES IN ADVANCED PSYCHIATRIC MENTAL HEALTH NURSING PRACTICE
Credits: 3

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.

Pre-Requisites
NSG-550, NSG-552

NSG-527. PSYCHOPATHOLOGY, THEORIES, AND ADVANCED CLINICAL MODALITIES
Credits: 3

This course focuses on the most frequently observed pathologies in psychiatry and mental health, the various conceptual models and theories related to the practice of psychiatric mental health nursing, and the most advanced clinical modalities congruent with the analysis of the best evidence.

Pre-Requisites
NSG-550, NSG-552

NSG-530. ADVANCED PATHOPHYSIOLOGY
Credits: 3

This course provides an overview of the normal physiologic and pathologic mechanisms of disease and serves as one primary component of the foundation for clinical assessment, decision-making, and management. The course will prepare the advanced practice nurse for interpreting changes in normal function that results in symptoms indicative of illness in patients across the lifespan.

NSG-533. ADVANCED PHARMACOLOGY
Credits: 3

This course provides the basic principles of pharmacodynamics, pharmacokinetics, and pharmacotherapeutics for broad categories of drugs. Purpose of action, common interactions and contraindications of major drug categories are highlighted. Case studies are integrated to provide students the opportunity to demonstrate application of pharmacological theory in advancing nursing practice.

NSG-535. ADVANCED PRACTICE IN PSYCHIATRIC/ MENTAL HEALTH NURSING I
Credits: 3

This foundational clinical course introduces students to advanced practice psychiatric nursing in a variety of mental health settings. Students acquire skills in completing comprehensive mental health assessments. Students identify and apply concepts, theories, and principles to the practice of individual, family, and group psychotherapy, with emphasis on process dynamics. Considerations and challenges in providing psychotherapy to culturally diverse individuals, families, and groups are explored and discussed. Skills are gained in assessing psychopathological symptoms across the lifespan and in implementing planned interventions. Students integrate theory and practice of the advanced practice psychiatric nurse in a supervised clinical practicum (Total: Residency and 250 practice hours).

Pre-Requisites

NSG-550, NSG-552

NSG-536. ADVANCED PRACTICE IN PSYCHIATRIC/ MENTAL HEALTH NURSING II
Credits: 3

This clinical course focuses on refining assessment, diagnosis, and pharmacological and psychosocial management of individuals of all ages with mental illness. Individual, family, and group psychotherapies are refined. Students gain skills in identifying individuals/populations at risk for mental illness and primary prevention in mental health. Mental health needs of culturally diverse, rural, and underserved populations are explored. Leadership and advocacy roles of the advanced practice psychiatric nurse as an agent of healthcare policy change are emphasized. Students integrate theory and practice of the advanced practice psychiatric nurse in a supervised clinical practicum (Total: Residency and 250 practice hours).

Pre-Requisites

NSG-550, NSG-552

NSG-540. THE NURSING CURRICULUM: DEVELOPMENT AND IMPLEMENTATION
Credits: 3

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.

NSG-541. TEACHING METHODOLOGIES AND STRATEGIES IN NURSING
Credits: 3

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.

NSG-542. EVALUATION IN NURSING EDUCATION
Credits: 3

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.

NSG-544. CLASSROOM PRACTICUM IN NURSING EDUCATION
Credits: 3

This practicum provides the student an opportunity to actively participate in a faculty or staff development role within an educational setting. The student is required to obtain a mentor who will provide classroom learning experiences. (100 practicum hours required).

Pre-Requisites

NSG-540, NSG-541, NSG-542

NSG-545. CLINICAL PRACTICUM IN NURSING EDUCATION
Credits: 3

This practicum provides the student an opportunity to actively participate in a faculty or staff development role within an educational setting. The student is required to obtain a mentor who will provide teaching learning experiences within a clinical environment. (100 practicum hours required).

Pre-Requisites

NSG-544

NSG-550. DIAGNOSTIC REASONING FOR NURSE PRACTITIONERS
Credits: 2

The nurse practitioner will develop processes for formulating differential diagnoses of acute and chronic physical and mental illnesses in the primary care setting across the life span. A case-study approach is integrated to prepare students for management of health status of patients through the implementation of strategies specific to the synthesis of data from multiple sources that promote quality of care outcomes for patients.

Pre-Requisites

NSG-500, NSG-530, NSG-533.

