

# MERCYHURST UNIVERSITY GRADUATE CATALOG 2016-2017

## Office of Graduate Studies

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MERCYHURST  
UNIVERSITY



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# MERCYHURST UNIVERSITY

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## INTRODUCTION

Founded in 1926 by the Sisters of Mercy, Mercyhurst University is a Catholic liberal arts institution serving men and women. In addition to more than 50 different undergraduate programs, the university offers nine graduate programs leading to Master of Science degrees in: Criminal Justice Administration, Special and Secondary Education, Organizational Leadership, Applied Intelligence, Anthropology, and Applied Behavior Analysis. The University added Physician Assistant and Data Science graduate programs in 2015.

The University rests on a 75-acre campus located on a hill overlooking the city of Erie, Pa. Mercyhurst is a university with a keen sense of tradition that is reflected through its beautiful setting, one that provides the ideal environment for learning. An attraction to all who drive up the main entrance way is the Tudor-Gothic stateliness of Old Main and the buildings clustered around it.

Ever since Mother Borgia Egan and the Sisters established Mercyhurst University, it has consistently sought to teach, to build and to act with a sense of dignity that characterizes quality in human society. It has developed a sense of community on its campus where teachers and learners reinforce one another in the learning process. These aims relate the Catholic heritage of the university to the needs of today in a manner that invests life and learning with a sense of spiritual strength and human accomplishment.

Although rich in tradition and history, Mercyhurst University has always prided itself on being a change agent in the educational field. It was in keeping with this spirit that its graduate programs were developed.

## VISION STATEMENT

Mercyhurst University seeks to be a leading higher educational institution that integrates excellence in the liberal arts, professional and career-path programs, and service to regional and world communities.

## MISSION STATEMENT

Consistent with its Catholic identity and Mercy heritage, Mercyhurst University educates women and men in a culture where faith and reason flourish together, where the beauty and power of the liberal arts combine with an appreciation for the dignity of work and a commitment to serving others. Confident in the strength of its student-faculty bonds, the university community is inspired by the image of students whose choices, in life and work, will enable them to realize the human and spiritual values embedded in everyday realities and to exercise leadership in service toward a just world.

## CORE VALUES

We are ...

### **Socially Merciful,**

Mercy restores human dignity, expands our social relations, and empowers us to reach out in compassion to others.

### **Globally Responsible,**

Globalization challenges us to learn how to steward the resources of the Earth wisely and to act in solidarity with its diverse peoples.

### **Compassionately Hospitable,**

Mercy hospitality begins with self-acceptance, welcomes peoples of different faith, ethnic, and cultural traditions, and thus builds communities that transcend mere tolerance.

### **Intellectually Creative,**

Generous, inquiring, and critical habits of mind, which support the aspirations for excellence manifested within the academic community, encourage us in our lifelong search for what is true, good, and beautiful.

### **Reflectively Aware,**

Our Christian environment encourages self-reflection and contemplation of human behavior, promotes balance of mind, body, and spirit, and ultimately offers the opportunity to develop a moral compass for a life of integrity.

### **Ambassadors of service.**

## ACCREDITATION

Mercyhurst University is accredited by the Middle States Commission on Higher Education, 3624 Market Street,

Philadelphia, PA 19104, 267-284-5000.

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# GRADUATE PROGRAMS AT MERCYHURST

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## PHILOSOPHY OF GRADUATE EDUCATION PROGRAMS:

With renewed growth in graduate education, Mercyhurst is committed to building a strong relationship between (a) advanced academic study and discipline-specific scholarship and (b) specialized field applications. This tangible connection between academics/scholarship and field experience speaks directly to the mission theme of “dignity of work.” Consistent with, and in addition to the Mercyhurst vision, mission, and core values, graduate education at Mercyhurst embraces the idea of the scientist-practitioner.

Our graduates are well prepared to apply and expand the most current research methods, strategies and technologies to each respective field. Aligned with the Mercyhurst mission, graduate education establishes within the university community a collaborative learning environment, which is inspired by the image of graduate students whose choices, in life and work, enable them to realize the human and spiritual capacity embedded in everyday realities and to exercise leadership in service toward a just world.

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Mercyhurst University is committed to providing educational opportunities for individuals desiring advancement in their careers, looking for ways to re-enter the job market at higher levels or seeking a means for making career changes more easily.

The oldest Mercyhurst University graduate program, **Criminal Justice Administration**, was created in 1978 under the assumption that criminal justice is a true profession dedicated to serving society and preserving the basic rights and freedoms of all people. The Criminal Justice Administration program is built on a common core of courses involving a broad overview of government management, organizational and interpersonal dynamics, professional ethics and research competence.

Mercyhurst’s graduate program in **Special Education**, started in 1982, was the culmination of a historical commitment to teacher education made by the Sisters of Mercy at the founding of the college in 1926. The university has built a reputation for producing excellent elementary and secondary school teachers, and Mercyhurst graduates have continued to excel in their professions. The next logical step for the university was to accept the challenge of offering advanced work for persons working in the area of special education. The master’s degree today represents both critical and in-depth application of best practices, paired with a strong research component. Both areas are essential for advancement in the field of special education. The program offers concentrations in applied behavior analysis, autism, and English language learning. Graduate certificates in ABA and autism are also available.

From its mission, Mercyhurst University recognizes its obligation to the Erie community and the surrounding region to meet current occupational needs as evidenced by economic conditions. New initiatives have evolved from this mission. Mercyhurst developed its third graduate program in response to community demand after a needs analysis showed strong community commitment to an alternative to the more traditional MBA. The Master of Science degree in **Organizational Leadership** began in the fall of 1998 with an incoming group of 50 students. The following concentrations are offered: accounting, higher education administration, human resources, sports leadership, and strategy and innovation.

In 1995, a concentration in **Applied Intelligence** was created within the existing Criminal Justice Administration program, which provided the foundation for the Master of Science degree in Applied Intelligence. The program was developed in response to increased student interest in this area as well as employer demand for additional education in the field of intelligence analysis. It became an independent graduate department in 2004. The Applied Intelligence program provides students with the

educational foundation necessary to succeed as intelligence analysts and leaders of analytical teams at federal and state agencies or within law enforcement and competitive intelligence settings. A research-intensive program exposes students to fundamental and advanced concepts and analytic techniques related to intelligence. Opportunities for internships, research, and in-school employment are provided through the Institute for Intelligence Studies and Information Science. This degree is available both online and at the main campus in Erie, Pennsylvania.

The **Master of Science in Data Science** was launched in 2015 in response to the growing demand for data science professionals. Industry and government organizations collect, organize and analyze data and information for several reasons, from maintaining their competitive edge, to altering business strategies and increasing sales to enhancing national security. This program will serve as a cornerstone in cross-disciplinary learning. The comprehensive, challenging curriculum emphasizes programming, data visualization, machine learning, database skills and quantitative analysis to produce graduates who are innovators in producing, visualizing and communicating actionable new insights about the meaning of data for decision-makers in businesses, public agencies and nonprofits. There is a 4+1 option for the Master of Science in Data Science for Mercyhurst University undergraduate students.

Following a strong demand for specialized anthropology education beyond the bachelor’s level, the **Applied Forensic Sciences** Department at Mercyhurst University was granted approval by the Commonwealth of Pennsylvania Department of Education to offer a program in Anthropology leading to the Master of Science degree. This program is unique in North America in that its curriculum focuses on forensic archaeological recovery methodologies directly applicable to outdoor, fire and mass fatality death scenes. Additionally, efforts to enhance the forensic osteological knowledge of students are also included in the curriculum.

In 2007, the university introduced its graduate program in **Secondary Education**. The Master of Science degree features an urban-based program that focuses on the pedagogical links of teaching as art, science and social justice, as well as teaching as theory, research and practice.

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# PROGRAM STANDARDS AND POLICIES

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## Degree Requirements

The minimum requirements for the award of a master's degree are:

1. Completion of the course requirements designated by each graduate program.
2. An overall GPA of 3.0.
3. A completed "Application for Degree" form filed with the Registrar's office by Feb. 1 of the year of intended degree completion.

To obtain a master's degree in **Anthropology**, the student must complete 12 required courses (many with associated labs) including a thesis. Additional elective courses can be completed within the program. Students may transfer up to six graduate credits with a grade of B or better into the program upon approval of the program chair.

To obtain a master's degree in **Applied Intelligence**, the student must complete 34-36 graduate hours of study. Please refer to the Applied Intelligence section of the catalog for specific details.

To obtain a master's degree in **Criminal Justice Administration**, the student must complete 33 graduate hours of study, including six core courses and five electives. Two elective courses may be taken in lieu of the thesis.

To obtain a master's degree in **Data Science**, the student must complete 36 graduate hours of study. Please refer to the Data Science of the catalog for specific details.

To obtain a master's degree in **Organizational Leadership**, the student must complete 33 graduate hours of study as follows: (a) seven core courses including a thesis or research-based project (21 credits), (b) four elective courses (12 credits). Please refer to the Organizational Leadership section of the catalog for specific details.

To obtain a master's degree in the **Physician Assistant Studies** program, students must successfully complete all required courses and clinical experiences as outlined in the catalog. Students must also successfully complete a master's portfolio and summative examination for completion of the program.

To obtain a master's degree in **Secondary Education**, the student must complete a core of 33 graduate hours of study. The can be completed in 12 months (full-time) or 12-36 months (part-time).

To obtain a master's degree in **Special Education**, the student must complete 30 graduate hours of study as follows: (a) professional education including a thesis or applied research project – six credit hours; (b) foundations of special education – nine credit hours; (c) specialization – 12 credit hours; and (d) an internship – three credit hours. Students seeking additional certification in special education, special education, special/early childhood education or bilingual/bicultural special education are required to complete additional courses, internship and/or student teaching hours.

## Master's Thesis or Research Project

A master's thesis or master's research project is required in all programs except Criminal Justice Administration.

The required master's thesis in the **Anthropology (Forensic and Biological Anthropology Concentration)** program must be a high-quality, scientifically oriented publishable document that is based on unique research that addresses a specific issue in the fields of forensic anthropology, physical anthropology, forensic archaeology, human skeletal biology, growth and development, human variation, forensic taphonomy, and/or skeletal trauma analysis. Prior to the second year of the program, the student should select a primary thesis advisor. Final approval of the thesis topic and research design must be obtained by at least three graduate faculty members. A 25-minute public presentation of the final thesis is required. At least three members of the graduate faculty must approve the final submitted thesis. Publication of the research in a scientific periodical or book, as well as presentation at a national meeting, is strongly recommended but is not required. The Research Project option is not available.

In **Applied Intelligence**, either a thesis or research-based project with additional course work is required. The thesis should be planned research on a unique topic related to applied intelligence. Student efforts may range from theoretical studies to applied projects. The thesis requires students to conduct purposeful research, review the literature, write a detailed analysis, offer new insight, and present and defend conclusions. The research-based project, available to working professionals in the online degree program, is a theoretical or applied research-driven work of scholarship that serves as a final example of the meaningful link between theory/research and practice/application. The project requires students to engage in application, synthesis, and critical evaluation of their graduate studies.

In **Criminal Justice Administration**, the thesis (6 credits) is optional. Two additional graduate courses may be taken instead. All proposed thesis topics must contribute to a unique understanding of justice administration and be approved by the student's advisor and the program director. Each student must give an oral presentation of the results.

In **Data Science**, students will complete their own data science research-based project. The research-based project is an applied, research-driven work of scholarship that serves as a final example of the meaningful link between theory/research and practice/application. The project requires students to engage in application and synthesis of their graduate studies to provide actionable new insights about the meaning of data for decision-makers in businesses, public agencies and nonprofits. Students are expected to present their research to faculty before graduation.



In the **Organizational Leadership** program, either a master's thesis or a research-based project with additional course work is required. The thesis is a demonstration of scholarship that defines a problem or issue related to Organizational Leadership, reviews the relevant literature, and offers conclusions using qualitative and/or quantitative research methods. The final document makes a coherent, cogent, and sustained argument about processes, theories, or practices in Organizational Leadership. The thesis provides an opportunity for a student to explore a topic in Organizational Leadership in far greater depth than is available in the classroom setting. A research-based project, in which a student applies theories of leadership to practical organizational issues, is an available option. The student's work, both in content and in process, should reflect the goals of the Organizational Leadership program as well as the mission of Mercyhurst University. As such, the work should demonstrate intellectual creativity and social responsibility.

**Physician Assistant** students are responsible for developing a master's portfolio under the advisement of a faculty mentor. This portfolio includes written works in case presentations, service learning, professional growth experiences and a project in performance improvement.

The research-based project in **Secondary Education** represents a terminal project selected by the student and graduate advisor, and must be related to the student's declared program of study and/or assigned internship. The project requires application, synthesis, and critical evaluation of the student's graduate studies. The project may take the form of a grant proposal, program evaluation, or other agreed-upon external program document.

In the graduate programs in **Special Education** and Secondary Education, the thesis should be developed as a result of experiences gained while involved in internships, student teaching, and/or independent studies as approved by the graduate advisor. The thesis course is three credits and should be completed in the final term. Additionally, a three-credit internship or independent study may be taken in conjunction with thesis credit hours, allowing for additional time devoted to research and writing. Outcomes of the Education thesis usually result in a publishable article or a fundable project.

### **Important Dates**

Students who expect to participate in the May graduation ceremony must submit a completed thesis or research-based project to their respective graduate directors no later than May 1st.

All completed theses must follow the proper form, grammar, and scholarship as defined in the most current edition of either (a) Kate Turabian's *A Manual for Writers of Term Papers, Theses, and Dissertations*, (b) *The Publication Manual of the American Psychological Association* or (c) *The Chicago Manual of Style*. No degree will be awarded until all corrections have been made and the thesis is accepted by the directors of the appropriate graduate programs. All theses must be printed on the paper quality as designated by the program chair.

Upon completion and approval of the thesis, the student is required to submit three copies to the appropriate graduate director. One bound copy is placed in a permanent collection in the library, one bound copy is for the student, and the third copy is placed on file in the Graduate Program office.

All graduate programs at Mercyhurst subscribe to the service offered by University Microfilms, Inc., which allows a master's candidate the option of having his or her thesis microfilmed and/or abstracts published in *Master's Abstracts Journal*.

### **Institutional Review Board**

All research conducted by students or faculty at Mercyhurst University is subject to review by the Institutional Review Board (IRB). The purpose of the IRB is to protect human subjects engaged as subjects in research, to follow guidelines with regard to ethical research, and to create an effective user-friendly process for the conduct of research at Mercyhurst University.

Current IRB members represent the disciplines of Education, Law, Medicine, Psychology, Sports Medicine, Business, Philosophy, and Organizational Leadership. The procedures for IRB approval are meant to facilitate research at Mercyhurst. For more information about the IRB, forms for proposal submission, and general information about research at Mercyhurst, please visit the IRB website located at [mercyhurst.edu/irb](http://mercyhurst.edu/irb).

### **Transfer Credits**

Students may transfer up to nine graduate credits with a grade of B or better into the Special Education or Criminal Justice Administration programs. Students may transfer up to six graduate credits with a grade of B or better into the Organizational Leadership, Applied Intelligence, and Anthropology programs. All transfer courses must be appropriate substitutes for Mercyhurst graduate courses and approved by the director of the graduate program. Correspondence courses will not be accepted: Online courses must be approved by the respective program directors. In the Criminal Justice Administration programs, where students have already earned a master's degree, up to 12 credits from that degree may be applied toward a Mercyhurst master's degree, provided the course credits are appropriate substitutes for Mercyhurst degree requirements.

### **Registration / Status**

First-year graduate courses carry a 500-level designation. Courses in areas of specialization offered in the second year are at the 600-level. Registration for graduate courses is done online or through the Graduate Program office.

Students are reminded that no registration is accepted until all previous financial obligations with the university are satisfied. All graduate students must register for at least six credits per semester with a total of 15 credits during the regular academic year to be considered full-time. Part-time students must register for three credits each term. All students are expected to complete their degree programs within five calendar years from the date of initial registration. Exceptions are granted only after petition and approval of the appropriate advisory committee. Each exception must be renewed and re-approved on an annual basis.

Students may not enroll in any course on a Pass/Fail basis. Auditing courses need department chair approval in writing before registration. No graduate credits will be awarded for any audit registration.

With special permission of program directors, junior and senior undergraduates in Criminal Justice, Intelligence Studies and Special Education may enroll in graduate courses. Normally, undergraduate enrollment is restricted to 500-level courses. Juniors may take one graduate course and seniors may take up to two courses. Those who enroll in a graduate course to satisfy undergraduate degree requirements cannot earn graduate credit for these same courses.

### **Grading System**

A = 4.0 for exceptional performance  
B+ = 3.5 for very good performance  
B = 3.0 for good performance  
C+ = 2.5 for below average performance  
C = 2.0 for poor performance  
F = 0.0 for unacceptable performance



## Other graduate grading symbols are:

I = Incomplete

W = Withdrawal

## Grades, Probation and Dismissal

During the course of your Mercyhurst graduate career, the grades you earn and the corresponding term and cumulative GPAs are critical to both your financial aid eligibility and ability to continue to pursue your degree of choice.

A student may repeat up to six credits in courses where a grade of C+ or below has been earned. Students who earn a grade of B or better in a repeated course will have their original grade replaced by a PASS on the transcript.

The Incomplete Grade (I) is a temporary grade indicating that work in the course was acceptable, though a significant or critical part of it was not completed due to illness or other serious circumstances beyond the student's control. It is the student's responsibility to verify these conditions. The "I" grade may not be used to extend time for course work or for the convenience of the student or faculty member. Incomplete coursework must be submitted to the instructor no later than 30 days after the end of the semester in which the "I" is given. If not completed, the "I" grade is changed to a grade of F.

Other withdrawals are given only to those students who withdraw from a course within the officially designated time indicated on the academic calendar. The student is responsible for withdrawing from courses and responding to requests from the Office of Student Financial Services or the Office of the Registrar.

Grade appeals must be initiated within 45 days following the close of the term or semester in which the grade was earned. No grade may be changed without the approval of the graduate program director and the Vice President for Academic Affairs.

The academic progress of students enrolled in graduate degree programs, regardless of their matriculation status, is regularly reviewed by the program directors. Degree program students who fall below a 2.75 grade point average after the completion of nine graduate credits are subject to dismissal from the program, as are students who do not have at least a 3.0 GPA after 12 graduate hours. Additionally, in some programs where specified, a grade of F or a second grade of C in the student's graduate degree or certificate program may place a student on probation or result in dismissal. Dismissal may occur when a degree student has not achieved a 3.0 cumulative GPA in the term following one in which he or she was placed on probation; or when terms or conditions established for probation were not met, or when the academic record reflects poor performance. Students dismissed from the program may petition to the Graduate Council for readmission after one year.

The academic progress of students enrolled in graduate certificate programs, regardless of their matriculation status, is also regularly reviewed by the program directors. Graduate certificate students who fall below a 2.75 grade point average at any point in their program may be placed on probation. Dismissal may occur when a student receives a grade of F, when a certificate student has not achieved a 2.75 cumulative GPA in the term following one in which he or she was placed on probation, when terms or conditions established for probation were not met, or when the academic record reflects poor performance. Graduate certificates will not be awarded to students who fall below a 2.75 GPA. Students dismissed from certificate

programs may petition to the Graduate Council for readmission after one year. The academic progress of students enrolled in Ridge College of Intelligence Studies and Applied Sciences graduate certificates is regularly reviewed by the program chair. Certificates will not be issued to any participant who does not have at least a 3.0 GPA at the end of the fourth course. Additionally, a grade of F or a second grade of C in the student's graduate program may lead to dismissal. Dismissal may also occur when a student has not achieved a 3.0 cumulative GPA in the term following one in which he or she was placed on probation, when terms or conditions established for probation were not met, or when the academic record reflects poor performance. Students dismissed from the program may petition to the Graduate Council for readmission after one year.

## Time Limitations for Degree Completion

Degree requirements must be completed within five years of the date from which the student first matriculated at Mercyhurst University. If unusual circumstances have prevented a student from completing degree requirements, he or she may apply to the Dean of Graduate Programs for an extension of the five-year time limit.

## Notice of Nondiscrimination

The following policy was adopted by the Mercyhurst University Board of Trustees:

Mercyhurst University values diversity and is committed to the goal of achieving equal opportunity for all. For that reason, Mercyhurst abides by federal, state and local law in admissions, employment and all services and programs provided.

Mercyhurst does not unlawfully discriminate on the basis of race, color, religion, creed, sex, citizenship status, ancestry, national or ethnic origin, age, familial status, sexual orientation, physical or mental disability, military or veteran status or any other legally protected characteristic or because of any individual's legally protected activities.

Mercyhurst complies with federal, state and local legislation and regulations regarding nondiscrimination. This policy applies to faculty, administration and staff, applicants for employment, students and applicants for educational programs and activities.

Mercyhurst University does not discriminate on the basis of race, color, national origin, sex, disability, religion, age, veteran status, gender identity or expression, or sexual orientation in its programs and activities as required by Title IX of the Educational Amendments of 1972, the Americans with Disabilities Act of 1990, Section 504 of the Rehabilitation Act of 1973, Title VII of the Civil Rights Act of 1964, and other applicable statutes and University policies. Mercyhurst University prohibits sexual harassment, including sexual violence. The following person has been designated to handle inquiries regarding the non-discrimination policies and to serve as the overall campus coordinator for purposes of Title IX compliance: Meredith Bollheimer, Compliance Officer and Title IX Coordinator, 300 Old Main, 814-824-3363. The following individuals have been designated as deputy Title IX coordinators: for Athletics, Stacey Gaudette, Assistant Athletic Chair, Baldwin Lower Level, 814-824-2079 and for Student Life, Laura Zirkle, Vice President for Student Life, Egan 314, 814-824-2262, and for Employees, Tina Fryling, Preston 122, 814-824-2352, and for any community members of the branch campuses, including the North East campuses, Jacquelyn Fink, Miller 104, 814-725-6274, and for Training

and Resources, Alice Agnew, 814-824-2362. Inquiries concerning the application of anti-discrimination laws may be referred to the Title IX coordinators or to the Office for Civil Rights, United States Department of Education. For further information on notice of nondiscrimination, visit <http://wdcrobcop01.ed.gov/CFAPPS/OCR/contactus.cfm> for the address and phone number of the U.S. Department of Education office that serves your area, or call 1-800-421-3481.

### VETERANS' RESOURCES

Students who have served in the Military including the National Guard and Reserves may be eligible for educational benefits through the Veteran's Administration. Mercyhurst University is a yellow ribbon participant, which means students who are eligible for 100% Post 9-11 GI Bill® will be able to receive yellow ribbon funding once the student cap has been reached. Mercyhurst also holds a Memorandum of Understanding with the Department of Defense. This allows members who are still in the service to use Tuition Assistance (TA) from the Military. (Current active military personnel should apply for TA benefits directly to their unit.) There are a number of VA benefits available. For more information on available benefits and their criteria,

visit the VA website at [www.benefits.va.gov/GIBILL](http://www.benefits.va.gov/GIBILL). Dependents of military personnel may be eligible for educational assistance for any of the following from the VA:

- A transfer of Post 9-11 GI Bill® for active service members who have served at least 10 years
- Chapter 35 benefits if a service member has been discharged and receives disability
- FRY Scholarship if the service member died while serving \*GI Bill® is a registered trademark of the U.S. Department of Veterans Affairs (VA).

If you plan to use VA educational Benefits please contact the Veteran Coordinator, Stacy Smith, 814-824-2617, for more information. You will need to apply for the VA benefits before the start of your first semester. New applications may take the VA up to 3 weeks to process.

## FINANCIAL AID INFORMATION

### Graduate Tuition and Fees

See tuition and fee schedule for current rates. Payments received after the official registration deadline will be considered delinquent and the student will be charged a late payment fee.

### Financial Aid Information

Application forms and guidelines are available in the Graduate Programs office and online at our website [graduate.mercyhurst.edu](http://graduate.mercyhurst.edu).

### Mercyhurst Graduate Assistantships

A limited number of graduate assistantships are available for eligible students who can accept employment on the Mercyhurst campus. Graduate assistants receive a full or partial waiver of tuition and a stipend in return for a minimum of 25 hours of work weekly, excluding registration and lab fees.

### Mercyhurst Graduate Fellowships

A limited number of fellowships are available to Criminal Justice Administration applicants whose undergraduate or professional record show exceptional promise for future leadership in the criminal justice profession. Graduate fellows receive a full or partial waiver of tuition.

### Mercyhurst Graduate Employment

Qualified students may be offered employment opportunities at Mercyhurst University. Graduate student employment typically provides up to \$9,000 in annual earnings.

### Veterans' Benefits

Information regarding veterans' benefits may be obtained by contacting the Veterans Enrollment and Outreach Coordinator at 814-824-2617.

### Federal Direct Loan Program

Graduate students are eligible for Direct Unsubsidized Loans. These loans are not need based. To apply for a Direct Loan, you must first complete and submit the Free Application for Federal Student Aid (FAFSA). If it is your first time receiving a Direct Loan, you will be required to complete entrance counseling to ensure you understand your obligation to repay the loan; and sign a Master Promissory Note

(MPN), agreeing to the terms of the loan. These steps can be completed at [www.studentloans.gov](http://www.studentloans.gov).

Your loan funds will first be applied to your school account to pay for tuition, fees and any other school charges. If any additional loan funds remain, they will be returned to you. Should additional funding be necessary, Federal Direct Grad PLUS Loans and Alternative Education Loans may also be available. If you have federal loans from undergraduate studies, you may request an in-school deferment from the Direct Loan Program or lender.

### Tuition and Fee Schedule

#### Tuition Cost Per 3-Credit Course (Master's or Graduate Certificate)

##### By Department of Study

Anthropology	\$2,400
Applied Intelligence	\$2,400
Criminal Justice Administration	\$2,085
Data Science	\$2,400
Organizational Leadership	\$2,085
Physician Assistant Studies	\$2,400
Secondary Education	\$2,085
Special Education	\$2,085

#### Doctoral Degree

Anthropology	\$3,180
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#### Required Fee Schedule Per Semester -

##### Graduate Programs (Full and Part-Time Students)

Registration	\$65
Technology Fee	\$95
Applied Intelligence Program Fee (Per semester)	\$255
Data Science Program Fee	\$130
Physician Assistant Program Fee (Per 3 Terms)	\$1,000

## Required Fee Schedule Per Term - online

### Applied Intelligence (Applies to full and part-time students)

Registration	\$50
Technology Fee	\$70
Applied Intelligence Program Fee (prorated at \$85 for 3 credit hours)	\$170

### Occasional Fees

I.D./Smart Card	\$35
Zurn Science Lab Fee (per course)	\$255
Distance Learning Fee ( <i>Per online Graduate Course BL or WEB; excludes online Applied Intelligence - see fees below</i> )	\$70
Graduate Capstone Clinical Fee (6 credits)	\$485
Graduate Capstone Clinical Fee (3 credits)	\$243
Graduation Fee (Master's Degree Only) ( <i>Required even if the student does not participate in the ceremony</i> )	\$165
Official Transcript of Credits	\$5
Organizational Leadership Fee- Course OL 628	\$495
Audit- Graduate Course Rate	\$489

### Financial Penalties

Late Payment	\$150
Room Change	\$50
Returned Check / Stop Payment / Reissue	\$35
Late Registration Fee	\$250

### ALL FEES ARE NON-REFUNDABLE

#### Payment Policy For Tuition, Fees, Room and Mean Plan

When you register for courses, you incur a legal obligation to pay for tuition, fees and all related charges. Registration for a given semester is not complete until all charges are paid by the billing due dates, or until acceptable payment arrangements have been made with the Office of SFS prior to the due date.

Students must be actively registered to reside in campus housing, receive student meal plan privileges, and receive all other university services and amenities.

Student Financial Services participates 100% in online billing, and ebills are accessible via your Mercyhurst portal. Notifications are emailed to your official Mercyhurst email address. You are encouraged to grant guest access to any family member who may have an interest in viewing or paying your bill. Full instructions are available on your Mercyhurst portal.

Summer 2016 bills are available via the ebill the first week of June and are due on or before June 30, 2016. Fall semester bills are available the last week of June and are due on or before August 10th, 2016. Spring semester bills are available in early December and are due on or before January 4th, 2017.

#### Semester Billing Due Dates for 2016-17:

Summer Sessions 2016: June 30, 2016 Fall

Semester: August 10, 2016

Spring Semester: January 4, 2017

Those on a trimester calendar can contact SFS for the trimester billing and payment due dates.

In addition to charges for tuition, fees, room, meal plans, and other expenses, the bill reflects any scholarships, grants, and loans as pending financial aid. Financial aid listed is pending until the student's eligibility is confirmed, verification is completed, and the student's enrollment is verified on the census date. The census date is the morning after drop/add as published in the official academic calendar.

Students with exceptional circumstances who want to add courses after the official drop/add date should obtain forms and more information in the Office of Graduate Education. Federal aid will not be adjusted for late registration under most circumstances and late registration fees may apply.

In order to defer your bill to federal student loans, students must have a FAFSA on file, and completed both the Master Promissory Note and Entrance Loan Counseling online for Federal Direct Loans and/or Perkins Loans by August 1st, 2016 for fall bills or December 1st, 2016 for spring bills. This is a one-time requirement at Mercyhurst. Federal Direct Graduate PLUS Loans are not credited to the student's account until a promissory note is signed. Alternative Loan proceeds are not credited until the loan proceeds are received by Mercyhurst.

If payment is not made by the due date, or satisfactory payment arrangements are not made with the SFS Office by the bill due date, a late payment fee of \$150 will be applied to your account, and your account will be placed on hold, and you may be deregistered from your courses. You will not be able to make changes to your registration, register for any additional courses, or receive grades/transcripts. Your balance must be paid in full by the specified semester due date.

Overdue accounts will be placed with a collection agency. If your account is placed with a collection agency, you will be responsible for your balance plus any collection fees, which may be based on a percentage up to a maximum of 32% of the debt, and all costs and expenses, including reasonable attorney's fees that are incurred by

Mercyhurst University in such collection efforts. This may negatively impact your credit rating. In order to register for future semesters, receive transcripts or a diploma, your balance and any collection fees must be paid in full.

You can pay your balance via your ebill which is accessible from your student portal. Payment can be made by credit card (convenience fees apply) or electronic funds transfer from a savings or checking account (no convenience fees apply). You can also print your bill and mail in a personal check, cashier's check, or money order to the address on the bill. Cash payments can be made in person by visiting the SFS Office. Funds can also be wired electronically to Mercyhurst, which is especially convenient for international fund payments. For more information, please visit the SFS page on the student portal or contact the Office of SFS at 814-824-2288. All payments, including those from a third party, such as a 529 Savings Plan, must be received by the bill due date. Please plan accordingly to allow for mailing time.

In lieu of paying the student bill in full, a student or family can sign up for a payment plan (partial payments made in intervals) through our partner, Tuition Management Systems (TMS) prior to the bill due date. The TMS Payment Plan divides a student's financial obligation into interest free installments over the semester, making financial obligations easier to manage. Monthly plans include a 5 month or 4 month plan. The TMS Payment Plan is available to all qualified undergraduate students for fall and spring semesters. There is a non-refundable fee for participating in the TMS Payment Plan, regardless of the balance. TMS sends a monthly billing statement to the student's permanent address, with payment due usually the 1st day of the month. Failure to pay by monthly due dates will result in late fees, Business Office holds, and possible deregistration. Repeated delinquent payments will result in a cancelation of the payment plan and payment of any outstanding balance is immediately due to Mercyhurst. Failure to resolve an outstanding balance may result in deregistration and placing your outstanding account with a collections agency.



Students receiving financial aid may also participate in the TMS Payment Plan. To determine the minimum monthly payment, deduct the amount of financial aid (not including work-study) from the annual charges, and then divide the balance by the number of payments in the plan you chose. It is important that you review your TMS budget each semester to ensure that the scheduled monthly payment plan reflects your actual charges at Mercyhurst. For more information about the plan or how to calculate monthly payments, contact TMS directly at 1-888-285-3052, or visit [www.afford.com/mercyhurst](http://www.afford.com/mercyhurst). If you under budget your payments, you may incur late fees at Mercyhurst and a business office hold will may be placed on your account, preventing future registration.

If payment is made by check (paper or EFT), Mercyhurst will credit the funds but will not remove any Business Office Holds for at least 7 days to allow time for the check to clear. If funds do not clear, a student may be charged a \$150 late fee in addition to a \$35 insufficient fund fee. In this instance, the student will be contacted and given one week to make payment to Mercyhurst in the form of a certified check or money order. Legal action may be taken against any person who has repeatedly submitted bad check and Mercyhurst reserves the right to reject future check payments.

### Late Course Add Policy

Currently, registered students who are seeking to add one or more courses after the published drop/add date of a given term must file a Late Course Add Request form with the Office of the Registrar. The deadline for filing a Late Course Add Request form is 15 business days following the last day of finals of the given term.

Students must pay all tuition and fee charges related to the added course(s) before their registration request will be processed.

A student's decision to add course(s) after the published drop/add date will not affect the student's initial course credit count for the purpose of financial aid. In other words, financial aid that was awarded on the basis of a student's registered credit count as of the published drop/add date will not be adjusted because of the late course addition(s).

### Tuition and Fee Refund Policy Due To Total Withdrawal

Students who wish to withdraw from the university must complete a Cease Enrollment Form, which is available in the Office of Academic Affairs, and obtain the necessary signed approvals.

Students who officially withdraw before the end of the academic semester will receive a grade of W. Course withdrawals after drop/add will result in a W grade for the course. Students, who experience a medical, military or serious emergency, may file a letter with the Graduate Office explaining and documenting the special circumstances.

Students who have officially withdrawn from the university and do not return within one academic year must apply for readmission.

When a student officially withdraws from all courses (ceases enrollment), he/she may receive a prorated refund of tuition, room and meal plan charges depending on the date of withdrawal.

Refer to the Tuition Refund Chart. Fees are not refundable when withdrawal occurs after the eighth day of classes.

Period of Withdrawal During a Term or a Semester	Percentage of Tuition Refund
On or before the last day to drop/add each semester (Up to and including day 8)	100% (including fees)
Calendar days 9-15	80% (does not include fees)
Calendar days 16 – 22	70% (does not include fees)
Calendar day 23-29	60% (does not include fees)
Calendar day 30 and after	0%

Refunds for room and meal plans will be refunded 100% through day 8 of the semester for which you are registered, and prorated for number of days of usage between the 9th and 30th days of the semester. There are no refunds for tuition, room, or meal plans after the 30th day of the semester.

The tuition refund policy for the summer session follows a different schedule than above because the length of the sessions/programs differ from the fall and spring semester calendars. The calculations are similar but are done in proportion to the length of the respective sessions/terms/program calendars. Refund schedules for these special sessions/programs are available in the Office of Student Financial Services.

### Treatment of Financial Aid For Total Withdrawal (Cease Enrollment)

If a student withdraws from all courses (ceases to be enrolled), the SFS Office must review the student's financial aid to determine whether financial aid funds must be adjusted in accordance with federal, state, and institutional policies governing total withdrawal from the university. SFS calculates refunds for tuition, room and meal plans according to university policy. However, the policies for financial aid for total withdrawals (cease enrollments) are specific to each designated financial aid program and are applicable only if the student was awarded that particular type of fund. If the student is awarded various types of financial aid, more than one policy may apply in determining the student's revised financial aid eligibility.

### Federal (Title IV) Financial Aid Refund Policy (Cease Enrollment)

The federal policy for return of Title IV funds maintains that the student can retain only that portion of federal aid that the student has earned based on time in attendance before withdrawal prior to completing 60% of a payment period or semester. The percentage of time that the student attended an academic semester determines the amount of federal aid that must be returned to the federal government. This federally mandated policy is independent of Mercyhurst's institutional refund policy for tuition, room and meal plans. The schedules vary by start and end dates of each semester and each academic program.

For a student who withdraws after the 60 percent point-in-time, there are no unearned funds. However, a school must still complete a Return calculation in order to determine whether the student is eligible for a post-withdrawal disbursement. The calculation is based on the percentage of earned aid using the following Federal Return of Title IV funds formula:

Percentage of payment period or semester completed is the number of days completed up to the withdrawal date divided by the total days in the payment period or semester. (Any break of five days or more is not counted as part of the days in the semester.) This percentage is also the percentage of earned aid.

Funds are returned to the appropriate federal program based on the percentage of unearned aid using the following formula:

Aid to be returned is (100 percent of the aid that could be disbursed minus the percentage of earned aid) multiplied by the total amount of aid that could have been disbursed during the payment period or semester.

If a student earned less aid than was disbursed, the institution would be required to return a portion of the funds and the student would be required to return a portion of the funds. Keep in mind that when Title IV funds are returned, the student borrower may owe a balance to the institution.

If a student earned more aid than was disbursed to him/her, the institution would owe the student a post-withdrawal disbursement which must be paid within 120 days of the student's withdrawal.