NSG-551. MENTAL HEALTH PERSPECTIVES OF CULTURALLY DIVERSE, RURAL, AND UNDERSERVED POPULATIONS
Credits: 2

This course is designed to examine the mental health perspectives of culturally diverse, rural, and underserved populations. Topics include, but are not limited to: cultural competence, cultural bound syndromes, cultural assessment, challenges faced by PMH-NPs in the mental health care of minorities, immigrants, refugees, and other underserved populations, and factors influencing mental health care and services in rural settings. In addition, this course will examine how health care reform will affect diverse individuals with mental illnesses. Knowledge gained from this course can be integrated into clinical practice.

NSG-552. PSYCHOPHARMACOLOGY
Credits: 2

This course is designed to assist the P-MH nurse practitioner to develop competence in prescribing and monitoring psychopharmacological agents used in the treatment of common psychiatric-mental health disorders across the lifespan. This course will examine the major classes of psychopharmacological agents on neurobiological function with a particular emphasis on the clinical management of target psychiatric symptoms. Drugs of abuse, side effects, issues of polypharmacy, and management of advanced practice prescriptive privileges are also explored.

Pre-Requisites

NSG-533

NSG-553. ADULT HEALTH PERSPECTIVES OF CULTURALLY DIVERSE, RURAL, AND UNDERSERVED POPULATIONS
Credits: 2

The course is designed to introduce the advanced practice nursing student to the issues of culturally diverse, rural and underserved populations. The theory can be integrated into clinical practice for adult-gerontology patients and families to promote understanding of differences and issues that impact comprehensive planning of health care services.

NSG-554. NURSE PRACTITIONERS IN PRIMARY CARE I
Credits: 3

This course is designed to prepare primary care nurse practitioner students to provide primary health care to the adult and older adult population during wellness and acute/episodic illness. The course integrates nursing theories that are evidence-based with health assessment and diagnostic reasoning of acute/episodic primary care health problems. Health promotion, protection and disease prevention interventions are provided with consideration of culturally diverse populations.

Pre-Requisites

NSG-550

NSG-555. NURSE PRACTITIONERS IN PRIMARY CARE II
Credits: 3

This course is designed to prepare primary care nurse practitioner students to provide chronic primary health care to the adult and older adult population. The course integrates nursing theories that are evidence-based with health assessment and diagnostic reasoning of chronic, primary health care problems. Health promotion, protection and disease prevention interventions are provided with consideration of culturally diverse populations.

Pre-Requisites

NSG-550

NSG-560. HEALTHCARE OPERATIONS FOR THE NURSE EXECUTIVE
Credits: 3

This course prepares the nursing executive by examining the multiple administrative areas necessary for success at an executive level. The differences between US health care policy and the health care policies of various other countries will be explored. An analysis of select health care administration topics through the use of both individual and collaborative learning will prepare students to succeed in an ever-expanding, constantly changing health care environment.

NSG-561. ORGANIZATIONAL LEADERSHIP FOR THE NURSE EXECUTIVE
Credits: 3

This course examines the executive level leadership skills necessary to excel within the rapidly changing health care environment of the future. Emphasis is placed on understanding how the individualized leadership styles of today's health care executives shape the culture and vision of the organizations of tomorrow. This course also provides an in-depth analysis of how building an autonomous, ethical, and diverse leadership team and workforce assists the executive in developing solutions to complex organizational problems.

Pre-Requisites

NSG-560

Co-Requisites

Taken concurrently with NSG 563 for the first eight weeks.

NSG-562. ADVANCED LEADERSHIP TOPICS FOR THE NURSE EXECUTIVE
Credits: 3

This course synthesizes previously established theory and skill sets to explore select advanced topics in heath care leadership. The issues explored will assist the executive nurse in leading a health care organization during times of crisis or conflict as well as prosperity. Emphasis is placed on understanding health care as an intricate, dynamic organism which is in continual need of attention.

Pre-Requisites

NSG-561

Co-Requisites

Taken concurrently with NSG 564 for the first eight weeks.

NSG-563. NURSE EXECUTIVE PRACTICUM I
Credits: 3

This practicum course synthesizes previously established theory and skill sets to further develop the student's administrative abilities. By applying theories from other sciences and utilizing interdisciplinary experiences and collaborative opportunities, the student will further enhance the skills necessary to excel as a health care executive in an evidence-based, culturally sensitive environment. The seminar component of this course is designed to supplement previous theoretical applications and stimulate critical-thinking and decision-making. (250 clinical hours)

Pre-Requisites

NSG-560

Co-Requisites

This 16-week course is taken concurrently with NSG 561 for the first eight weeks.

NSG-564. NURSE EXECUTIVE PRACTICUM II
Credits: 3

This practicum course synthesizes previously established theory and skill sets to further develop the student's leadership abilities. By applying theories from other sciences and utilizing interdisciplinary experiences and collaborative opportunities, the student will further enhance the skills necessary to excel as a health care executive in an evidence-based, culturally sensitive environment. The completion of an organizational needs assessment within this course is designed to supplement previous theoretical applications and stimulate critical-thinking and decision-making. (250 clinical hours)

Pre-Requisites

NSG-561

Co-Requisites

This 16-week course is taken concurrently with NSG 562 for the first eight weeks.

NSG-565. FOUNDATIONS OF NURSING INFORMATICS
Credits: 3

Students are introduced to the role, scope, and standards which form the foundation for nursing informatics practice. The theoretical basis of the course incorporates both knowledge of nursing practice and health informatics. Students will explore the framework of data, information, knowledge, and wisdom to data application in healthcare for improving patient care.

NSG-566. DATA MANAGEMENT IN HEALTHCARE
Credits: 3

Database application in nursing and healthcare systems will be examined in this course. Students will learn database design, implementation, and management to support clinical decision making in nursing and healthcare project design and management.

NSG-567. NURSING INFORMATICS LEADERSHIP IN HEALTHCARE SYSTEMS AND PROJECT DESIGNS
Credits: 3

In this course students will explore the role of the informatics nurse specialist as nurse leader who combines knowledge of nursing practice and technology on healthcare teams. Theory and skills on performing system analysis and implementation of the systems design life cycle in project management.

NSG-568. NURSING INFORMATICS PRACTICUM I
Credits: 3

This course requires students to perform in the role of an informatics nurse specialist in a healthcare organization. In collaboration with a preceptor students will apply nursing informatics theory and models in developing a project which improves the quality of nursing care delivered in a healthcare setting. (Clinical Practicum Hours: 100)

Pre-Requisites
NSG-565, NSG-566, NSG-567

NSG-569. NURSING INFORMATICS PRACTICUM II
Credits: 3

This course requires students to perform in the role of an informatics nurse specialist in a healthcare organization. In collaboration with a preceptor students will apply nursing informatics theory and models to implement the project planned in NSG 568, which improves the quality of nursing care delivered in a healthcare setting. (Clinical Practicum Hours: 100)

Pre-Requisites
NSG-568

NSG-590. SCHOLARLY REVIEW
Credits: 3 (or 1 credit of national board certification preparation)

In this course the student will synthesize and review issues relevant to their specialty clinical practice. This course is designed as a review of the required masters level core nursing courses and specialty focused curriculum for advanced nursing practice. This course will provide an overview of both the required core nursing courses as well as each specific specialty course.

Students in the post graduate/APRN certificate programs can take this course for 1 credit of national board certification preparation.

Pre-Requisites
Completion of Graduate Nursing Core and Concentration courses.

NSG-600. NURSING INFORMATICS
Credits: 3

Students use information systems to analyze patient data, perform research, and evaluate project outcomes. The course will include applications in computer-based patient records, data-base management systems, e-health, distance education, and research. Legal and ethical issues associated with computer use are examined.

NSG-601. BIOSTATISTICS
Credits: 3

Statistics is the science whereby inferences are made about specific random phenomena on the basis of relatively limited sample material. It is widely used in biological, health, and social sciences, etc. Biostatistics is the branch of applied statistics that applies statistical methods to medical and biological problems.

NSG-602. ETHICAL PRINCIPLES FOR ADVANCED NURSING PRACTICE
Credits: 3

This course will analyze a broad range of ethical principles that impact the health professions, from euthanasia and abortion to informed consent and behavior control. Examination of the ethical, moral, and legal obligations within selected decision-making frameworks will be completed. Strategies to assist in the resolution of ethical dilemmas will be developed through the application of selected theories and concepts. Interaction between ethical, legal, and political events that affect advanced practice nursing will be explored.