The institution must return the amount of Title IV funds for which it is responsible no later than 45 days after the date of the determination of the date of the student's withdrawal. Refunds to aid programs are returned in the following order:

- Federal Direct Unsubsidized Stafford Loans
- Federal Perkins Loans
- Federal Direct GRAD PLUS Loans

Students who receive all F's for a semester who did not formally withdraw will be considered Unofficial Withdrawals and will be reviewed by the Graduate College to establish the students' last date of attendance. If a student ceased attendance for all classes before 60 percent of the semester was over, that last date of attendance will be used. If a last date of attendance cannot be determined, the "unofficial" withdrawal date will be the mid-point of the semester in order to calculate unearned federal funds that must be returned to the appropriate federal aid program.

Students need to understand that, although they can withdraw from a semester with W grades, federal aid disbursements have to be reviewed based on their last date of attendance or unofficial withdrawal date.

The student is responsible for any returned federal funds that results in a balance due on their student account. If payment is not made within 60 days, the student will be liable for all reasonable collection costs, including attorney fees and other charges necessary for the collection of any amount not paid.

**Institutional Scholarship Financial Aid Refund Policy (Cease Enrollment)**

Adjustments to institutional scholarships follow the university's policy on refunds for tuition (refer to the Tuition Refund Policy Due to Total Withdrawal section above). For example, if the student's tuition is refunded at 70 percent, the student's institutional fellowship will also be refunded at 70 percent. This means the student may retain 30 percent of the institutional fellowship.

**Course Withdrawal Policy**

Students who wish to withdraw from a course after the drop/add period for a semester must complete a Class Schedule Form which is available in the Office of the Registrar. Once the student obtains the advisor's signature, the form is returned to the Office of the Registrar.

Course withdrawals after drop/add will result in a W grade for the course and will not change financial aid or tuition charges for that semester because they are based on the enrollment status on the census date, which is the morning after the last day of drop/add.

However, withdrawing from courses may prevent you from making satisfactory academic progress, and that may affect your eligibility for future financial aid assistance. Please see the Satisfactory Academic Progress section. Whether you choose to withdraw from one course or withdraw from the University completely, it is important that you contact the Office of Student Financial Services for advice regarding financial aid and billing.

**Financial Aid Rights and Responsibilities** Students have the following rights and responsibilities:

- Access to complete information regarding tuition, fees, payment, and refund policies.
- Confidentiality of all personal and family financial information.
- Reconsideration of student aid eligibility if student and parents situation warrants it through an appeal to SFS.
- To advise the Office of SFS of any additional financial aid received that is not indicated on the Mercyhurst Financial Aid Award Letter.
- To follow application filing deadlines and to submit all required documentation for verification of financial and other information pertaining to the financial aid application process within 30 days of the request.

- To give SFS permission to relay pertinent financial, academic, and other information to donors of aid upon request.
- To maintain Satisfactory Academic Progress (SAP) for Financial Aid (refer to SAP Policy in the following section).
- To comply with the rules governing the types of financial assistance the student receives.

**Financial Aid Application Procedures and Deadlines**

To apply for federal, state, and institutional (Mercyhurst) financial aid, the student must complete and submit a Free Application for Federal Student Aid (FAFSA) each academic year.

Students can submit the FAFSA using FAFSA on the Web ([www.fafsa.ed.gov](http://www.fafsa.ed.gov)). To file electronically, the student will need a U.S. Department of Education (USDE) FSA ID. Students may apply for one by clicking the link on the FAFSA page. The FSA ID serves as the student's and/or parents electronic signature. Questions about the FAFSA can be answered by calling the Department of Education Customer Service Department at 1-800-801-0576. Assistance for students with hearing disabilities is available by dialing 1-800-511-5806.

Although students can file the FAFSA any time after January 1 prior to the forthcoming academic year in which they plan to attend, the priority deadline to file the FAFSA is March 15 of that year to ensure full consideration for federal, state, and institutional scholarships, grants, loans, and student employment. Be sure to include Mercyhurst's institutional code, 003297, in the university choice section of the FAFSA. Students attending a course(s) in Summer Session must file a separate Summer Financial Aid Request Form by June 30th to receive summer financial aid, including Federal Stafford Loans. The form is available on the student portal.

Students may file the FAFSA after the deadline of March 15, however they risk not receiving aid from some programs. In addition to the processed FAFSA, SFS must receive all requested documentation within 30 days of the request but no later than 30 days before the end of the semester or award period. This deadline allows processing and authorization of disbursements within timeframes defined by regulations pertaining to federal aid programs. Failure to apply or to submit required documentation by the indicated deadlines may result in a loss of financial aid eligibility for all student aid programs.

**Enrollment Status**

SFS uses the following graduate enrollment criteria each semester to determine eligibility for the financial aid programs:

CREDITS	ENROLLMENT STATUS CLASSIFICATION
9	Full time
4.5-8	Half Time
1 - 4	Less than half time*

Online Applied Intelligence students and others on the trimester calendar are considered enrolled full time for financial aid purposes if registered at least 8 credits per term, and half-time if registered 4-7 credit hours per term.

A student's Financial Aid Package is based on full-time enrollment as determined on the census date (the morning after drop/add). If the student does not have full-time status, financial aid may be adjusted accordingly.

During the summer session, enrollment status on the 2nd day of the summer term determines enrollment status for financial aid eligibility. Summer full-time enrollment is 6 credit hours or more for all combined summer sessions, and half-time is 3 credit hours. Students who participate in an internship of at least 3 credit hours will be considered full-time for the summer.

Students must consult with SFS if they plan to withdraw from any courses.

### **Other Eligibility Criteria**

Eligibility for federal student aid is determined on the basis of financial need and on several other factors. To receive financial aid from federal programs students' must meet the following criteria:

- File FAFSA
- Demonstrate financial need where applicable
- Have a high-school diploma or its equivalent
- Be admitted to a certificate or degree program and be working toward a certificate or degree
- Be a U.S. citizen or eligible non-citizen
- Have a valid Social Security number
- Register with Selective Service (if required)
- Not be in default on a student loan or owe a repayment of federal student aid
- Maintain Satisfactory Academic Progress (SAP) once enrolled (See below)

### **Satisfactory Academic Progress Policy for Financial Aid**

All students must be making satisfactory academic progress at Mercyhurst University to establish and retain eligibility for student financial aid, including Federal Direct Loans. Mercyhurst monitors satisfactory academic progress (SAP) after the spring semester to provide students with early notification of their academic progress status for financial aid eligibility. The student's entire graduate academic history will be considered when determining the academic progress status, including accepted transfer credits from another university.

### **Quantitative Measure**

Students must successfully complete 75 percent of cumulative credits attempted, including transfer credits accepted by Mercyhurst. Grades of W, R, and I will be considered attempted but will not be included in completed credit hours.

### **Qualitative Measure**

Graduate students must maintain a cumulative GPA of 3.0 or greater by the end of the spring semester each academic year.

Any student who was registered for courses during the academic year but has not received federal or institutional aid in the current academic year will still be reviewed for SAP to determine future eligibility for awards. A student must be making SAP to receive federal funds, including Federal Stafford Loans.

### **Maximum Time Frame For Completion**

The maximum time frame a student may attend and continue aid eligibility cannot exceed 150 percent of the published length of the student's academic program measured in cumulative attempted credits. For example, the published length of a graduate program is 30 credit hours. Therefore, a student has a maximum of 45 attempted credit hours to complete the program. When the student's enrollment exceeds the 150 percent point, the student is no longer eligible for federal financial aid.

All credits the student attempts, including credits transferred into Mercyhurst University, count toward the 150 percent requirement

### **Procedures for Appealing**

Students who do not meet the minimum standards for Satisfactory Academic Progress described above are ineligible for federal aid. However, students may request reinstatement of their financial aid eligibility by submitting a written appeal to the Financial Aid Appeals Committee. SAP Appeal requests must provide an explanation of the extenuating circumstances that contributed to the student's failure to meet the minimum academic progress standards and a realistic academic plan for improvement. If the Financial Aid Appeals Committee approves the appeal, the student's financial aid eligibility is reinstated for the applicable payment periods.

Students receive appeal results in writing. The decision of the Financial Aid Appeals Committee is final and cannot be further appealed.

### **Deadlines to Appeal for SAP**

Summer Term July 31

Fall Semester First day of fall classes of official academic calendar

Spring Semester First day of spring classes of official academic calendar

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# GRADUATE PROGRAM IN ANTHROPOLOGY

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## FORENSIC AND BIOLOGICAL ANTHROPOLOGY TRACK

The Master of Science degree program in Anthropology: Forensic and Biological Anthropology Track represents the first program in the country focused primarily on providing students with a comprehensive basic training regimen in the combined fields of forensic and biological anthropology. This will be accomplished by a curriculum that includes a strong foundation in biological/bioarchaeological anthropology, along with a significant focus on all of the major components of the discipline of forensic anthropology, including forensic osteology, forensic archaeology, forensic taphonomy and skeletal trauma.

Graduates of the program will be encouraged to continue their education in a Ph.D. program within the disciplines of forensic anthropology and biological anthropology, or in related fields, such as medical, biomedical or anatomy programs. Training will provide the students with an extensive academic background, as well as ample field and laboratory skills and experience in both forensic anthropology and physical anthropology. This background will allow them to be very competitive candidates for teaching and research assistantships, as well as grant and scholarship funding opportunities within any of the top biological or forensic anthropology Ph.D. programs.

Other graduates may choose to seek employment with local, state and federal agencies. As a result of the extensive casework experience, graduates are well suited to assist law enforcement officials, professional forensic anthropologists and other forensic scientists in a number of professional scenarios, including crime scene data collection. Students will be well versed in field recovery methods, including searches, scene and context documentation, and recovery procedures from a variety of outdoor, fire and mass fatality scenes. Laboratory skills mastered include skeletal processing, data collection and skeletal analysis of human remains, both for the production of forensic case reports and skeletal research.

The curriculum is constructed such that full-time students will complete at least seven required courses during the first year and three required courses during the second year, many in

a prescribed sequence. Additional elective courses may be completed within the context of the program for a minimum of 33 credits. Students will typically begin thesis work at the end of the first course year. The thesis must be completed within the context of the program.

## MISSION STATEMENT

The Master of Science degree program in Anthropology, Forensic and Biological Anthropology Track is focused on providing students with a comprehensive training regimen in the combined fields of forensic anthropology and biological anthropology. Students receive extensive training in the classroom, field and laboratory that allows them to be strongly competitive for Ph.D. programs in physical or biological anthropology, anatomy and biostatistics. The program is enhanced by the large amount of forensic casework opportunities for the students provided through the Applied Forensic Sciences Department. Students are taught the importance of ethics in forensic science and the significance of their personal role in the forensic science community.

## LEARNING OUTCOMES

Goal: Develop and master the principles and professional practices of Forensic and Biological Anthropology.

1. Competently and comprehensively document forensic context from a variety of outdoor forensic scenes.
2. Expertly analyze and interpret human skeletal remains.
3. Progress to advanced levels in the areas of skeletal biology, human anatomy, human growth and development, and human variation.
4. Proficiently process data utilizing univariate and multivariate statistical principles and analyses.
5. Critically analyze and knowledgeably utilize the historical and current, researched and published, topics in Biological and Forensic Anthropology.

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## ANTHROPOLOGY MASTER'S DEGREE REQUIREMENTS: FORENSIC AND BIOLOGICAL ANTHROPOLOGY TRACK

### Core Courses

#### YEAR 1

ANTH 500	Basics Of Forensic Anthropology
ANTH 510/511	Forensic Archaeology/Lab
ANTH 520/521	Fragmentary Human Osteology/Lab
ANTH 528	Human Skeletal Profile I - Age
ANTH 530/531	Human Skeletal Profile II/Lab
ANTH 546	Basic Statistical Methods
	<b>OR</b> ANTH 550 Statistical Methods In Anthropology
ANTH 640	Forensic Taphonomy

#### YEAR 2

ANTH 630/631	Skeletal Trauma Analysis/Lab
ANTH 670	Master's Thesis



## ELECTIVE COURSES

ANTH 535	Paleoanthropology I
ANTH 536	Paleoanthropology II
ANTH 565/566	Zooarchaeology/Lab
ANTH 575	Advanced Human Variation
ANTH 610	Human Skeletal Growth & Development
ANTH 620/621	Pathological Conditions of the Human Skeleton/Lab
ANTH 635	Current Topics in Biological Anthropology
ANTH 638/639	Gross Anatomy for Anthropologists/Lab
ANTH 645	Advanced Statistical Methods in Biological and Forensic Anthropology

Ideal candidates will have a very strong undergraduate record/degree in a field of anthropology (e.g., forensic anthropology, bioarchaeology, physical anthropology or archaeology), natural science (e.g., biology, chemistry), or forensic science. Evaluation of applications will focus on undergraduate academic record, Graduate Record Examination (GRE), professional references, letter of intent and personal interview upon invitation by the department.

## GRADUATE CERTIFICATE IN FORENSIC AND BIOLOGICAL ANTHROPOLOGY

A yearlong Graduate Certificate Program in Forensic and Biological Anthropology is available to students wishing to complement their undergraduate education with additional training in specific areas of interest that may not have been available at their undergraduate institution, in preparation for graduate school applications. The new program will also be useful for those students interested in acquiring practical experience in the specific methods of forensic anthropology.

A B.A. or B.S. in a relevant field is recommended to apply. Evaluation will be based on undergraduate record, letters of intent, and professional references. Students will be mentored by department faculty and will be able to construct a personalized curriculum of at least five (5) courses in the current Mercyhurst graduate catalog. Students must receive a B or above for the five courses. Students will also have the opportunity to participate in actual forensic cases conducted by the Mercyhurst Forensic Anthropology Laboratory, if they are enrolled, or have completed ANTH 510/511 and ANTH 520/521. Open enrollment is offered throughout the academic year. Further application instructions can be found on the department website, or contact the Mercyhurst Graduate Admissions office.

Further application instructions can be found on the department website, or contact the Mercyhurst Graduate Admissions office.

## FORENSICS AND BIOLOGICAL ANTHROPOLOGY Ph.D. PROGRAM

In general, the 62-72 credit hour Ph.D. program will require course work/dissertation completed in

- (18 credits hours) Common Core
- (33/34 credit hours) Track Specific
- (8/9 credit hours) Electives
- (2-12 credit hours) Dissertation

The exact credit requirements and specific course requires will vary depending on how the student is admitted to the program.

1. For students without a master's degree, the credit course work requirements will be 60 credits (in addition to Dissertation). Those 60 required credits will include both 3 credit (without lab) and 4 credit (with lab) offerings and 5 and 6 credit (lecture and lab combined) courses. Additionally variable credit will be given for dissertation research (2-12 credits).

2. For students who enter after graduating with a master's degree from Mercyhurst (30 credit hours), the credit course work required will be 30 credits (in addition to Dissertation). Those 30 required credits will include both 3 and 4 credit offerings and 5 and 6 credit (lecture and lab combined) courses. Additionally variable credit will be given for dissertation research (2-12 credits).

3. For students entering the Ph.D. program with a master's degree from another institution, their transcripts will be evaluated in terms of number of transferable credits. In no case will more than 24 credits be transferable. Required credits will include both 3 and 4 credit offerings. Additionally variable credit will be given for dissertation research (2-12 credits).

All Ph.D. students must take a series of qualifying examinations, the content of which will be determined by track and subfield and they will be required to complete them no later than the end of their third full year of residency. However, upon consultation with their advisor and/or committee, students may petition to take the qualifying examination at any point in their initial three years of residence. Additionally, there is a language competency requirement for all students as well as a dissertation requirement involving original research. For students who enter the Ph.D. program without a master's degree, the option to obtain a master's degree after successfully passing the qualifying exams exists. The exercise of this option requires the production of a traditional master's thesis or two senior authored publications in peer reviewed national or international journals. There is no obligation to complete a master's degree before pursuing the Ph.D. in Anthropology. In addition to the foregoing, several of the tracks require extensive in-house field work requirements. These are detailed below under program track descriptions.

### Ph.D. CORE (18 credit hours)

ANTH 538	Advanced Anthropological/ Archaeological Theory	3 credits
ANTH 547	Anthropological Ethics	3 credits
ANTH 550	Statistical Methods in Anthropology <b>OR</b>	3 credits
ANTH 645	Advanced Statistical Methods in Forensic Anthropology	3 credits
ANTH 600	Basics of GIS I	3 credits
ANTH 590	Research Design	3 credits
ANTH 650	Seminar in Scientific Data Presentation <b>OR</b>	3 credits
ANTH 668	Directed Thesis Preparation	3 credits
		18 credit hours

### Forensic and Biological Anthropology Track

The Forensic Anthropology track is the first program of its genre, not only in the Commonwealth but also in North America, at large. The Forensic and Biological Anthropology track focuses on the following areas: Forensic Archaeology, Biological Anthropology, Biostatistics, Skeletal Trauma, Forensic Taphonomy, and Zooarchaeology.

The basic expectation for candidates is very similar to the other two tracks in that students will be required to demonstrate hands-on, working mastery of the protocols of one or more of the topical foci noted above as well as demonstrate a command of general anthropological and archeological theory as they relate to Forensic Anthropology.

A two-year graduate curriculum is already well established in this track and the Ph.D. program only enhances it. In addition to completing the current requirements for the Master's degree in Anthropology as well as the 16 credits required of all candidates in the Ph.D. program, students in the Forensic and Biological Anthropology track are required to take the following courses:

Required Courses: (In addition to the required 18 credit hour Common Core)

ANTH 500	Basics of Forensic Anthropology	3 credits
ANTH 510/511	Forensic Archaeology/Lab	3 credits/1 credit
ANTH 520/521	Fragmentary Human Osteology/Lab	3 credits/1 credit
ANTH 528	Human Skeletal Profile I-Age	3 credits
ANTH 530/531	Human Skeletal Profile II/ Lab	3 credits/1 credit
ANTH 540/541	Modification of the Human Skeleton/Lab	3 credits/1 credit
ANTH 565/566	Zooarchaeology/Lab	3 credits/1 credit
ANTH 575	Advanced Human Variation OR	3 credits
ANTH 610/611	Human Skeletal Growth and Development/Lab	3 credits/1 credit
ANTH 638/639	Gross Anatomy for Anthropology/Lab	3 credits/1 credit

**33/34 credit hours**

The remaining 8 or 9 credits can be drawn from any combination of the following Elective courses:

ANTH 535	Advanced Paleoanthropology	3 credits
ANTH 536	Advanced Paleoanthropology II	3 credits
ANTH 630/631	Skeletal Trauma Analysis/Lab	3 credits/1 credit
ANTH 640/641	Forensic Taphonomy/Lab	3 credits/1 credit

Dissertation credit is variable (2-12 credits). In lieu of 2 years of field requirements, students in the Forensic Anthropology track are expected to be actively engaged in forensic casework and/or in research related to their topical emphasis.