NSG-603. APPLICATION OF NURSING RESEARCH
Credits: 3

This course analyzes research methods to appraise research literature for application to practice and evaluate practice outcomes in varied settings. Application of relevant research findings are used to generate practice guidelines, design evidence based interventions and examine patterns and predict outcomes. The collaborative role of the DNP in research is discussed.

Pre-Requisites
NSG-601

NSG-604. EPIDEMIOLOGY AND ENVIRONMENTAL HEALTH
Credits: 3

The purpose of this course is to examine the concepts and methods of epidemiological and environmental health analysis and their application to advanced nursing practice. The student will be able to integrate this knowledge into nursing practice in a variety of health care settings through research, program development, health policy and advocacy.

NSG-605. COLLABORATION IN HEALTH CARE DELIVERY
Credits: 3

This course focused on the knowledge and skills needed to promote collaboration with all members of the interdisciplinary health care team. Content will include exploration of the design, implementation, and evaluation of programs and policies for effective health care delivery.

NSG-606. DIVERSITY AND SOCIAL ISSUES
Credits: 3

This course focuses on cultural and social issues affecting members of a global society. A critical appraisal of health care disparities is emphasized and strategies for quality improvement are analyzed.

NSG-607. LEADERSHIP IN ADVANCED NURSING PRACTICE
Credits: 3

This course provides an opportunity for students to analyze theories of leadership and management as they relate to the multifaceted role in advanced nursing practice. The health care environment, with its ongoing changes in organization and financing, is impacted upon 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.

NSG-609. DNP PROGRAM PRACTICUM I
Credits: 2

This course provides students pursuing a Doctor of Nursing Practice degree the opportunity for achieving additional clinical hours as required for meeting program outcomes. The focus will be on preparing students as experts in a specific area for advancing nursing practice, for the final scholarly project. The student will develop a PICO statement for the scholarly project which will guide this intense practice immersion experience. The student will collaborate with an identified clinical mentor. (Elective; Clinical hours total: 150 hours/ 8 weeks/2 credits)

Pre-Requisites
NSG-600, NSG-601, NSG-602, NSG-603

NSG-610. DNP PROGRAM PRACTICUM II
Credits: 2

This course provides students pursuing a Doctor of Nursing Practice degree the opportunity for achieving additional clinical hours as required for meeting program outcomes. The focus is on preparing students as experts in a specific area for advancing nursing practice, for the final scholarly project. The student will begin to bridge knowledge gained from the intense practice immersion experience through application to a scholarly project implementation plan. The student will collaborate with an identified clinical mentor. (Elective; Clinical hours total: 150 hours/ 8 weeks/2 credits)

Pre-Requisites
NSG-609

PHA. PHA

PHA-453-456. NUCLEAR PHARMACY I & II
Credits: 3 each

The scientific principles relating to Nuclear Pharmacy will be discussed. Topics include radioactive decay, the interaction of radiation with matter, production of radionucleotides radiation biology, instrumentation, health physics, radiation dosimetry, and laws and regulations. Radiopharmaceutical manufacturing and medical imaging will be introduced. Three hours per week of discussion, laboratory, or recitation.

Pre-Requisites
P-2 or P-3 standing or consent of the instructor.

PHA-421,. 423, 425, 426, 428, 430, 521, 523, 525, 526, 528 & 530 PHARMACOTHERAPEUTIC MODULES
Credits: 2 - 4

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.

Pre-Requisites
*PHA 423 is prerequisite to PHA 425-530.

PHA-395-396, 495-496, 595-596. INDEPENDENT STUDY
Credits: 1-6

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

Pre-Requisites
Approval of the department chairperson.

PHA-301. & PHA 304 FOUNDATIONS OF PHARMACY PRACTICE
Credits: 2

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.

Pre-Requisites
P-I standing.

PHA-308. PHARMACEUTICAL AND HEALTH CARE DELIVERY
Credits: 3

Examination of health and pharmaceutical delivery in the U.S. conducted from a societal perspective. Emphasis is on public policy, economic behavior and outcomes. Application will be made to various pharmaceutical sectors (e.g., retail, health systems, manufacturing). Students should gain an understanding of the factors driving transformation of health care delivery and the implications for future pharmacy practice. Lecture: Three hours per week.

Pre-Requisites
P-I standing or consent of the instructor.

PHA-310. CLINICAL RESEARCH AND DESIGN
Credits: 3

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.

Pre-Requisites
MTH-150 or equivalent, P-1 standing or consent of the instructor.

PHA-311. & PHA 312 PHARMACEUTICS I & II
Credits: 4

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.

Pre-Requisites

P-1 standing or consent of the instructor. PHA-311 is a prerequisite for PHA-312.

PHA-313. PHARMACY CALCULATIONS
Credits: 1

The common mathematical processes that a pharmacist may encounter in professional practice are covered. Interpretation of the prescription, including Latin abbreviations, will be discussed. Medical terminology and the generic name, trade name, manufacturer and classification of the top 100 drugs will also be presented. Lecture one hour per week.

Pre-Requisites

P-1 standing or consent of the instructor.

PHA-327. MEDICAL MICROBIOLOGY
Credits: 4

An overview of microbiology with special emphasis on pathogenic microbiology. Lecture: Three hours per week. Laboratory: Three hours per week. Cross listed with BIO-327

Pre-Requisites

P-1 standing or consent of the instructor.

PHA-331. & PHA 332 MEDICAL ANATOMY & PHYSIOLOGY I & II
Credits: 4

In-depth principles of human anatomy and physiology as well as an introduction to pathophysiology will be presented. Lecture: Two hours per week. Laboratory/Recitation: Three hours per week. Discussion/Recitation: two hours per week.

Pre-Requisites

P-1 standing or consent of the instructor. PHA-331 is a prerequisite for PHA-332.

PHA-335. INTRODUCTORY PHARMACY EXPERIENCE (IPPE)
Credits: 2

This course will provide introductory practice experience to students in the community setting. The course fosters the development of professionalism in an environment of practical application of knowledge, skills, and attitudes. Students will be faced with a variety of issues practical to community pharmacy. The student will take an independent learning approach under the supervision of a practicing community pharmacist. The course is two full-time weeks (80 hours) of experience.

Pre-Requisites

Successful completion of P-1 year.

PHA-365. MEDICAL BIOCHEMISTRY
Credits: 4

Introduction to basic biochemistry concepts, focusing on the structure and function of vitamins, proteins, and lipids as well as bioenergetics and major catabolic pathways. The catabolism of carbohydrates, fats and amino acids will be discussed including reactions and regulation. Common metabolic pathways of drugs, enzyme induction and metabolism down regulation will also be presented. Lecture: Four hours per week. (Cross-listed with CHM-365).

Pre-Requisites

P-1 standing or consent of instructor.

PHA-405. PHARMACEUTICAL CARE SYSTEMS: DESIGN & CONTROL
Credits: 2

Examines delivery of pharmaceutical products and services from a systems perspective in a variety of patient care settings. Focus is upon effectiveness, efficiency and quality. Covers design of systems, establishment and monitoring of key indicators, total quality management and quality assurance agencies (e.g., JCAHO, NCQA). Lecture: Two hours per week.

PHA-410. IMMUNOLOGY/BIOTECHNOLOGY
Credits: 3

A discussion of nonspecific host defense mechanisms and a detailed description of specific immunity. Products that impart artificial active and passive immunity are presented. The concept of biotechnology is discussed together with the currently available products of genetic engineering that relate to immunology. The various immunological disorders and the immunology of cancer and HIV are discussed. Lecture: Three hours per week.

Pre-Requisites

PHA-331, 332, 365 or consent of the instructor.

PHA-411. BIOPHARMACEUTICS & CLINICAL PHARMACOKINETICS
Credits: 4

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.

Pre-Requisites

PHA-311, PHA-312 or consent of the instructor.

PHA-412. MANAGEMENT OF PHARMACY OPERATIONS
Credits: 3

The principles of management, including personnel and financial management, will be covered as they apply to management of pharmacy operations in a variety of settings (e.g., community, health system, managed care). Lecture: Three hours per week.

Pre-Requisites

PHA-308 or consent of the instructor.

PHA-421. PHARMACOTHERAPEUTICS I: PRINCIPLES OF PHARMACOLOGY & MEDICINAL CHEMISTRY
Credits: 2

PHA-423. PHARMACOTHERAPEUTICS II: PRINCIPLES OF PHARMACOTHERAPEUTICS
Credits: 2

Pre-Requisites

PHA-421.