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## ANTHROPOLOGY COURSE DESCRIPTIONS

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### **ANTH 500** **Basics of Forensic Anthropology** **3 credits**

This course will cover the basic principles of forensic anthropology including but not limited to its historical background, the role of the forensic anthropologist in a forensic context, expert witness testimony, multidisciplinary interactions with law enforcement and other forensics experts, ethics in forensic science and anthropology, and the new direction of standardization and accreditation in the field. Additionally, students will learn protocols, procedures, and skills specific to forensic casework in the Mercyhurst Forensic Anthropology Laboratory such as forensic imaging and casting of specimens.  
*Prerequisite: None*

### **ANTH 503/504** **Analytical Laboratory Methods in Prehistoric Archaeology and Laboratory** **3 credits/ lab credit**

This course is designed to acquaint the student with the methods and techniques of processing, classification, analysis, curation, and documentation of the major classes of prehistoric artifactual evidence. The specific classes of data to be examined include, but are not limited to, lithic, ceramics, perishables, macrofloral remains, pollen and phytoliths, and biomolecular residues. Analysis of these materials will also involve addressing a number of anthropological themes such as dietary reconstruction, paleoenvironmental reconstruction, and construction of chronologies. The laboratory component of the courses is designed to allow students to employ the methods and techniques of artifact analysis using various "live" collections curated by the university.  
*Prerequisite: None*

### **ANTH 505/506** **Analytical Lab Methods in Historic Archaeology and Laboratory** **3 credits/1 lab credit**

This course will introduce students to the analytical and classificatory methods used in the treatment and processing of historic materials recovered from archaeological investigations. Emphasis will be placed on colonial and nineteenth century materials of the eastern United States. Students will assist in the analysis of materials

from ongoing university field projects.  
*Prerequisite: None*

### **ANTH 507** **Advanced Language and Culture** **3 credits**

This course is designed to introduce students to the complex study of language and its role in culture and society. We will begin by examining what constitutes language. Although not a major portion of the class, language structure, including morphology and syntax will be covered. We will examine how language is used in different cultures to construct and maintain social values and relationships, worldviews, and personal identities. Some questions addressed throughout the semester include: How do children acquire linguistic competence in their language? How is language used by people of different genders, ethnicities, socioeconomic classes, and geographical placement? This class is primarily lecture-based format, but students will have an opportunity to engage in some anthropological linguistic fieldwork.  
*Prerequisite: None*

### **ANTH 508** **Advanced European Prehistory** **3 credits**

This course summarizes and examines the archaeology of Europe from its initial colonization ca. 500,000 years ago until the appearance of horticulture in the early Holocene. The course stresses the environmental matrix of nearly one half million years of human socio-cultural evolution and compares and contrasts it to adjacent areas. This course also chronicles the history of human occupation in Europe for 8000 years, from the Upper Paleolithic to the emergence of state societies and Roman expansion. Particular emphasis is placed upon the regional cultural variability, the relationship between human communities and their landscapes, culture contact and trade, the development of social stratification and political centralization, and recent theoretical conceptualizations of various periods and regions. Students have the opportunity to concentrate on particular regional, cultural, and temporal problems.  
*Prerequisite: None*

### **ANTH 509** **Advanced Cultures in Contact** **3 credits**

This course examines the interface between Native American and Euro-American cultures from the arrival of Leif Ericsson in coastal Canada in the A.D. 990s through the better-documented landing of Columbus on 12 October 1492 to the progressive expansion of the frontiers and the ultimate displacement, transformation, or extinction of aboriginal eastern North American societies. The course focuses on the nature of the contact period as it is documented both historically and archaeologically and employs models and theoretical constructs from both Old and New World archaeology to elucidate the issue of cultures in collision.  
*Prerequisite: None*

### **ANTH 510/511** **Forensic Archaeology/Laboratory** **3 credits/1 lab credit**

This course will provide students with a working knowledge of how to document forensic context from a variety of outdoor forensic scenes. The course will consist of lectures and hands-on activities, supplemented with examples from forensic cases. The goal of the course is to introduce students to basic forensic archaeological recovery principles, methods, and practices. Hands-on activities in site mapping using a variety of instruments, proper excavation methodologies and biological physical evidence collection will be used.  
*Prerequisite: None*

### **ANTH 513** **Advanced Prehistory of New East** **3 credits**

This course examines and summarizes the prehistory of the Near East from the initiation of human occupation in the Early Pleistocene ca. one million + B.P. to the rise of state level societies, ca. 5,500 years ago. The course emphasizes the complex and fluid interplay between a constantly changing paleoenvironmental, paleoclimatic, and geoarchaeological stages and the prehistoric populations who "acted" upon it.  
*Prerequisite: None*

**ANTH 514****Advanced Far Eastern Prehistory****3 credits**

This course is designed to introduce the student to the prehistoric archaeological record of Northeast Asia. The course will examine the initial peopling of the region during the Pleistocene and will emphasize subsequent Paleolithic and Neolithic adaptations in North China, Japan, Eastern Siberia, and the Korean Peninsula.

*Prerequisite: None***ANTH 515****Iroquoian Prehistory****3 credits**

This course will examine Northern Iroquoia from its prehistoric origins to its eventual development into recognizable "Nations," through its tumultuous relations with European powers and subsequently the United States and Canada, and will conclude with a consideration and appreciation of the vibrant Iroquois societies of the present. Data from archaeology, ethnography, and history supplemented by information from Native oral traditions will be examined to help us more fully understand the Northern Iroquois as comprising living cultures with deep and unique pasts. *Prerequisite: None*

**ANTH 516****Plants and People****3 credits**

People depend on plants for food, clothing, shelter, medicines, and a host of other daily needs. This course examines the varied and complex interrelationships between plants and people. Major topics include domestication processes, the Green Revolution, intentional and unintentional modification of plant communities, and an examination of those plants that provide drugs, food, beverages, and fibers necessary to daily life.

**ANTH 518****Advanced Indians of Eastern North America****3 credits**

This course addresses the diversity of Eastern North American Indian cultures at the time of and immediately subsequent to Euro-American contact. Particular emphasis is placed on differences in technology and material culture, subsistence strategies, settlement patterns, and environmental variability.

*Prerequisite: None***ANTH 519****Advanced Indians of Western North America****3 credits**

This course addresses the diversity of Western North American Indian cultures at the time of and immediately subsequent to Euro-American contact. Particular emphasis is placed on differences in technology and material culture, subsistence strategies, settlement patterns, and environmental variability.

*Prerequisite: None***ANTH 520/521****Fragmentary Human Osteology and Laboratory 3 credits/1 lab credit**

This course will provide students with in-depth training in human osteology – the study of the structure and function of human bones. Students will not only learn to identify human skeletal elements and features, but will also gain an understanding of their anatomical functions. The skills obtained from this course will form the basis for more advanced anatomical and anthropological studies in forensic anthropology, bioarchaeology, paleoanthropology and various medical fields.

*Prerequisite: None***ANTH 522A/522B****(A)Advanced Archaeological Field School I – Prehistoric****6 credits****(B)Advanced Archaeological Field School 1 – Historic****6 credits**

Participants will be exposed to the latest methodologies in archaeology, geoarchaeology, excavation techniques, field photography, mapping, laboratory procedures, artifact analysis, human osteology, computer applications, and many other techniques employed in contemporary archaeological excavations. Students will be taught the techniques of open-site excavation and will be able to witness firsthand the ongoing interpretation of the natural and cultural history of archaeological sites. *Prerequisite: 524/525*

**ANTH 523****Advanced South American Prehistory****3 credits**

This course examines the interface between Native American and Euro-American cultures from the arrival of Leif

Ericsson in coastal Canada in the A.D. 990s through the better-documented landing of Columbus on 12 October 1492 to the progressive expansion of the frontiers and the ultimate displacement, transformation, or extinction of aboriginal eastern North American societies. The course focuses on the nature of the contact period as it is documented both historically and archaeologically and employs models and theoretical constructs from both Old and New World archaeology to elucidate the issue of cultures in collision. *Prerequisite: None*

**ANTH 524/525****Advanced Archaeological Field Method and Laboratory****3 credits/1 lab credit**

This course is designed to expose students to the full spectrum of field methods now in use in contemporary anthropological archaeology. The rationale, technical details, and expected results of a wide array of field methods are presented in the context of the location, characterization, and full scale data recovery of prehistoric and historic archaeological sites.

*Prerequisite: None***ANTH 526****(A) Archaeological Field Methods Lab****(B) Summer Field Training****1 credit****A - Indicates the Prehistoric field training program****B - Indicates the Historic field training program**

Participants will be exposed to the latest methodologies in archaeology, geoarchaeology, excavation techniques, field photography, mapping, laboratory procedures, artifact analysis, human osteology, computer applications, and many other techniques employed in contemporary archaeological excavations. Students will be taught the techniques of open-site excavation and will be able to witness firsthand the ongoing interpretation of the natural and cultural history of archaeological sites.

*Corequisite: ANTH 525***ANTH 527****Advanced Prehistory of Western North America**

The course is designed to introduce students to the prehistory of our continent's western "half." From the initial peopling of the New World to the rise of settled village life and the evolution of



non-state-level societies, the prehistory of Western North America is presented against an ever-changing backdrop of flora, fauna, and climate with an emphasis on the complex interplay between humans and their environmental matrix.  
*Prerequisite: None*

**ANTH 528**  
**Human Profile I- Age**  
**3 credits**

The main goal of this course is to provide students with in-depth training in human skeletal analysis. In particular, students will gain the knowledge and experience necessary to accurately estimate juvenile and adult age from unknown skeletal remains. Throughout the course, students will be asked to critically review research studies, thereby becoming familiar with research methods and presentation. At the end of the course, students will be responsible for independently completing the age estimation section of a case report using the knowledge gained from this course.  
*Prerequisite: ANTH 520/521*

**ANTH 530/531**  
**Human Profile II and Laboratory**  
**3 credits/1 lab credit**

The main goal of this course is to provide students with in-depth training in human skeletal analysis. In particular, students will gain the knowledge and experience necessary to accurately estimate the biological profile from unknown skeletal remains. They will learn to apply traditional metric and non-metric estimation methods, as well as more recent approaches. At the end of the course, students will be responsible for independently completing a case report using the knowledge gained from this course.  
*Prerequisite: ANTH 520/521*

**ANTH 532/533**  
**Geoarchaeology and Laboratory**  
**3 credits/1 lab credit**

Geoarchaeology examines in detail the interface, which exists between the fields of geology and the anthropological sub discipline of archaeology. The purpose of this course is to acquaint the student not only with the history of the interrelationship between these academic specialties but also to document and illustrate the range of geological techniques, which are useful to the contemporary archaeologist. More

specifically, via lectures and laboratory work, this course will detail how geological methods may be employed in the location, excavation, and interpretation of archaeological sites and materials.  
*Prerequisite: None*

**ANTH 535**  
**Paleoanthropology I**  
**3 credits**

This two-course sequence (ANTH 535/ ANTH 536) follows the development of the human species from our remote primate forbearers through the appearance of fully modern *Homo sapiens*. The student is familiarized with the methods and the data of human paleontology and comparative primatology and is shown the complex relationships, which exist between biological and cultural evolution. Part focuses on primate evolution and the evolutionary history of Australopithecines.  
*Prerequisite: None*

**ANTH 536**  
**Paleoanthropology II**  
**3 credits**

Part II will deal with the biological and cultural history of the genus *Homo* from its roots in the Plio-Pleistocene through the Holocene until the Neolithic.  
*Prerequisite: ANTH 535*

**ANTH 538**  
**Advanced Anthropological Theory**  
**3 credits**

This course is designed to address, through an examination of the history of anthropology, the theoretical developments, schools of thought, and ideas accounting for the nature of culture and cultural development. The specific contributions of the principal figures representative of each of the major schools of thought will also be identified and examined. While theories of culture are the focus and form the core of this course, the history and theoretical developments of archaeology will be simultaneously considered.

**ANTH 540/541**  
**Modification of the Human Skeleton and Laboratory**  
**3 credits/1 lab credit**

This course represents the third course in the human skeletal biology sequence (ANTH 520, 530, 540). Topics to be covered include in-depth analysis of skeletal pathology, taphonomic factors, and interpretation of skeletal trauma.

Examination of actual cases will be emphasized with microscopic examination and digital photographic documentation required by all participants.  
*Prerequisite: ANTH 530/531*

**ANTH 546**  
**Basic Statistical Methods for Research**  
**3 credits**

The goal of this course is providing the student with an in-depth understanding of formal hypothesis testing and the general principles underlying parametric statistical methods. The student will not only learn the practical application of the methods discussed in class but will also learn how to interpret and evaluate the results of hypothesis tests carried out with any other method. The course will also serve as an introduction to experimental design. The skills obtained from this course will form the basis to learn more advanced statistical methods and research techniques in the natural sciences.  
*Prerequisite: None*

**ANTH 547**  
**Anthropological Ethics**  
**3 credits**

This course explores the ethical, legal and practical dimensions of contemporary anthropology and its sub-disciplines through a consideration of topics such as anthropology as a profession, ethics and codes of conduct, national and international approaches to cultural/ heritage management, the relationship between anthropology and diverse publics, and anthropological education. It is intended to expose students to the myriad issues that may arise during a career in anthropology. Students will develop the skills necessary to formulate, discuss and defend your own set of anthropological values through critical analysis and study of case studies, ethical principles, and codes of conduct. Class activities and assignments include lectures, reading, writing, films, group discussions, presentations and occasional guest speakers.  
*Prerequisite: None*

**ANTH 550**  
**Statistical Methods in Anthropology**  
**3 credits**

This course is an introduction to the statistical techniques used most often in anthropology. Topics include univariate summary statistics, significance tests, hypothesis testing, correlation,

linear regression, detecting outliers, principal component analysis, and discriminant analysis.

**ANTH 565/566**  
**Zooarchaeology and Laboratory**  
**3 credits/1 lab credit**

In this course, all aspects of zooarchaeology will be discussed. A foundation in comparative osteology and the evolutionary perspectives of zoology will be presented. Students will learn to conduct faunal analyses, and how faunal remains can be used to interpret diet, seasonality, and socioeconomic factors of past societies. Students will also learn how knowledge of faunal remains aids in making the distinction between human and non-human skeletal remains in a forensic context.  
*Prerequisite: None*

**ANTH 575**  
**Advanced Human Variation**  
**3 credits**

Through this course, students will analyze biological data from human populations with regard to natural selection, human adaptation, growth and development, and population genetics. The course also includes an overview of morphological and genetic analytical methods of evaluating variation in and among modern human groups.  
*Prerequisite: None*

**ANTH 600**  
**Basics of GIS**  
**3 credits**

The course is an introduction to Geographic Information Systems, providing students with a basic knowledge of its theory and main practical applications, with stress on basic GIS software logics, usage and applications. The students will learn the usage of GIS software, with examples from different fields. At completion of the course, students will be able to collect, create and view geographic information data from preexisting sources, as well as produce their own maps and calculate basic descriptive spatial statistics such as measurement of dispersion and central location.  
*Corequisite: ANTH 601*

**ANTH 601**  
**Advanced Origins of Food Production**  
**3 credits**

This course examines the origins of horticultural, agricultural, and pastoral subsistence strategies throughout the

Old and New Worlds during the Holocene. Models and processes of domestication, the relationship between humans and their local floral and faunal communities, routes of transmission, and attendant effects on and consequences for social systems are covered. *Prerequisite: None*

**ANTH 604**  
**Advanced Hunters and Gatherers**  
**3 credits**

For 99% of the history of the genus Homo, hunting and gathering formed the basis of our subsistence and strongly influenced the configuration of human society in terms of social organization, religion, political structure, art and aesthetics, and, of course, technology. Hunters and gatherers are examined in both prehistoric and ethnographic perspective, and the unique qualities of this level of human socio-cultural evolution are detailed. *Prerequisite: None*

**ANTH 610/611**  
**Human Growth and Development and Laboratory**  
**3 credits/1 lab credit**

This course covers the phenomenon of human growth, how growth and development can be measured, the molecular basis of growth, secular changes, genetic and environmental effects on growth, and applications to age estimation in subadults. *Prerequisite: None*

**ANTH 620/621**  
**Pathological Conditions of the Human Skeleton and Laboratory**  
**3 credits/1 lab credit**

Students will be presented with details of pathological conditions that affect the human skeleton. Discussion will begin with the basics of alteration of bone resulting from osteoblastic or osteoclastic activity and end with discussion of specific bone diseases, analyzed and described from gross, histological and radiographic perspectives.  
*Prerequisites: ANTH 520/521*

**ANTH 622A/622B**  
**(A)Advanced Archaeological Field School II – Prehistoric**  
**6 credits**  
**(B) Advanced Archaeological Field School II – Historic**  
**6 credits**

Participants will be exposed to the latest methodologies in archaeology, geoarchaeology, excavation techniques,

field photography, mapping, laboratory procedures, artifact analysis, human osteology, computer applications, and many other techniques employed in contemporary archaeological excavations. Students will be taught the techniques of open-site excavation and will be able to witness firsthand the ongoing interpretation of the natural and cultural history of archaeological sites. *Prerequisite: ANTH 522A or 522B*

**ANTH 630/631**  
**Skeletal Trauma Analysis and Laboratory**

This course examines, in detail, the skeletal manifestations of injuries occurring near or at the time of death. Topics to be discussed include: blunt force trauma, gunshot/ballistic trauma, sharp force trauma, burned bone trauma, and bone fracture healing. An emphasis will be placed on bone biomechanics.  
*Prerequisite: ANTH 540/541*

**ANTH 632**  
**Perishables Analysis and Laboratory**  
**3 credits/1 lab credit**

This course provides the rationale and protocols for the analysis, documentation, and interpretation of twined, coiled, and plated basketry, along with cordage by-products. The delineation and recordation procedures of technological attributes, as well as the identification of plant and other organic raw materials used in the construction of perishable materials will also be emphasized. *Prerequisite: None*

**ANTH 635**  
**Current Topics in Biological Anthropology**  
**3 credits**

This course is designed as a graduate seminar course, in which students will critically review and discuss current research articles in the field of biological anthropology. The goal of the course is to broaden student knowledge and awareness beyond their particular area study, keep them up to date on recent studies in the field, and provide them with the background necessary to have professional discussions both inside and outside the classroom on a variety of topics. General discussion topics may include geometric morphometrics, modularity, heterochrony, plasticity, secular trends, morphological integration, developmental biology or recent finds in the field of paleoanthropology. *Prerequisites: ANTH 540/541*

**ANTH 638/639****Gross Anatomy for Anthropologists and Laboratory****3 credits/1 lab credit**

The main goal of this course is to provide anthropology students with in-depth training in human gross anatomy. During laboratory sessions students will be responsible for conducting a full cadaveric dissection and are expected to be able to identify all anatomical features and gain familiarity with human anatomical variation. Lecture material will cover the basics of human gross anatomy, as well as its functional, forensic, and evolutionary importance in anthropological contexts.