PHA-425. PHARMACOTHERAPEUTICS III: SELF-CARE AND DERMATOLOGY*
Credits: 3

Three Credits

PHA-426. PHARMACOTHERAPEUTICS IV: GASTROINTESTINAL DISORDERS*
Credits: 2

Two Credits

PHA-428. PHARMACOTHERAPEUTICS V: INFECTIOUS DISEASES*
Credits: 4

Four Credits

PHA-430. PHARMACOTHERAPEUTICS VI: HEMATOLOGY, JOINT DISORDERS, SURGERY*
Credits: 2

Two Credits

PHA-440. INTRODUCTORY PHARMACY PRACTICE EXPERIENCE II
Credits: once

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.

Pre-Requisites

P-2 standing.

PHA-445. INTRODUCTORY PHARMACY PRACTICE EXPERIENCE III
Credits: 2

This course will provide introductory practice experience to students in the health-system setting. The course fosters the development of professionalism in an environment of practical application of knowledge, skills, and attitudes. Students will be faced with a variety of issues practical to this area of practice. The student will take an independent learning approach under the supervision of a practicing pharmacist. The course is two full-time weeks (80 hours) of experience.

Pre-Requisites

Successful completion of P-2 year.

PHA-450. NEUROPHARMACOLOGY OF DRUGS OF ABUSE
Credits: 3

In-depth analysis of drugs of abuse, including pharmacokinetics, pharmacodynamics, tolerance, sensitization, physical dependence, and effects of drug use during pregnancy. Drug testing and substance abuse treatment strategies will also be discussed. Lecture: Three hours.

Pre-Requisites

PHA-421 or consent of the instructor.

PHA-452. EXTEMPORANEOUS COMPOUNDING
Credits: 3

Students will achieve basic and advanced skills in compounding pharmaceutical dosage forms for individualized patient therapy to replace a lack of commercially available products, and enhance therapeutic problem-solving between the pharmacist and physician to enhance patient compliance. Students will work independently on research assignments and compounding preparations. Lecture one hour, laboratory six hours per week.

Pre-Requisites

PHA-311 and PHA-312 or consent of the instructor.

PHA-498. PHARMACY INFORMATICS
Credits: 2

Pharmacy Informatics is concerned with the use of technology to improve patient care as well as increasing patient safety. Informatics deals with data generated by software used in patient care, not only the storage of data but also the retrieval of data as meaningful clinical reports. Lecture: two hours per week.

Pre-Requisites

P-2 standing or consent of the instructor.

PHA-503. AND PHA 504 LONGITUDINAL CARE LAB I & II
Credits: 1

Students will follow a patient or patients over an extended period of time in a medical or home setting. Pharmaceutical knowledge and skills will be applied in communications, health assessment, monitoring 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.

Pre-Requisites

PHA-503 is prerequisite to PHA-504.

PHA-505. PHARMACY LAW
Credits: 2

The study of federal and state statutes, regulations and court decisions which control the practice of pharmacy and drug distribution. Civil liability in pharmacy practice and elements of business and contract law will be covered. Lecture: Two hours per week.

PHA-509. ECONOMIC EVALUATION OF PHARMACEUTICAL PRODUCTS & SERVICES
Credits: 3

Introduction to commonly used economic evaluation methods (e.g., cost-minimization, cost-utility, cost-benefit, cost-effectiveness) as applied to pharmaceutical products and services. Quality of life and outcomes research will also be explored. Emphasis is on understanding evaluation methods and research design and interpreting the relevant literature for practice applications. Lecture: Three hours per week.

Pre-Requisites

PHA-308 and PHA-310 or consent of the instructor.

PHA-510. GENERAL MEDICINE ADVANCED PHARMACY PRACTICE EXPERIENCE
Credits: 5-6

Integration of basic pharmacy related concepts to the delivery of pharmaceutical care in general medicine practice. Clinical practice: Forty hours per week for a total of five weeks.

Pre-Requisites

P-4 standing.

PHA-511. AMBULATORY CARE ADVANCED PHARMACY PRACTICE EXPERIENCE
Credits: 5-6

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 five weeks.

Pre-Requisites

P-4 standing.

PHA-512. COMMUNITY ADVANCED PHARMACY PRACTICE EXPERIENCE
Credits: 5-6

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 five weeks.

Pre-Requisites

P-4 standing.

PHA-513. HEALTH SYSTEM ADVANCED PHARMACY PRACTICE EXPERIENCE
Credits: 5-6

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 weeks.

Pre-Requisites

P-4 standing.

PHA-521. PHARMACOTHERAPEUTICS VII: PULMONARY DISORDERS*
Credits: 2

Two Credits

PHA-523. PHARMACOTHERAPEUTICS VIII: CARDIOVASCULAR DISORDERS*
Credits: 4

Four Credits

PHA-525. PHARMACOTHERAPEUTICS IX: RENAL DISORDERS*
Credits: 2

Two Credits

PHA-526. PHARMACOTHERAPEUTICS X: ENDOCRINE DISORDERS & WOMEN'S HEALTH ISSUES*
Credits: 2

Two Credits

PHA-528. PHARMACOTHERAPEUTICS XI: NEOPLASTIC DISEASES*
Credits: 2

Two Credits

PHA-530. PHARMACOTHERAPEUTICS XII: CENTRAL NERVOUS SYSTEM DISORDERS*
Credits: 4

*PHA 423 is prerequisite to PHA-425-530.

PHA-532. ALTERNATIVE MEDICINE AND NUTRITION
Credits: 3

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.

Pre-Requisites

PHA-331, 332, 365 or consent of the instructor.

PHA-534. INTRODUCTION TO HOSPITAL PHARMACY PRACTICE
Credits: 2

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. Lecture two hours per week.

Pre-Requisites

P-2 or P-3 standing or consent of the instructor.

PHA-536. PRINCIPLES OF ADVANCED COMMUNITY PHARMACY MANAGEMENT
Credits: 2

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. Lecture two hours per week.

Pre-Requisites

P-2 or P-3 standing or consent of the instructor.

PHA-538. PEDIATRIC PHARMOCOTHERAPY
Credits: 2

This course is designed to expand the student's current knowledge base regarding the pediatric population and to introduce the core concepts involved in the care of this special population. The course prepares students to identify and address drug-related problems in pediatric patients and to demonstrate competency within those areas. This will be accomplished by completion of case scenarios, actual patient presentations, and a take-home examination. An on-site visit to the Children's Hospital of Philadelphia (CHOP) is required. Lecture two hours per week.

Pre-Requisites

P-3 standing

PHA-540. COMPREHENSIVE DIABETES MANAGEMENT
Credits: 2

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. Lecture two hours per week.

Pre-Requisites

P-3 standing or consent of the instructor.

PHA-550. PRINCIPLES OF EXPERIMENTAL PHARMACOLOGY
Credits: 3

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. Lecture and laboratory times to be determined by the instructor.

PHA-551. VETERINARY PRODUCTS
Credits: 3

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. Lecture three hours per week.

Pre-Requisites

PHA-424 and 426.

PHA-552. PRINCIPLES OF BIOORGANIC AND MEDICINAL CHEMISTRY
Credits: 3

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. Lecture three hours per week.

Pre-Requisites

CHEM 231-232, PHA-327, 365.

PHA-555. INTRODUCTORY PHARMACY PRACTICE EXPERIENCE
Credits: 0.5

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.

Pre-Requisites

P-3 standing.

PHA-560. INTRODUCTORY PHARMACY PRACTICE EXPERIENCE
Credits: 0.5

The Self-Directed Introductory Pharmacy Practice Experience (SD-IPPE) course is designed to expose students to various service-learning opportunities throughout their P1 through P3 years. This experience consists of 3 components: participation in and development of service-learning projects, reflection, and self-directed learning. Students may develop their own experiences or participate in opportunities offered by the School or professional organizations.
Requirements for service-learning hours will increase as the student progresses through the curriculum. Each student must complete a minimum of 2, 8, and 10 hours during the P1, P2, and P3 years, respectively (total 20 hours). Additional details are provided in the SDIPPE syllabus conveniently posted in e*value.

PHA-599. A, B, C ELECTIVE ADVANCED PHARMACY PRACTICE EXPERIENCE ROTATIONS
Credits: 5-6

Advanced pharmacy practice experience involved in different aspects of pharmaceutical care. (Courses to be determined.) Clinical practice 40 hours per week for a total of five weeks.

Pre-Requisites

P-4 standing.

SBL. SBL

SBL-501. PUBLIC RELATIONS AND SCHOOL COMMUNICATIONS
Credits: 3

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.

SBL-502. SCHOOL FACILITY MANAGEMENT
Credits: 3

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.

SBL-503. FINANCIAL OPERATIONS OF SCHOOL DISTRICTS
Credits: 3

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.