*Prerequisite: None*

**ANTH 640****Forensic Taphonomy****3 credits**

The goal of the course is to provide students with details of the field of forensic taphonomy as currently configured. As there is a dearth of good forensic taphonomic research, this course will provide students with an opportunity to explore their particular interests in forensic taphonomy by conducting extensive literature reviews of the topics of their choice during each week's focus. Those students interested in conducting research through a Master's thesis in a forensic taphonomy will be given wide latitude to explore the topic and create an extensive bibliography. The final product for those students will be a literature review, final research design, and data collection.

*Prerequisite: ANTH 530/531*

**ANTH 645****Advanced Statistical Methods in Biological and Forensic Anthropology****3 credits**

In this course the student is expected to master multivariate statistical techniques employed in biological and forensic anthropology. The course covers more extensive evaluation of principal components analysis, and explores further methods of statistical classification, cluster analysis, logistic regression, transition analysis, and resampling.

*Prerequisite: ANTH 550*

**ANTH 660****Advanced GIS****1 credit or 4 credits**

This course is designed to allow students to master use of Geographic Information Systems. This course provides students with a knowledge of the theory and practical applications of GIS, with stress on GIS software logics and usage. The student will learn the usage of ESRI's ArcGIS 9, with examples from different fields. At completion of the course, students will be able to collect, create and view geographic information data from preexisting sources as well as produce original maps and calculate basic descriptive spatial statistics, such as measurements of dispersion and central location. *Prerequisite: ANTH 600*

**ANTH 668****Directed Thesis Preparation****3 credits**

The main goal of this course is to develop the skills necessary to prepare professional publications including posters, refereed journal papers and an advanced level thesis. Skills are learned and enhanced through practical exercises in basic writing, editing, abstracting, and outline preparation with peer editing and evaluation methods to further enhance the student's comprehension of the course material.

**ANTH 670****Master's Thesis****3 or 6 credits**

This course is to be taken when the student is completing the Master's Thesis.

**ANTH 790****Dissertation****2 credits or 12 credits**

This capstone dissertation course is an independent research and writing experience designed to provide opportunities for Anthropology Ph.D. students to attain credits related to the completion of their dissertation. The time spent in the course is intended to provide students with the opportunity to develop operational mastery of the preparation and production of archaeological or geoarchaeological research, as well as the related application of appropriate technical procedures and statistical methods to its completion. Expected skills and competencies that will be assessed include effective textual and visual presentation, implementation of effective data acquisition and analysis methodologies,

a knowledgeable engagement with the corpus of theoretical and topical literature pertaining to the research, an articulation of the significance of the research to the discipline, and ongoing production and assembly of a dissertation document containing material of a publishable manner. It is expected that regular progress will be made toward dissertation completion during the terms in which the students are registered for the course in the form of written and graphic material for advisor review.

**GEOL 511/512****Advanced Mineralogy and Laboratory****3 credits/1 credit lab**

This course offers description, classification, and genetic interpretations of minerals, as well as a study of elementary crystallography and an examination of common minerals. *Prerequisite: None*

**GEOL 513/514****Advanced Petrology and Laboratory****3 credits/1 credit lab**

This course offers description, classification, and genetic interpretation of rocks, as well as a study of the texture and composition of rocks, both hand specimens and thin sections. Laboratory work may include the preparation of thin sections. *Prerequisite: None*

**GEOL 515/516****Advanced Geomorphology and Laboratory****3 credits/1 lab credit**

A study of the earth's landforms; their classification, origin, and the forces of wind, waves, streams, glaciers, and gravity that have caused our present landscapes and are causing them to change. Soil development and interpretation is also covered.

*Prerequisite: None*

**GEOL 540/541****Advanced Paleontology and Laboratory****3 credits/1 credit lab**

A broad survey of fossil invertebrates, vertebrates and plants. Direct examination of actual specimens to familiarize the student with morphology and characteristics of common as well as rarely seen fossils. Special topics will address exceptional preservation, extinction, paleopathology and data retrieval from the fossil record. Laboratory includes in-depth examination of fossils from diverse localities and preservational modes, including evolutionary and taxonomic problems



stressing identification and interpretation. Field experiences are anticipated.

*Prerequisite: None*

**GEOL 545/546  
Sedimentation and Stratigraphy and  
Laboratory**

**3 credits/1 lab credit**

An introduction to processes and environments of sedimentation and the principles employed in the examination of sediments and sedimentary rocks. Hand specimens and sequences will be studied for characteristics and origins. *Prerequisite: None*

**GEOL 552/553  
Advanced Structural Geology and  
Laboratory**

**3 credits/1 credit lab**

This course offers the identification and interpretation of structural geologic features including the construction and use of structural maps and cross-sections, laboratory and field work. *Prerequisite: None*

**GEOL 580/581  
Advanced Principals of Remote Sensing  
and Laboratory**

**3 credits/1 credit lab**

This course will address the theories and fundamentals of acquiring, processing, and interpreting remotely sensed datasets. Special attention will be paid to geological, archaeological, environmental, and urban applications of remotely sensed data collected through both air-and space-borne platforms. *Prerequisite: None*

**GEOL 606/607  
Soils and Laboratory**

**3 credits/1 lab credit**

The study of the processes and environmental conditions that result in the formation of soils; the relationships among climate, rock type, and time duration that cause soils to possess different chemical and physical properties; and the various schemes and the nomenclature by which soils are classified. *Prerequisite: None*

**GEOL 655  
Advanced Field Methods in Geology**

**4 credits**

Participants will be exposed to the latest methodologies in geological field techniques, field photography, mapping, laboratory procedures, and sample processing. Students will be taught the techniques of geological survey/sampling

and will be able to witness firsthand the ongoing interpretation of the natural history of geological phenomena.

*Prerequisite: None*

**GEOL 660/661  
Advanced Hydrogeology and Laboratory**

**3 credits/1 credit lab**

An introduction to the origin, occurrence, regimen, and utilization of the ground water sector of the hydrological cycle; the geological influences and chemical aspects of ground water, location, evaluation, and influence of man. *Prerequisite: None*

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# GRADUATE PROGRAM IN APPLIED INTELLIGENCE

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## PROGRAM PHILOSOPHY AND CONTENT

Today, thousands of research and intelligence analysts work throughout the United States and abroad in government agencies and private enterprises. The work of these intelligence analysts, whether relating to national security, criminal investigative activities, business intelligence or terrorism, involves the preparation of assessments based on the collection, correlation and analysis of information. Building on the nationally renowned undergraduate Intelligence Studies program, the Applied Intelligence program provides students with the educational foundation necessary to succeed as intelligence analysts and leaders of analytical teams at federal and state agencies or within the law enforcement and business communities.

The Master of Science in Applied Intelligence, part of the Ridge College of Intelligence Studies and Applied Sciences, is a 34- or 36-credit program designed to provide a theoretical and practical framework for the study of intelligence and its application in a wide variety of contexts. This is accomplished through a rigorous curriculum that includes a basic core, which exposes students to the fundamental and advanced concepts and analytic techniques related to intelligence, and a set of elective courses that allows the student to pursue study in areas of law enforcement, national security and competitive intelligence.

The ideal candidate for the Applied Intelligence program possesses an inquiring mind, an interest in the world around them, an ability to communicate with others effectively, and a desire to research and write. The individual should be self-motivated, in addition to committed to personal and professional development. Individuals from a variety of academic and professional backgrounds are encouraged to apply; however, members of the Applied Intelligence program may request an interview to determine whether the program will meet the applicant's goals.

Students enrolled in the Applied Intelligence program are afforded state-of-the-art learning resources, excellent liaison with potential employers in government and the private sector, access to a core of successful graduates, and exposure to an experienced and accomplished faculty.

Preference in admissions for the online degree will be given to working professionals who possess experience as an analytic professional (or similar position) that signals the applicant will benefit from further study in the field of applied intelligence. Please note that those who are just completing their undergraduate studies and/or do not possess professional work experience should apply to the resident MS in Applied Intelligence degree **program in Erie, Pa.**

The department shall conduct an annual review of the academic progress of all students enrolled in the program. Students whose GPA falls below a 3.0 or who might otherwise exhibit behavior that is not conducive to ensuring employment in this field will be placed on probation or disenrolled from the program, depending on the outcome of review.

## MISSION STATEMENT

It is the mission of the intelligence programs at Mercyhurst University to produce graduates, through a variety of delivery modalities, who are skilled in utilizing a variety of sources of data and analytic techniques to lead the collaborative development of high-quality written and oral analytic intelligence products that, in service toward a just world, inform decision-makers, thereby fostering an appreciation for the dignity of work and commitment to serving others.

## LEARNING OUTCOMES

Graduates of the Master of Science in Applied Intelligence graduate program will be able to:

1. Interpret the theory and history of the discipline of intelligence.
2. Apply critical thinking skills to real world issues.
3. Appraise collected data/information using a variety of analytic techniques and methodologies.
4. Prepare analytic products in written, oral, visual, and/or multimedia formats.
5. Devise open source research and collection management practices.
6. Facilitate and manage intelligence processes and practices.
7. Produce research in the intelligence field.

## APPLIED INTELLIGENCE MASTER'S DEGREE REQUIREMENTS

**Core Courses** (7 courses): 21 credits

INTL 501	Research Methods in Intelligence
INTL 510	Intelligence Theories and Applications
INTL 540	Competitive Intelligence
INTL 576	Law Enforcement Intelligence
INTL 580	Intelligence Communications
INTL 615	Contemporary Leadership in Intelligence
INTL 655	Managing Strategic Intelligence Analysis

## Elective Courses

\* Students completing a thesis take 3 electives

\*\*Students completing the research-based project take 4 electives

INTL 520	Advanced Analytical Techniques Grand Strategy: Strategic Planning and Intelligence
INTL 535	
INTL 548	Market Research & Primary Intelligence
INTL 560	Cyber Threat Analysis
INTL 565	Business Writing & Visual Presentation
INTL 570	Comparative History of Intelligence
INTL 590	Intelligence Support to Targeting
INTL 595	Geospatial Intelligence
INTL 605	Data Analytics for the Private Ssector

INTL 612	Social Media Analysis
INTL 620	Nonproliferation Analysis
INTL 625	Intelligence and Business Strategy
INTL 626	Financial Intelligence Analysis
INTL 627	Graduate Seminar: National Security
INTL 633	Studies in Terrorism
INTL 638	Social Network Analysis
INTL 640	Intelligence, the Military and Warfare
INTL 646	Counterespionage Policy & Practice
INTL 650	Topics in Intelligence
INTL 675	Internship (3 credits)

### Capstone Experience

INTL 676	Research-based Project (3 credits) – <b>ONLINE DEGREE STUDENTS ONLY**</b> <b>OR</b>
INTL 679	Intelligence Thesis Seminar (1 credit)* <b>AND</b>
INTL 680	Thesis in Applied Intelligence (3 credits)*

Note: Students who elect the thesis option take three intelligence electives, in addition to the Intelligence Thesis Seminar (INTL 679) and Thesis in Applied Intelligence (INTL 680) courses. Students who elect to take the research-based project take four intelligence electives, in addition to the Research-based Project (INTL 676). The Research-based Project is only available to working professionals in the online degree program.

### GRADUATE CERTIFICATE IN APPLIED INTELLIGENCE

The Mercyhurst University Certificate in Applied Intelligence is a four-course, twelve-credit-hour graduate certificate program. This challenging and demanding academic experience provides students with a variety of analytical skills and exposure to the latest technologies in intelligence theory, communications and research. The goals of the program are to: introduce current intelligence theories and applications, improve competence in writing and briefing, and build skill in applying various analytic techniques. The certificate also provides the opportunity for specialized study in several areas of expanding importance in business, including law enforcement intelligence, competitive intelligence, financial intelligence analysis, cyber threat analysis, geospatial intelligence, nonproliferation analysis, intelligence support to targeting or terrorism.

INTL 510	Intelligence Theory and Application
INTL 580	Intelligence Communications
INTL 520	Advanced Analytical Techniques
INTL XXX	Intelligence Elective Course

The certificate is intended as skill enhancement for those who are already working professionals; it is not intended to prepare an individual for a new career in the field. The certificate is open only to individuals who have completed their undergraduate degree. It is not necessary for that degree to be in an intelligence-related discipline. The twelve graduate credits awarded through the certificate may be used to partially satisfy the degree requirements for the Master of Science degree in Applied Intelligence. An internship may not take the place of the intelligence elective.

### GRADUATE CERTIFICATE IN BUSINESS ANALYTICS AND INTELLIGENCE

The Mercyhurst University Certificate in Business Analytics and Intelligence is a four-course, twelve-credit-hour graduate certificate program. The certificate meets the increasing demand of employers for business professionals to expand their understanding of critical analysis, communication for decision-makers and big data

#### Visualization.

The interdisciplinary certificate integrates components of intelligence analysis, business, and data science curriculum to enhance the skills of working professionals in the private sector. The certificate also provides the opportunity for specialized study in several areas of expanding importance in business, including financial intelligence analysis, cyber threat analysis, geospatial intelligence, or advanced analytic techniques.

The courses are sequential and build on each other. Students should complete the courses listed below in the following sequence:

INTL 565	Business Writing and Visual Presentation
INTL 605	Data Analytics for the Private Sector
INTL XXX	Intelligence Elective Course Intelligence and
INTL 625	Business Strategy

Only candidates with undergraduate degrees can be accepted to the Business Analytics and Intelligence Graduate Certificate Program. Applicants to this program should have an undergraduate or graduate degrees in a business-related field OR two years' work experience as a business professional. Those without business education or work experience may be required to take INTL 540: Competitive Intelligence (3 credits) as a prerequisite course to the certificate.

The twelve graduate credits awarded through the certificate may be used to partially satisfy the degree requirements for the Master of Science degree in Applied Intelligence.

An internship may not take the place of the intelligence elective.

## APPLIED INTELLIGENCE COURSE DESCRIPTIONS

### **INTL 501 Research Methods in Intelligence 3 credits**

This course is an introduction to research methods with an emphasis on applying those methods to the field of intelligence. The goal of the course is to facilitate student comprehension and application of methodology in conjunction with sound argumentation. Students will learn a variety of approaches to inquiry, practical methodologies, and tools that will assist them in conducting analytic research as part of their continuing work in the graduate program.

### **INTL 510 Intelligence Theories and Applications 3 credits**

A survey course that introduces the student to the discipline of intelligence and provides the student with an understanding of how intelligence systems function, how they fit within the policymaking systems of free societies, and how they are managed and controlled. The course will integrate intelligence theory with the methodology and processes that evolved over time to assist the intelligence professional. The course focuses on advanced research and thinking skills fundamental to intelligence analysis.

### **INTL 520 Advanced Analytical Techniques 3 credits**

This course is designed to provide an opportunity for students to explore techniques emerging from the intelligence community and physical and social sciences and apply those techniques to intelligence problems. Focusing on a variety of techniques from a variety of disciplines, this course will expose an advanced student to new and potentially useful methods for conducting intelligence analysis.

### **INTL 535 Grand Strategy: Strategic Planning & Intelligence 3 credits**

This course examines the theory and practice of grand strategy and how intelligence informs the process of forming and executing it. Beginning with a historical view of grand strategy from the post-Napoleonic War period (1815 – 1914), the course then covers Interwar and Cold War grand strategy, post-Cold War grand strategy and American grand strategy today in the age of terror. The course concludes with workshops on strategy formulation and a real-life simulation of a crisis event in which students are expected to discern, formulate, and implement an American grand strategy of their own.

### **INTL 540 Competitive Intelligence 3 credits**

This course explores the actionable information needs of modern business for competitive intelligence and business analysis. The course objective is to introduce business terminology, analytical models and other resources that organizations utilize in the process of competitive intelligence. Students will be provided with a knowledge base of practical tools and methods to research a business's micro and macro environment; from this base, students will develop competitive overviews and insights to assist corporate decision makers in reducing uncertainty and developing strategy.

### **INTL 548 Market Research and Primary Intelligence 3 credits**

This course is designed to provide a comprehensive overview of the principles and fundamentals of market research and primary intelligence. The course includes the study of both the qualitative and quantitative methods used in contemporary market research along with the tools and techniques used in the collection, analysis, and measurement of data. The course is organized from a management perspective using an applied, problem analysis format. A real life research project will be used to reinforce the theoretical concepts presented during the semester.

### **INTL 560 Cyber Threat Analysis 3 credits**

This course explores the relatively new discipline of cyber threat analysis at a basic level, introducing students to the methodology of investigation, the threat environment (cyberspace), some of the online tools used by analysts, and their application in real-world examples. Students will be introduced to the key concepts, tools, and terminologies used by professionals in the field and apply what they learn in lab exercises that model real-world events.

### **INTL 565 Business Writing & Visual Presentation 3 credits**

This course will focus on written communication skills in intelligence along with how to leverage visual tools to communicate information to business leaders and decision makers. The writing component will focus on concision, clarity, and coherence as well as addressing how to present information effectively using various venues such as portable electronic

devices. Students will learn about practical techniques and concepts for visualizing information.

### **INTL 570 Comparative History of Intelligence 3 credits**

This course examines the history of intelligence from the Classical period in China to the 20th century Cold War period. Although much of the material in the course refers to the United States, this course is comparative in scope. Specifically, this course explores how nations organize the tasks of the intelligence community (collection, intelligence analysis, counterintelligence, and covert operations) to achieve strategic goals. Emphasis is placed in the international and diplomatic environment that defined the intelligence requirements.

### **INTL 576 Law Enforcement Intelligence**

The course introduces the discipline of law enforcement intelligence across the sub disciplines of crime and operations/ administrative analysis, investigative analysis, and intelligence analysis, in addition to basic definitions and concepts in crime and law enforcement operations. Students will utilize basic analytical methodologies, techniques, and software tools to examine law enforcement operational and investigative problems and issues.

### **INTL 580 Intelligence Communications 3 credits**

The skill most valued by the intelligence consumer is the ability to communicate, briefly and effectively, the results of detailed analytic work. This course, through repetitive application of a focused set of skills to a body of information of constantly increasing complexity, is designed to prepare intelligence analysts to deliver a variety of intelligence products in both written and oral formats.