SBL-504. FINANCIAL PLANNING AND MANAGEMENT FOR SCHOOL BUSINESS
Credits: 3

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 online component of authentic simulations and/or field experience in applying the fundamental concepts of school financial planning and management.

SBL-505. HUMAN RESOURCES IN EDUCATION
Credits: 3

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.

SBL-506. MATERIALS MANAGEMENT IN SCHOOLS
Credits: 3

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.

SBL-507. INFORMATION TECHNOLOGY IN EDUCATION
Credits: 3

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.

SBL-508. STUDENT TRANSPORTATION
Credits: 3

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.

SBL-509. FOOD SERVICE IN EDUCATION
Credits: 3

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.

SBL-510. LEADERSHIP FOR SCHOOL BUSINESS
Credits: 3

This capstone 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. (Taken in the last semester of SBL program coursework. Department permission required.)

EDSP. SPECIAL EDUCATION

EDSP-501. SPECIAL EDUCATION METHODOLOGY I WITH FIELD EXPERIENCE
Credits: 3

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 20 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
Credits: 3

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 20 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
Credits: 3

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 20 hour field experience component facilitates direct interaction with special needs learners, supplemented by cooperative discussions of experiential applications to course content.

EDSP-504. ASSESSMENT IN SPECIAL EDUCATION
Credits: 3

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. EFFECTIVE PRACTICES IN SPECIAL EDUCATION
Credits: 3

This course focuses on models of effective, research-based special education teaching practices in literacy and content areas as well as universal design and differentiation for students with diverse needs and disabilities in a variety of academic settings. Emphasis will be placed on language, literacy, technologies, and transition processes.

EDSP-506. INTERNSHIP IN SPECIAL EDUCATION
Credits: 3

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 the previous EDSP courses (EDSP 501, EDSP-502, EDSP-503, EDSP-504, and EDSP-505. The internship requires 100 hours/6 weeks 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.

SUS. SUSTAINABILITY CERTIFICATE

SUS-501. INTRODUCTION TO SUSTAINABILITY
Credits: 3

This course serves as an introduction to the concept of sustainability and will investigate why knowledge of sustainability issues and initiatives is an important business management and operational tool. This course is the first in a series of four courses in the Graduate Certificate Program in Sustainability Management. There are no pre-requisites for this course. Upper-level undergraduate students may enroll with permission of the instructor.

SUS-502. METRICS OF SUSTAINABILITY
Credits: 3

Metrics of sustainability are the tools and procedures that are utilized to measure the impact and progress of a sustainability management program. These metrics are important because they enable goal setting and facilitate the adoption of sustainable practices. In this course current sustainability reporting and tracking systems will be studied. This course is the second in a series of four courses in the Graduate Certificate Program in Sustainability Management. SUS-501 is a pre-requisite for this course.

SUS-503. SUSTAINABILITY IMPLEMENTATION
Credits: 3

Students will learn about implementing sustainability management systems through an in-depth study of a manufacturing facility. Key topics to be studied include: setting sustainability goals, development of an environmental policy statement, development of sustainability metrics and sustainability reporting. This course is the third in a series of four courses in the Graduate Certificate Program in Sustainability Management. SUS-501 and SUS-502 are pre-requisites for this course.

SUS-504. INDUSTRY-FOCUSED SUSTAINABILITY
Credits: 3

In this course students will perform an in-depth study of sustainability standards and practices in the context of a specific industry. This course is the last in a series of four courses in the Graduate Certificate Program in Sustainability Management. SUS-501, SUS-502, SUS-503 are pre-requisites for this course.

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Statement of Disclaimer

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Academic Leadership for Graduate and Professional Studies

Dr. Anne Skleder, Provost
Dr. Abel Adekola, Dean, Jay S. Sidhu School of Business and Leadership
Dr. Bernard W. Graham, Dean, Nesbitt College of Pharmacy
Dr. William B. Hudson, Dean, College of Science and Engineering
Dr. Rhonda Rabbitt, Dean, School of Education
Dr. Paul Riggs, Dean, College of Arts, Humanities and Social Science
Dr. Deborah A. Zbegner, Dean, Passan School of Nursing

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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, security and fire 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 and Fire 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, Passan Hall's Reception Area. Additionally, an electronic copy of this report is available on the University website at Fire and Safety. 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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