### **INTL 590 Intelligence Support to Targeting 3 credits**

This course will introduce students to Intelligence Support to Targeting. Students will learn the basics of the Joint Targeting Cycle and examine the intricacies of how intelligence can drive operations. An understanding of the historical context that formed the basis for the current United States targeting process will be presented to students as well as various technical aspects of the trade.



**INTL 595**  
**Geospatial Intelligence**  
**3 credits**

This course will cover topics related to the collection, exploitation, and analysis of geospatial information and imagery. The focus of the course will be on how to use software and knowledge of geospatial concepts to respond to a variety of intelligence requirements that arise from fields that range from military and law enforcement to business, humanitarian issues, and other security issues. The emphasis is on the choice and application of appropriate methods for the analysis of the spatial and imagery data often encountered in the

**INTL 605**  
**Data Analytics for the Private Sector**  
**3 credits**

Data analytics is the process of generating and delivering information that enables and supports an improved and timely decision process. The aim of this course is to provide the student with an understanding of a broad range of decision analysis techniques and facilitate the application of these methodologies to analyze real-world business problems, arrive at a rational solution, and present the solution to decision makers.

**INTL 612**  
**Social Media Analysis**  
**3 credits**

This course introduces students to the collection and analysis techniques used in the analysis of social media. Students will be exposed to critical theory with regards to social media including basic techniques in collection and analysis. Open source computer software programs are used to enhance individual analytical products. A threaded discussion of the psycho-socio aspects of intelligence analysis of social media is integrated into course material.

**INTL 615**  
**Contemporary Leadership in Intelligence**  
**3 credits**

This course examines organizational leadership in the context of intelligence organizations and units. Historically, the execution of intelligence leadership within the Intelligence Community will be analyzed and the impact of leadership on the intelligence process will be evaluated. Students will explore leadership styles, principles, models, in addition to developing a personal sense of how to lead groups and how to lead change within an organization. Contemporary issues and ethical challenges facing intelligence leaders will be explored, particularly how leadership decisions impact organizations, staff, morale, and public perceptions of intelligence organizations.

**INTL 620**  
**Nonproliferation Analysis**  
**3 credits**

Students in this course will examine the many aspects of nonproliferation. Topics will include basic physics, the nuclear fuelcycle, the Nuclear Nonproliferation Treaty (NPT), the International Atomic Energy Agency (IAEA), the Additional Protocol, safeguards (including an overview of verification techniques and the use of open-source information), export control, proliferation incentives (and disincentives), nonproliferation trends, and nuclear terrorism. Two case studies will explore the nuclear black market and proliferation.

**INTL 625**  
**Intelligence and Business Strategy**  
**3 credits**

This course examines the interconnections between competitive intelligence and business strategy. The course provides a detailed overview of the business strategy field, highlighting influential thinkers, key concepts and core analytical frameworks. It describes the evolution of competitive intelligence and strategy in response to current management trends, such as the drive for innovation and the rise of big data. Throughout the course, students have the opportunity to apply both competitive intelligence methods and strategy frameworks to multidisciplinary case studies drawn from a variety of industries and countries.

**INTL 626**  
**Financial Intelligence Analysis**  
**3 credits**

This course examines the nature and scope of financial crimes and many of the tools used by law enforcement in the preparation of a financial case. Included in this course is a detailed treatment of the following: laws which serve to aid in the detection and prosecution of these crimes, the types of business records available, types of bank records available, an examination of offshore business and banking operations, and the collection and analysis of this information, with emphasis placed on Net Worth and Expenditure Analysis. In addition, special treatment is given to the detection and prosecution of money laundering, various types of money laundering schemes, and the relationship of money laundering to terrorism.

**INTL 627**  
**Graduate Seminar: National Security**  
**3 credits**

This course provides an introduction to national security decision-making in the U.S. with a special emphasis on the role of intelligence in formulating policy. It provides an historical overview of national security politics and strategy since WWII and a description of major institutions

and processes involved in national security policymaking. In addition, it provides a survey of significant national security problems and their changing nature in the 21st century.

**INTL 633**  
**Studies in Terrorism**  
**3 credits**

This course will focus on terrorism and counterterrorism policy, with an emphasis during class discussion on the role that the intelligence analyst plays in the process. In the first half of the course, we will explore the definitions, history, justifications, and explanations for terrorist activity, focusing on al Qaeda in particular. In the second half of the course, we will examine the policy tools available to U.S. national security decision makers to address the terrorist threat, and evaluate how well those policy tools were used from 1992 through 2001. We will then focus on 9/11 and its aftermath, evaluating the Bush Administration's war on terror, and assess different recommendations for countering terrorism today and in the future.

**INTL 638**  
**Social Network Analysis**  
**3 credits**

Underpinned by the principles of network theory, sociology, and computational social science, the purpose of this course is to expose students to an array of tools, applications, and techniques across the spectrum of network analytics. At a very high level, students will come to understand the basic theories governing network behavior in addition to learning about how to identify and/or construct relevant data sets from open sources, how to combine network analysis with other analytic techniques such as geospatial modelling and simple statistics, and how to apply network analysis to a variety of intelligence problems. The course will culminate with a final project of the student's choosing using network analysis and other analytic techniques to address an intelligence question in the national security, law enforcement, or competitive intelligence domain.

**INTL 640**  
**Intelligence, the Military, and Warfare**  
**3 credits**

This course explores the role of intelligence in the conduct and prosecution of armed conflict. The course traces the evolution of modern military organizations and the use of intelligence in the success or failure of these organizations. Current intelligence practices and methods employed by the U.S. military are also discussed.

**INTL 646**  
**Counterespionage Policy and Practice**  
**3 credits**

This course is designed to provide students with an understanding of the historical context that formed the basis for national security legislation. Students will examine the development of the country's current counterintelligence bureaucracy and strategy and its role in the fulfillment of national security policy. This course will examine the intersection of Department of Justice policy, the media, and the prosecution of media leak cases. Students will also be exposed to the conduct and practice of counterintelligence and espionage investigations, with a focus on insider threats.

**INTL 650**  
**Topics in Intelligence**  
**3 credits**

This course focuses on special topics related to the intelligence disciplines. Faculty with special research interests or experience will deal with topics like deception, warning, intelligence architecture, operational security, and diplomatic history.

**INTL 655**  
**Managing Strategic Intelligence Analysis**  
**3 credits**

This course is designed to examine the fundamentals of strategy, the strategic estimative process and the management of a "real" strategic intelligence product. In addition to an examination of the theoretical materials, students will apply these materials to "real life" questions posed by senior decision-makers involved in the federal government, business, and/or academia.

**INTL 675**  
**Internship**  
**3 credits**

A period of employment (minimum of 200 hours) as an intelligence analyst with a government or international agency or corporation during which certain experience objectives must be met.

**INTL 676**  
**Research-Based Project**  
**3 credits**

The research-based project is a theoretical or applied research-driven work of scholarship that serves as a final example of the meaningful link between theory/research and practice/application. The project requires students to engage in application, synthesis, and critical evaluation of their graduate studies. While the project can take many forms, appropriate topics for the project are intended to synthesize concepts across the Applied Intelligence curriculum or to develop a concept not normally covered in the curriculum but that can be reasonably approached within the expertise of the student and research mentor.

**INTL 679**  
**Intelligence Thesis Seminar**  
**1 credit**

The goal of this course is to provide students (in a peer group setting) with practical guidance as they construct their research proposal. This course focuses on the identification and formulation of research problems, the development of methodological designs, data collection, and analytic procedures to address those problems.

**INTL 680**  
**Thesis in Applied intelligence**  
**3 credits**

This capstone course experience is designed to demonstrate a scholarly study of a problem or issue related to applied intelligence and offers conclusions using qualitative and/or quantitative research methods. Research products may range from theoretical studies to applied projects. The thesis requires students to conduct purposeful research, review the literature, write a detailed analysis, offer new insights, and present and defend conclusions.

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# THE GRADUATE PROGRAM IN CRIMINAL JUSTICE ADMINISTRATION

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## PROGRAM PHILOSOPHY AND CONTENT

The Criminal Justice Administration program's philosophy is based on the assumption that criminal justice is a true profession dedicated to serving society and preserving the basic rights and freedoms of all people. To fulfill these goals, the criminal justice profession requires efficient, knowledgeable, sensitive, ethical and competent leaders. The Criminal Justice Administration program is built on a common core of courses involving a broad overview of government management, organizational and interpersonal dynamics, professional ethics and research competence.

Mercyhurst University has a service orientation that recognizes the special needs of both new and practicing professionals. The program is committed to in-service professionals whose career and personal responsibilities make it very difficult to acquire advanced managerial training. Accordingly, the Mercyhurst program offers evening courses each semester.

## MISSION STATEMENT

It's the mission of the Criminal Justice Administration graduate program to expose its students to historical and comparative perspectives on crime and criminal justice. A synthesis of problem solving and critical thinking is emphasized, as well as a basic knowledge of legal and sociological aspects of the criminal justice field. Enhanced knowledge of methodological skills, and development of professional and managerial skills are also emphasized.

## LEARNING OUTCOMES

- A knowledge of the historical context of criminal justice
- A synthesis of problem solving and critical thinking
- A basic knowledge of the legal and sociological aspects of criminal justice
- An understanding of legal and sociological aspects of criminal justice
- Knowledge of professional skills

## Criminal Justice Administration MASTER'S DEGREE

### Core Requirements

CJA 501	Research Methods in Criminal Justice
CJA 502	Organizational and Human Behavior
CJA 506	Professional Ethics
CJA 604	Criminal Justice Planning and Evaluation
CJA 605	Government Management
CJA 621	Advanced Criminology <b>OR</b>
CJA 511	Historical and Comparative Criminal Justice

## Elective Courses (*choose five*)\*\*

CJA 503	Issues in Correctional Administration
CJA 511	Historical and Comparative Criminal Justice
CJA 515	Organized and White Collar Crime
CJA 519	Victimology
CJA 520	Issues in Criminal Justice
CJA 532	Public Law and Public Administration
CJA 550	Politics of Crime
CJA 595	Women and Crime
CJA 610	Law and Society
CJA 616	Issues in Juvenile Justice
CJA 620	Forensic Science
CJA 621	Advanced Criminology
CJA 625	Theories in Corrections and Criminal Justice
CJA 628	Seminar: Crime Analysis
CJA 630	Policy, Politics, Community Coalitions in Administration of Justice
CJA 631	Political Crime and Terrorism
CJA 634	Seminar: Criminology and Crime Policy
CJA 637	Seminar: Special Topics in Juvenile and Criminal Justice
CJA 650	Supervised Justice Administration Readings
CJA 675	Justice Administration Thesis

\*\* Students who elect a six-credit thesis take only three criminal justice electives. The thesis substitutes for the fourth and fifth elective courses.

## CJA 4+1 PROGRAM

Mercyhurst University offers a 4+1 program in which undergraduate students can obtain both a Bachelor of Arts degree in criminal justice and a Master of Science degree in Criminal Justice Administration within five (5) years of study. Students enrolled in the 4+1 program will complete 12 graduate credits during both their junior and senior years. During the fifth year of study, students will then complete the remaining 21 graduate credits during the fall, spring and, potentially, summer semesters. Graduates of this program will have earned 121 undergraduate credits and 33 graduate credits upon commencement. For additional information about the CJA 4+1 program, refer to the Criminal Justice section of the undergraduate catalog.



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## CRIMINAL JUSTICE ADMINISTRATION COURSE DESCRIPTIONS

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### **CJA 501** **Research Methods in Criminal Justice** **3 credits**

This course deals with scientific research methodology applicable to the field of criminal justice. The course will focus upon formulation, model construction, research designs and data gathering strategies including survey sampling, data analysis, proposal writing and data presentation. Completion of the course will provide the student with basic skills necessary to undertake supervised thesis work and independent research in the area of criminal justice systems.

### **CJA 502** **Organizational and Human Behavior** **3 credits**

This course explores organizational behavior based upon research and theory from the behavioral sciences. The course focuses on an analysis of the expected organizational effects of a variety of individual, team and group behaviors. Among the topics discussed are performance evaluation, creative and innovative leadership, group decision making, cooperation, competition and intergroup conflict. Communication, leadership and planned change in organizations are emphasized.

### **CJA 503** **Issues in Correctional Administration** **3 credits**

This course focuses on the structure, function and operation of modern correctional administration, both institutional and community based. Target issues relevant to inherent systematic problems are explored in detail.

### **CJA 506** **Professional Ethics** **3 credits**

This course is designed to provide a philosophical blend of both theoretical principles and practical issues as they bear on criminal justice professionals. Special emphasis is placed on the role of professional ethics and customs as they affect and are affected by contemporary values.

### **CJA 511** **Historical and Comparative Criminal Justice** **3 credits**

This course is a survey of the origins and development of the criminal justice system

in the United States. Emphasis is placed on studying the evolution of the law enforcement and corrections components of this system. Comparisons are drawn with the British and some continental European criminal justice systems.

### **CJA 515** **Seminar: Organized and White Collar Crime** **3 credits**

This course examines corporate, occupational, professional and organized crime – the biggest growth area of crime and law enforcement activity today. Through analysis of cases, students explore recent legal developments and literature and emerging trends in the criminal justice system's reaction to these types of crimes

### **CJA 519** **Victimology** **3 credits**

This course focuses upon a recent and rapidly developing branch of criminology which is designed to study the crime victim. Included will be victim vulnerability – the susceptibility of certain groups of people to victimization – and culpability – the actions on the part of individuals which, under certain circumstances, suggest victims may be partly responsible for their own victimization. Recently enacted laws pertaining to the rights of victims will be examined, as well as programs that aid victims in their plight

### **CJA 520** **Issues in Criminal Justice** **3 credits**

This course offers a concentrated study of selected critical issues in the criminal justice system. The issues are timely and of concern to both academicians and practitioners of law enforcement and corrections.

### **CJA 532** **Seminar: Public law and Public Administration** **3 credits**

This seminar provides the opportunity to examine "the administrative process" and the constitutionality of the frequently broad discretion granted to agencies. Focus is on the wisdom and legality of delegation as well as the political, administrative, and legal elements of administrative actions.

### **CJA 550** **Seminar: Politics of Crime** **3 credits**

This seminar studies the ideological, theoretical, and conceptual perspectives of social organization, criminality, public policy, and the mechanics of social control. Topics include the use of power and position in the development of criminal justice policies and the rhetoric and symbolic aspects of crime control. The seminar also covers public perceptions and reactions to crime and criminal justice issues.

### **CJA 595** **Seminar: Women and Crime** **3 credits**

This seminar provides a study of the female offender with emphasis on the different treatment received by male and female offenders. Attention is given to female criminality, special problems in supervising female offenders and women in prison. Through a critique of contemporary research and literature, the myths surrounding women and crime are examined.

### **CJA 604** **Criminal Justice Planning and Evaluation** **3 credits**

The objective of this course is to focus on developing new projects from inception to completion. It deals with establishing priorities, securing funding, administering programs, and designing and implementing evaluative criteria. It incorporates empirical data evaluation, including parametric and nonparametric techniques, and the use of computers in evaluation.

### **CJA 605** **Government Management** **3 credits**

Emphasis in this course is placed on primary areas of personnel and fiscal administration. Personnel areas such as labor/management relations, motivation, planning, control, recruitment, selection, training and evaluation are covered. In addition, students explore basic accounting principles and procedures including budgeting, financial statements, short- and long-term sources and the uses of capital, grantsmanship and managerial control models.

**CJA 610****Seminar: Law and Society****3 credits**

Through the examination and critique of sociological studies, this seminar features various theoretical, empirical and legal approaches to understanding the relationship between law and society. This is not only a study of the legal system, but an attempt to understand the nature of social order through a study of law.

**CJA 616****Issues in Juvenile Justice****3 credits**

The majority of serious adult criminals begin their deviant careers as juveniles, therefore an investigation of the origins of juvenile delinquency is simultaneously an examination of many of the origins of crime and deviance generally. Students explore juvenile crime from a variety of perspectives and contemporary theoretical approaches to the origins of delinquent youth. This entails a critical examination of the contemporary juvenile justice system and discussion of current efforts to reform the system. The seminar also includes discussions of the connections among child abuse, drug abuse, gang involvement, familial and social factors and juvenile crime.

**CJA 618****Seminar: Computers, Crime and Criminology****3 credits**

Computers have had a profound impact on recent history. This seminar explores the impact of the growing computer technology in relationship to crime, criminology and the criminal justice system. Topics include the use of computers as a research tool, as a law enforcement investigative tool, and the types of, and control of, computer crime.

**CJA 620****Seminar: Forensic Science****3 credits**

This semester is a special study of the newest techniques used by science in the Criminal Justice Administration. It includes case studies, laboratory techniques, interpretation of proof and the available scientific resources. Some laboratory work is required; previous work in criminalistics is helpful.

**CJA 621****Seminar: Advanced Criminology****3 credits**

The purpose of this seminar is to provide access to most of the significant current research and literature in the field of

criminology. Through the examination and critique of contemporary works, the nexus of theory and method is addressed. Major consideration is given to typologies such as criminal behavior systems.

**CJA 625****Theories in Corrections and Criminal Justice****3 credits**

As a study of the major issues and conflicts characteristic of corrections, this course focuses on empirical and theoretical literature reflecting legal, sociological, psychological and public-policy viewpoints affecting corrections and criminal justice. Emphasis is placed on the ideologies that reflect and shape the development of corrections as both a subsystem and a goal of the criminal justice system.

**CJA 628****Seminar: Crime Analysis****3 credits**

This integrated lecture and application course emphasizes practical skills and the use of computerized tools; designed to develop both basic and advanced skills in criminal analysis.

**CJA 629****Seminar: Drugs, Crime and Culture****3 credits**

This seminar focuses on critical issues at the nexus between drug use and the American criminal justice system. Topics include examining drug use in America from the historical, sociological and biopsychological perspectives. This seminar also reviews the American criminal justice policy as related to drug use. A variety of approaches to the problem of drug use and the treatment of drug use will be explored.

**CJA 630****Seminar: Public Policy Analysis****3 credits**

This seminar is based on several premises, all of which relate to the idea that the complex task of public administration is "about" policy making; which means that it is "about" politics, and that politics is increasingly "about" leadership, inter-governmental management, and the establishment of community coalitions. To complicate matters, all of this must take place in a public environment of uncertain competition, democratic ideals, ethical and legal concerns and the ever-present media

**CJA 631****Seminar: Political Crime and Terrorism****3 credits**

This seminar examines ideological

crimes both by and against governments including human rights violations, secret police activities, genocide and crimes by police. Students also explore domestic and international terrorism, protest, assassinations and espionage.

**CJA 634****Seminar: Criminology and Crime Policy****3 credits**

The seminar incorporates an academic review of prevailing criminological theories and a critique of crime policies. Conceptual and ideological perspectives are used to examine assumptions and objectives of public policy responses to crime. Seminar themes include the use of empirical information in policy decision-making, the social construction of crime, and the limits of crime policy.

**CJA 637****Seminar: Special Topics in Juvenile and Criminal Justice****3 credits**

Independent study and directed reading course is designed for second-year students with the approval of the graduate director. This course is for preliminary thesis research.

**CJA 650****Supervised Justice Administration Readings****3 credits**

This individualized course is designed to meet the students' special interests in an area of law enforcement or corrections administration. The course may include a mixture of law enforcement or corrections administration as well as reading, projects, special seminars or lectures, which may relate to the students' learning goals. Students are expected to meet with their tutors at least 15 hours to discuss, review and evaluate their progress. No student may enroll in this course without filing a learning plan for approval by the graduate program director.

**CJA 675****Justice Administration Thesis****6 credits**

The thesis should be planned research on a unique topic related to corrections administration. In the completed thesis, the student must demonstrate a knowledge of the relevant literature. The research project is executed and evaluated through a written document and an oral presentation. Thesis topics must be approved by the program director and the thesis advisor prior to beginning the research.

# GRADUATE PROGRAM IN DATA SCIENCE

## PROGRAM PHILOSOPHY AND CONTENT

As a result of globalization and advances in technology during the 21st century, the complexity and variety of data have evolved, while the volume of data continues to increase daily. This phenomenon has been dubbed “The Data Revolution.” The world is inundated with data, stemming from, but not limited to, social media platforms, business transactions, Internet sources, cellular data usage and file sharing. Industry and government organizations collect, organize and analyze data and information for several reasons, from maintaining their competitive edge, to altering business strategies and increasing sales to enhancing national security.

Data science is one of the most important disciplines of the future, and it will intersect with every area as the reservoir of the world’s data continues to grow. According to a McKinsey Global Institute report, “the United States alone could face a shortage of 140,000 to 190,000 people with deep analytical skills as well as 1.5 million managers and analysts with the know-how to use the analysis of big data to make effective decisions.”

The Master of Science in Data Science, part of the Ridge College of Intelligence Studies and Applied Sciences, is a 36-credit program. This program will train students as data scientists who will serve as key informants for decision makers in both the public and private sectors. It will serve as a cornerstone in cross-disciplinary learning. The comprehensive, challenging curriculum emphasizes programming, data visualization, machine learning, database skills and quantitative analysis to produce graduates who are innovators in producing, visualizing and communicating actionable new insights about the meaning of data for decision-makers in businesses, public agencies and nonprofits.

The ideal candidate for the Data Science program possesses an inquiring mind, an interest in the world around them, an ability to communicate with others effectively, and quantitative knowledge, skills, and abilities. The individual should be self-motivated, in addition to committed to personal and professional development. Individuals from a variety of academic and professional backgrounds are encouraged to apply; however, faculty of the Data Science program may request an interview to determine if the program will meet the applicant’s goals.

In just five years, students can earn both a bachelor’s and master’s degree at Mercyhurst University through the new 4+1 Data Science program. Undergraduate students in almost any discipline major of study may apply for the 4+1 program. Interested students must apply by April 1 of their sophomore year or after they have 30 credits completed on their Mercyhurst transcripts. Students of the 4+1 Data Science program will take four to five graduate-level courses (12-15 credits) during their junior and senior years. These credits will count toward the master’s degree, but will be billed at the undergraduate flat rate. These credits will only count for the Master of Science degree and students must complete at least 121 undergraduate credits to earn a bachelor’s degree. As a graduate student, students must complete either 21 or 26 credits during the fifth year, charged at the graduate rate. Students may have to complete an online graduate course prior to both the junior and senior years to finish the 4+1 Data Science program in five years. Summer courses will be charged at the graduate credit rate.

The program chair shall conduct an annual review of the academic progress of all students enrolled in the program. Students whose GPA falls below a 3.0 or who might otherwise exhibit behavior that is not conducive to ensuring employment in this field will be placed on probation or removed from the program, depending on the outcome of review.

## MISSION STATEMENT

It is the mission of the data science program at Mercyhurst University to produce graduates, through a variety of delivery modalities, who are skilled in utilizing a variety of sources of data and analytic techniques to lead the collaborative development of high-quality written and oral analytic data products that, in service toward a just world, inform decision-makers, thereby fostering an appreciation for the dignity of work and commitment to serving others.

## LEARNING OUTCOME

Graduates of the Master of Science in Data Science graduate program will be able to:

1. Assess, evaluate, and respond to decision-maker needs and requirements.
2. Collect, clean, and store, and and query data from a variety of private and public data sources.
3. Apply appropriate analytic techniques to provide estimates that support decision-making and action.
4. Communicate actionable information and findings in easy-to-understand written, oral, and visual formats.

## DATA SCIENCE MASTER’S DEGREE REQUIREMENTS

### Core Courses 8 courses: 24 credits

DATA 500 Machine Learning Concepts I  
DATA 510 Data Wrangling  
DATA 515 Data Analytics for Decision-Making  
DATA 520 Introduction to Programming  
DATA 590 Machine Learning Concepts II  
INTL 501 Research Methods in Intelligence  
INTL 580 Research-based Project I  
DATA 695 Research-based Project II

### Data Science Elective Courses (2 courses): 6 credits

DATA 550 Data Visualization  
DATA 562 Data Visualization with JavaScript  
DATA 570 Data Science Development Tools  
DATA 580 Data Science App Development  
DATA 620 Database Technologies  
DATA 670 Big Data Tools  
DATA 650 Topics in Data Science  
DATA 675 Internship (3 credits)

### Intelligence Elective Courses (2 courses): 6 credits

INTL 520 Advanced Analytical Techniques Competitive Intelligence  
INTL548 Market Research and Primary Intelligence  
INTL 595 Geospatial Intelligence  
INTL 605 Data Analytics for the Private Sector  
INTL612 Social Media Analysis  
INTL 625 Intelligence and Business Strategy  
INTL 626 Financial Intelligence Analysis  
INTL 638 Social Network Analysis  
INTL 650 Topics in Intelligence  
INTL 675 Internship (3 credits)



## DATA SCIENCE COURSE DESCRIPTIONS

### **DATA 500** **Machine Learning Concepts I** **3 credits**

A first course in machine learning, with focus on regression. Simple and multiple linear regression will be covered at the start of the course, after which discussion will progress to classification with logistic regression and discriminant analysis. The course will conclude with coverage of resampling methods and linear model selection. Throughout the course, the R statistical computing language will be utilized.

### **DATA 510** **Data Wrangling** **3 credits**

In this course, students will learn to query databases with SQL and the dplyr package for R. Topics include selecting, ordering, filtering, grouping, aggregate functions, and inner joins. In the second half of the course, students will learn webscraping, primarily using tools for R. These include rvest, httr, and RSelenium. We will also discuss regular expressions in R with the stringr package. If time permits it, webscraping with both Node.js and Python may be explored.

### **DATA 515** **Analytics for Decision-Making** **3 credits**

This course introduces the field of data science and analysis through theory and application. The first section of the course will address how data can be transformed into actionable information for a decision-maker. In the second section, students will develop a requirement from a customer, draft a plan of how to answer the information need, the collect data, and apply of various analytic techniques to data and information to derive meaningful conclusions for a decision-maker.

### **DATA 550** **Data Visualization** **3 credits**

A hands-on course in data analysis and visualization based on key design principles and techniques for interactively visualizing data based on principles from the fields of statistics, perception, graphic design, cognition, communication, and data mining. Through lecture, case studies, and design studios, students will work individually and collaboratively to visualize complex datasets using software applications to identify patterns, trends, and variation across categories, space, and time. Students will obtain practical experience with the visualization of complex data including multivariate data,

geospatial data, textual data, time series, and network data.

### **DATA 562** **Data Visualization with JavaScript** **3 credits**

This course will explore several modern libraries specifically created for data visualization on the web. Students will create interactive, animated, and well-designed graphics that accurately and effectively depict a data set. JavaScript libraries studied are subject to change, but students will learn to create basic charts and graphs, radar charts, trees, word clouds, cartographs, and several other styles of visualization that complement their data.

### **DATA 570** **Data Science Development Tools** **3 credits**

An introduction to data-driven web application development with Shiny and JavaScript. Students will learn how to collect JSON data from web APIs, how to scrape data from websites via Node.js, and how to turn this data into interactive web applications via Shiny. Students will also learn how to connect directly to an API with the Shiny server and pass this information on to a local JavaScript file for processing and display. Other technologies covered may include jQuery, Leaflet.js, D3.js, dplyr, ggplot, Git, and Github. Students must have a background in R and in programming.

### **DATA 580** **Data Science App Development** **3 credits**

The first part of this course is focused on serving and managing web applications on the backend with Node.js and Express.js. Client-side programming dominates the second half of the course, where React.js is used to create web application components and Redux.js is used to manage application state. With this technology, students will learn how to write highly interactive web applications which consume data from API's and display visualizations of that data.

### **DATA 590** **Machine Learning Concepts II** **3 credits**

A continuation of DATA 500, with R as the primary analysis tool. The course begins with tree-based methods, along with the accuracy improving modifications of bagging, boosting, and random forests. Students will then move on to classification

with support vector machines and naïve Bayes and conclude the course with a study of unsupervised learning methods, including K-means and hierarchical clustering.

### **DATA 620** **Database Technologies** **3 credits**

A course in relational and non-relational databases, with MySQL and MongoDB as the tools of choice. Students will study SQL, database administration, database design, the differences between relational and NoSQL databases and their respective advantages, and the particulars of MySQL and MongoDB.

### **DATA 650** **Topics in Data Science** **3 credits**

This course focuses on special topics related to the data science discipline. Faculty with special research interests or experience will deal with topics like data science for private security, advanced data visualization, or sports analytics.

### **DATA 670** **Big Data Tools** **3 credits**

This course is an overview of Hadoop, MapReduce, and Hadoop Tools. Considerable attention will be given first to Hadoop installation, both on the desktop and in the cloud. Students will learn how to navigate the Hadoop Distributed File System, and they will develop understanding of the MapReduce algorithm. Practice in writing MapReduce programs will be provided. The second half of the course will be devoted to essential Hadoop tools, including Pig, Hive, Flume, Sqoop, and Hbase. Programming experience is a prerequisite, and experience with Java and Unix will be helpful.

### **DATA 675** **Internship** **3 credits**

A period of employment (minimum of 200 hours) as an intelligence analyst with a government, international agency, or corporation during which certain experience objectives must be met.

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# GRADUATE PROGRAM IN ORGANIZATIONAL LEADERSHIP

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## PROGRAM PHILOSOPHY AND CONTENT

The Organizational Leadership program challenges students to synthesize contemporary scholarship with insight from Mercyhurst's service-oriented, ethically based heritage. Enlightened leaders with the capacity to learn and grow through reflection meet the mission of our university to work for positive change in our local as well as the global community. Ronald Heifetz (1994) maintains that a leader's work in diverse situations is to "influence the community to face its problems." Beyond communities lies the global world where national boundaries are not observed. The Master of Science in Organizational Leadership degree is designed to meet the leadership development needs in our community and beyond, in both profit and nonprofit organizations, including government, social service, manufacturing, education and business. The program views leadership as a process and as such emphasizes practical application.

The Master of Science degree in Organizational Leadership is a 33 to 36-credit program, depending on concentration and student needs, and is designed to provide a theoretical and practical framework for professionals who currently hold leadership positions or are aspiring to leadership roles in organizations. The program is integrated by five themes or threads that are woven throughout all courses. These threads are the Mercyhurst mission: service, whole person development, leadership knowledge and practice, written and oral communication skills, and ethics.

The Organizational Leadership program offers five concentrations, which may also be taken as stand-alone Graduate Certificate programs in: accounting, higher education administration, human resources, sports leadership, and strategy and innovation. Additionally, a Graduate Certificate in Organizational Leadership is offered. To earn a master's degree with a concentration, students must complete the four-course curriculum in addition to the seven core courses in the Organizational Leadership program. Students enrolled in the Organizational Leadership master's program do not need to declare a concentration. Credits earned in the Graduate Certificate program may be applied toward a master's degree in Organizational Leadership.

## MISSION STATEMENT

The Organizational Leadership graduate program inspires and equips people to become exemplary leaders and scholars who exercise leadership in service to others.

## LEARNING OUTCOMES

The Organizational Leadership faculty has developed seven broad-based learning outcomes that serve as the framework for the program's curriculum. Upon completion of the Organizational Leadership program, graduates will be able to:

1. Consistently demonstrate exemplary written and oral communication, interpersonal, and presentation skills. (\*see note)
2. Distinguish contemporary leadership theories and models; articulate a personal leadership philosophy; and apply appropriate models to an organizational setting.

3. Assess the characteristics of self, others, groups, and organizations as an integral part of the process of leadership.
4. Demonstrate personal ethical and professional standards; apply standards to the organizational setting.
5. Reflect on and assess communication-based skills required for effective participation in organizational life.
6. Apply basic financial and budgeting techniques in an organizational setting.
7. Demonstrate ability to engage in independent research by applying critical thinking and inquiry skills in data gathering, synthesis, problem solving and decision-making.

\*Note: Graduate level writing ability is required of all Organizational Leadership students. Students who demonstrate a need to improve their writing skills will be counseled and may be required to take additional coursework in order to continue in the program.

## OL 4+1 PROGRAM

Mercyhurst University offers a 4+1 program in which undergraduate students can obtain both a Bachelor of Arts degree in any major and a Master of Science degree in organizational leadership. Students have the option to concentrate in accounting. Students enrolled in the 4+1 program will begin earning graduate credits during their senior year. The fifth year of the program is full-time and begins the summer after graduation. Students in the MSOL program will complete the nine remaining graduate courses between summer, fall, and spring semesters to earn a total of 33 graduate credits. Students in the MSOL with a concentration in accounting will need an additional summer course to complete their degree requirements. For additional information about the OL 4+1 program, refer to the undergraduate catalog.

## CONCENTRATIONS AND CERTIFICATES

### Accounting (concentration and certificate)

The Accounting concentration/graduate certificate provides students with professional accounting instruction, preparation for the CPA exam, and leadership knowledge and skills. The graduate certificate in accounting is a one-year, four-course (12-credit) program designed to provide knowledge at the level of a Certified Public Accountant (CPA). This certificate prepares students to be successful professionals in the field of accounting. Applicants must demonstrate adequate performance in undergraduate accounting courses to be accepted into this program.

### Higher Education Administration (concentration and certificate)

In the Higher Education concentration, students examine the history, policies, practices, and emerging issues in American higher education. The courses in the concentration/certificate provide foundational knowledge and skills essential to many career areas in higher education and are designed to prepare students for entry into or advancement in the field of higher education administration. Based on theoretical foundations, each course has an applied focus, with a special emphasis on operational issues within an academic setting.

### **Human Resources (concentration and certificate)**

The Human Resources concentration/graduate certificate is designed to provide the students with a professional level of knowledge of the field of human resources. The goal of this program is to prepare student for successful careers and leadership roles in the dynamic field of human resources. A course designed to prepare HR Professionals to pass the exam to become certified Professional in HR (PHR) and Senior Professional in HR (SPHR) through the SPHR Institute is offered.

### **Organizational Leadership (certificate)**

The Graduate Certificate in Organizational Leadership is designed to provide a theoretical and practical framework for professionals who currently hold leadership positions or are aspiring to leadership roles in organizations. The certificate program views leadership as a process and as such will emphasize practical application while addressing leadership needs in both for profit and nonprofit organizations, especially social service, business, government, education and manufacturing.

### **Sports Leadership (concentration and certificate)**

The Sports Leadership concentration/certificate is designed to prepare students for leadership roles in coaching and athletics in collegiate, scholastic or professional environments. The concentration focuses on applying theoretical knowledge to the practical day-to-day leadership needs of athletic teams and players.

### **Strategy and Innovation (concentration and certificate)**

Strategically innovative organizations are characterized by unique qualities exemplified in their people, culture, structure, systems, and processes. This concentration focuses on the actions that leaders take to enable organizations to execute innovations for increased value and growth. The program explores how leaders create and evaluate opportunities, develop analytical capabilities, and implement strategies to achieve success. Success depends on balancing the challenges of leading innovation to produce concrete results and applying decision-making and planning tools to guide development of new products and services from idea to marketplace.

### **Thesis or Research-based Project**

Students may choose from two options for their capstone experience. Worth three-credits, the thesis option is a theoretical research-driven work of scholarship while the research-based project is an applied research-driven work of scholarship. Both are designed to synthesize and apply the concepts learned in the Organizational Leadership curriculum.

### **Dr. Barrett C. Walker Graduate Leadership Prize**

The Dr. Barrett C. Walker Graduate Leadership Prize is presented annually to the Organizational Leadership graduate who has demonstrated superior academic excellence and whose masters thesis or research-based project is deemed to make the greatest contribution to the understanding of leadership in organizations as judged by the graduate Organizational Leadership faculty. Currently, the prize includes an individual trophy, the recipient's name on a perpetual plaque and \$500 to be awarded at the end of the spring semester.

## **ORGANIZATIONAL LEADERSHIP MASTER'S DEGREE REQUIREMENTS**

### **Core Courses** (*offered every year*)

OL 500	Leadership Theory and Practice
OL 502	Leadership and Organizational Behavior
OL 504	Research Methods
OL 505	Organizational Ethics
OL 530	Organizational Communications for Leaders
OL 651	Financial Operations and Analysis
OL 676	Thesis or
OL 677	Research-Based Project

### **Elective Courses** (*offered on a rotating basis*)

ACCT 610	Auditing and Attestation
ACCT 630	Business Environment and Concepts
ACCT 635	Regulation and Taxes
ACCT 650	Financial Accounting and Reporting
OL 506	Graduate and Professional Writing
OL 507	Human Resource Management
OL 510	Introduction to the Sports Industry
OL 520	Independent Study
OL 525	Governance in Higher Education Institutions
OL 527	Coaching Leadership and Psychology
OL 528	Human Resource Development
OL 532	Law for Leaders
OL 535	History and Trends in Higher Education
OL 603	Strategic Marketing
OL 605	Innovation and Entrepreneurship
OL 607	Strategic Management and Planning
OL 625	Higher Education Law
OL 628	Human Resource Professional Skills
OL 630	Grant Writing
OL 638	Corporate Social Responsibility and Sustainability
OL 645	Special Topics in Leadership
OL 675	Internship

**Note 1:** Elective Courses will be offered based on student interest and require a minimum enrollment of seven (7) students per course.

## **CONCENTRATIONS AND CERTIFICATES**

### **Accounting**

ACCT 610	Auditing and Attestation
ACCT 650	Financial Accounting and Reporting
ACCT 630	Business Environment and Concepts
ACCT 635	Regulation and Taxes

### **Higher Education Administration**

OL 525	Governance in Higher Education
OL 625	Higher Education Law <b>OR</b>
OL 532	Law for Leaders
OL 535	History and Trends in Higher Education
OL 675	Internship or Approved Elective

### **Human Resources**

- OL 507 Human Resource Management
- OL 528 Human Resource Development
- OL 532 Law for Leaders
- OL 628 Human Resource Professional Skills **OR** Approved Elective

### **Organizational Leadership (certificate only)**

- OL 500 Leadership Theory and Practice
- OL 502 Leadership and Organizational Behavior
- OL 530 Organizational Communication for Leaders

### **Sports Leadership**

- OL 510 Introduction to the Sports Industry
- OL 625 Higher Education Law **OR**
- OL 532 Law for Leaders
- OL 527 Coaching Leadership and Psychology
- OL 675 Internship or Approved Elective

### **Strategy and Innovation**

- OL 603 Strategic Marketing
- OL 605 Innovation and Entrepreneurship
- OL 607 Strategic Management and Planning
- OL 638 Corporate Social Responsibility and **Sustainability**



## ORGANIZATIONAL LEADERSHIP COURSE DESCRIPTIONS

### CORE COURSES

#### OL 500

##### **Leadership Theory and Practice**

##### **3 credits**

This foundation course focuses on theories and models of leadership in a variety of organizational settings. Case studies illuminate the behavior dynamics of effective leaders. This integrative course examines present and future leadership issues while helping leaders develop strategies for making a positive difference in their organization and their community.

#### OL 502

##### **Leadership and Organizational Behavior**

##### **3 credits**

Successful leadership is a process that takes time, experience, learning and a behavioral disposition toward working with others. This course examines the field of organizational behavior and leadership by studying theoretical models, practical examples, and experiential exercises.

#### OL 504

##### **Research Methods**

##### **3 credits**

Students examine the multiple facets of scholarly research. Emphasis is placed on understanding, conceptualizing, and critically analyzing such research methodologies as (a) historical, (b) qualitative, (c) quantitative, and (d) meta-analytical. Students learn to evaluate and critique strengths and weaknesses of each methodology. This course prepares students for their research-based projects or thesis.

#### OL 505

##### **Organizational Ethics**

##### **3 credits**

This course provides a context for both theoretical principles and practical issues as they bear on professionals in leadership roles. Philosophical and religious sources and traditions of professional ethics are considered. Special emphasis is placed on ethics in organizations.

#### OL 530

##### **Organizational Communication**

##### **for Leaders**

##### **3 credits**

Organizational leadership cannot exist independent of communication. In this course special emphasis is placed on strengthening the ties between theories of communication and understanding the practical application and importance of

communication strategies in organizations.

#### OL 651

##### **Financial Operations and Analysis**

##### **3 credits**

This course provides non-financial managers and leaders an understanding of and the ability to use financial information. Students will be provided the basics of financial management in for-profit and in not-for-profit organizations. Students will learn to read and interpret financial information and perform straightforward financial analysis that will enhance management decision making.

#### OL 676

##### **Thesis**

##### **3 credits**

This capstone course is designed to demonstrate scholarly study of a problem or issue related to organizational leadership. Using qualitative or quantitative research methods students conduct purposeful research, review the literature, collect data, write a detailed analysis, offer new insights, and present and defend conclusions.

#### OL 677

##### **Research-Based Project**

##### **3 credits**

The research-based project is an applied research-driven work of scholarship that serves as a final example of the meaningful link between theory/research and practice/application. Students choose from a variety of methodologies to develop a professionally appropriate product which solves an ongoing problem or serves a professional need. While the project can take many forms, appropriate topics for the project are intended to synthesize concepts across the Organizational Leadership curriculum.

### ELECTIVE COURSES

#### ACCT 610

##### **Auditing and Attestation**

##### **3 credits**

Topics include generally accepted auditing procedures, generally accepted auditing standards and other standards related to attest engagements.

#### ACCT 630

##### **Business Environment and Concepts**

##### **3 credits**

Topics include general business environment and business concepts that candidates need to know in order to

understand the underlying business reasons for and accounting implications of business transactions.

#### ACCT 635

##### **Regulation and Taxation**

##### **3 credits**

Topics include federal taxation, ethics, professional and legal responsibilities, and business law.

#### ACCT 650

##### **Financial Accounting and Reporting**

##### **3 credits**

Topics include generally accepted accounting principles for business enterprises, not-for-profit organizations, and governmental entities in recording and reporting financial information.

#### OL 506

##### **Graduate and Professional Writing**

##### **3 Credits**

OL 506 focuses on academic and professional writing for students at the graduate level. Because writing is an essential activity in academic work as well as in organizations, this course provides not only strategies for writing academic papers but also practice and instruction in the clear, purposeful writing expected from leaders. This course will serve as an introduction to academic written research through an investigation of the structure, tone, audience, and style of published research in Organizational Leadership.

#### OL 507

##### **Human Resource Management**

##### **3 credits**

This course provides the leader with critical skills in leveraging human resources to achieve organizational goals. Typical topics covered in this course are: human resource planning, job analysis and design, recruitment, selection, performance evaluation, compensation, development, labor-management relations, evaluation, and safety.

**OL 510**  
**Introduction to the Sports Industry**  
**3 credits**

This course involves the study of the unique aspects of the sports industry. A basic historical emphasis and sociological impact of sport on society will enable students to identify and analyze trends in the field. Topics covered in the course will include: youth sports, intercollegiate athletics, recreation, facility management, sports communications, and ethics in the industry sport. The course will include the application of relevant theories and case studies to actual industry situations.

**OL 520**  
**Independent Study**  
**3 credits**

An Independent Study course is reserved for students who have achieved a minimum of 15 graduate credits and wish to pursue a specialized topic in Organizational Leadership that is not offered in the regular curriculum. Students who wish to study independently must develop a formal plan of study and obtain approval from the program director.

**OL 525**  
**Governance in Higher Education**  
**Institutions**  
**3 credits**

This course will focus on the primary functions in modern higher education institutions, with specific attention paid to the practical aspects of managing an institution of higher education. Topics will include enrollment, admissions, academics, financial aid, advancement, and student life. The course will also cover principles of higher education governance with an emphasis on the collaborative and interactive nature of management and governance found in higher education institutions.

**OL 527**  
**Coaching Leadership and Psychology**  
**3 credits**

This course involves the study of human behavior as it relates to athletics. Individual athlete, team and organizational behaviors are analyzed in this course. This course will include the application of relevant theories and case studies to actual coaching situations.

**OL 528**  
**Human Resource Development (HRD)**  
**3 credits**

Students will gain the knowledge, skills, and competencies necessary to describe and implement the mission of HRD, which is to "(1) provide individual development focused on performance improvement related to a current job; (2) to provide career development focused on performance improvement related to future job assignments; (3) to develop performance management systems used to enhance organizational performance capacity and capability; and (4) to provide organizational development that results in both optimal utilization of human potential and improved human performance, which together enhance the culture of an organization, and thus its effectiveness" (Gilley et al, 2002, p. 12-13).

**OL 532**  
**Law for Leaders**  
**3 credits**

This course examines legal and policy issues which arise in the formation and operation of organizations. Attention is given to issues affecting nonprofit corporations and associations. The goal of this course is to provide the leader with the tools to recognize opportunities, meet requirements and assess risks.

**OL 535**  
**History and Trends in Higher Education**  
**3 credits**

This course will examine the development of higher education in the United States through the study of a multitude of differing models including the community college, non-profits, for-profits, private, and public institutions. The course will further examine the role that state and federal policy and regulation has had on the development of higher education. Additional topics covered will include the evolving economic trends and attitudinal shifts and their effects on higher education.

**OL 603**  
**Marketing for Leaders**  
**3 credits**

This course is designed to enable students to lead organizations from a strategic marketing orientation. It emphasizes strategic thinking, opportunity analysis and the adaptation of marketing management techniques to all types of organizations.

**OL 605**  
**Innovation and Entrepreneurship**  
**3 credits**

This course covers the entrepreneurial process from conception to implementation of a new venture. While the heart of entrepreneurship is opportunity assessment, a holistic approach to new venture creation is taken. Students will work in teams to write a business plan for a specific new venture. We will focus on real life, practical problems leaders face in all organizations to ensure growth and survival in highly competitive environments. Although some lecture will be used, participative interaction based on readings and student experiences will enable each individual to recognize the "long term" needs of the organization, and develop strategies, to achieve organizational objectives.

**OL 607**  
**Strategic Management and Planning**  
**3 credits**

This course challenges students to integrate the concept of strategy with the concepts of management and leadership. Students will explore how leaders develop a timely and responsive strategic plan, evaluate action alternatives, and make tactical decisions. Skills necessary for successful strategic leadership include understanding organizational systems and their human capital, applying effective business practices, and recognizing the competitive challenges in the global marketplace. The course examines how leadership decisions determine and affect performance, and ultimately, the future of the organization.

**OL 625**  
**Higher Education Law**  
**3 credits**

This course will focus on the myriad of ways that higher education intersects with the law and how that law has developed and evolved. Topics covered include compliance, the public-private dichotomy, student rights, faculty rights, governance, employment law in higher education, and general liability issues. Additional topics covered include the Cleary Act, FERPA, and Title IX.

**OL 628**  
**HR Professional Skills**  
**3 credits**

This course uses the 2014 Society of Human Resources Learning System (SHRM) to prepare students for the Professional in Human Resources Exam (PHR), Senior Professional in Human Resources (SPHR), or Human Resources Assurance of Learning exam. Students will acquire comprehensive HR knowledge in the following areas: business management and strategy; workforce planning and employment; human resources development; compensation and benefits; employment and labor relations; and risk management.

**OL 630**  
**Grant Writing**  
**3 credits**

This course presents a comprehensive overview of program planning and grant writing. Structured to prepare students for both government and private sector seeking grants in both paper and online formats, the sessions will combine concepts, tips, and strategies on effective grant writing with examples to critique from real-world applications, coupled with practice writing of grant applications with instructor and peer feedback.

**OL 638**  
**Corporate Social Responsibility and Sustainability**  
**3 credits**

This course introduces students to corporate social responsibility and sustainability from an interdisciplinary and leadership perspective. Students explore relationships among environmental, economic and social responsibilities, apply systems thinking and sustainability principles to current issues and learn about “best practices” in sustainability from industry leaders and case studies. The course identifies challenges of leading sustainability efforts and strategies that make sustainability relevant to all stakeholders and examines how values, goals, and communication affect an organization’s initiatives. Students complete a comprehensive research-based or field-based project that promotes participation in sustainability and social responsibility issues with the goal of becoming effective social entrepreneurs and sustainability leaders.

**OL 645**  
**Special Topics in Leadership**  
**3 credits**

This individualized course is designed to meet students’ special interests in an area of Organizational Leadership. The course may include readings, projects, special seminars or lectures.

**OL 675**  
**Internship**  
**3 credits**

An internship is an on-the-job experience in business, industry, government, public agencies, education or non-profit organization.

**OL 677 Research-Based Project**  
**3 Credits**

The Research-Based project is an applied research-driven work of scholarship that serves as a final example of the meaningful link between theory/research and practice/application. Students choose from a variety of methodologies to develop a professionally appropriate product which solves an ongoing problem or serves a professional need. While the project can take many forms, appropriate topics for the project are intended to synthesize concepts across the Organizational Leadership curriculum.

**OL 676 Thesis**  
**3 Credits**

This capstone course is designed to demonstrate scholarly study of a problem or issue related to organizational leadership. Using qualitative or quantitative research methods students conduct purposeful research, review the literature, collect data, write a detailed analysis, offer new insights, and present and defend conclusions.

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# GRADUATE PROGRAM IN PHYSICIAN ASSISTANT STUDIES

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## PROGRAM PHILOSOPHY AND CONTENT

The graduate program in Physician Assistant Studies (PA) operates on a semester calendar. Summer, fall and spring semester are completed in a predetermined sequence. Classes and labs typically meet during the day, with some evening classes. Students must begin the program during the summer session.

## MISSION STATEMENT

The mission of the Department of Physician Assistant Studies (DPAS) is to prepare students with the highest quality academic and clinical training. The program will prepare physician assistants to be leaders in the profession, proficient in meeting the challenges of healthcare, while providing compassionate, quality care to the diverse communities in which they serve.

The department's mission, vision and core goals were developed to align with the university's mission, vision and core values. Emphasis has been placed on the Mercy tradition and healthcare core values to stay true to the basic principles set forth by our founders.

## LEARNING OUTCOMES

Upon completion of the Mercyhurst Department of Physician Assistant Studies, the graduate will possess knowledge, skills and abilities in the following competencies:

1. Demonstrate knowledge of established and evolving biomedical, clinical and social-behavioral sciences and application to patient care.
2. Elicit a medical history that is relevant and accurate of patient information across the lifespan and adjusts to the health care setting.
3. Perform a physical examination that adjusts accordingly to the reason for the visit, patient demographics and condition.
4. Analyze patient data to develop a differential diagnosis that applies the principals of epidemiology and evidence-based medicine.
5. Develop a diagnostic management plan for common medical and behavioral conditions across the life span, taking into consideration cost, sensitivity/specificity, invasiveness and appropriate sequencing.
6. Develop a therapeutic management plan for emergent, acute and chronic conditions that applies principals of pharmacotherapeutics and non-pharmacotherapeutics while taking into consideration the patient's condition, psychosocial context and socioeconomic factors. Make certain the plan is practical for implementation and ensures follow up care.
7. Provide accurate patient education inclusive of health promotion and disease prevention in oral and written forms taking into consideration literacy, diversity, inclusiveness of family/caregivers and utilization of other healthcare professionals and community resources/services.

8. Communicate clearly and effectively in oral and written forms with patients, family/caregivers and members of the healthcare team to provide competent comprehensive patient-centered care across the lifespan.
9. Perform medical and surgical procedures common to primary care to include: venipuncture, interavenous access, injections, EKG analysis, urinalysis, strep screen, wet mount/KOH, stool occult blood, wound management, casting, splinting, urinary catheterization, nasogastric tube placement and CPR.
10. Demonstrate professionalism with high ethical standards sensitive to the patient, family/caregiver and members of the health care team. Continually promote the Mercy values of compassion, justice, dignity, excellence, hospitality and stewardship in practice and service to the community.
11. Maintain practice-based and lifelong learning skills with continued critical analysis of medical literature to evaluate, manage and improve patient-centered care.
12. Demonstrate responsiveness to systems-based practice by practicing cost effective care and resource allocation that does not compromise the quality of care.

## PROGRAM STANDARDS AND POLICIES

Physician Assistant students are responsible for developing a master portfolio under the advisement of a faculty member. This portfolio includes written works in case presentations, service learning, professional growth experiences and a project in performance improvement. The performance improvement project includes active learning and the application of learning to improve the practice of medicine, a current standard implemented by the physician assistant profession. This project will be done in partnership with a preceptor/office practice that the student has completed a rotation with; the project will include comparison of some aspect of practice to national benchmarks, performance guidelines or other established evidence-based metric or standard. Based on the comparison, the student will develop a plan for improvement in that area.

## GRADUATE PROGRAM IN PHYSICIAN ASSISTANT STUDIES

The Master of Science degree program in Physician Assistant Studies is a 24-month graduate program. The curriculum sequences students through 12 months of didactic curriculum and 12 months of clinical experiences. The curriculum has been developed to meet standards set forth by the Accreditation Review Commission on Education for the Physician Assistant (ARC-PA).

The ARC-PA has granted Accreditation-Provisional status to the Mercyhurst University Physician Assistant Program sponsored by Mercyhurst University.

Accreditation-Provisional is an accreditation status granted when the plans and resource allocation, if fully implemented as planned, of a proposed program that has not yet enrolled students appear to demonstrate the program's ability to meet the ARC-PA Standards or when a program holding Accreditation-



Provisional status appears to demonstrate continued progress in complying with the Standards as it prepares for the graduation of the first class (cohort) of students.

Accreditation-Provisional does not ensure any subsequent accreditation status. It is limited to no more than five years from matriculation of the first class.

The curriculum sequencing commences with a summer session of basic science review, introductory course work and the beginning of clinical skills education. The didactic year fall and spring semesters present the health care sciences in a medical model. During the didactic year students also have intermittent exposure to the community via experiences in health care settings.

The clinical year consists of clinical experiences in internal medicine, pediatrics, women's health care, surgery, emergency medicine and two elective rotations. Students return to campus for the last two days of the rotation for debriefing of the experience, clinical and written testing, case presentations and didactic instruction in current medical topics.

Mercyhurst University has developed a graduate degree in Physician Assistant Studies to meet the demands for the profession. PAs provide high quality, cost-effective healthcare and are productive members of the health care team. The physician assistant profession is in a continued growth pattern with an estimated increase of 30 percent from 2014-2024 per the U.S. Bureau of Labor Statistics 2016-2017 Occupational Outlook Handbook. This growth is much faster than the average for most professions. Employment opportunities for PAs are predicted to be excellent and Mercyhurst will offer its PA graduates the opportunity to be leaders in the profession, proficient in meeting the challenges of healthcare while providing compassionate, quality care to the diverse communities in which they serve.

### ADMISSIONS REQUIREMENTS

Applicants must have a bachelor's degree from an accredited college/university, or evidence of expected completion of a bachelor degree at the time of application. The undergraduate degree must be completed at time of matriculation.

Minimum GPA of 3.2 for undergraduate work and a minimum of 3.2 or higher in prerequisite courses.

- Applicants must have a "C" or better in all science courses. Courses taken as pass/fail or for noncredit will not be accepted.
- A minimum of 12 credits of the prerequisite courses including physiology and microbiology must be completed within a 5-year timeframe at matriculation.
- 200 hours of health care experience (paid or volunteer).
- GRE verbal and quantitative reasoning scores will be used in the evaluation of the application. GREs must be completed within a 5 year time frame at application.
- Applicants are required to supply 3 letters of recommendation.
- Applicants must submit a succinct essay that discusses professional goals in reference to the physician assistant profession.
- All course work in the program must be taken in sequence. Transfer/advanced placement or life experience credit will not be offered.
- International students must submit official, notarized scores from the TOEFL (Test of English as a Foreign Language) exam and must meet the minimum score requirement of 550 for the

paper based test and 79-80 for the internet-based test.

- Entry into the program will be based on the completion of prerequisites, interview and space availability.
- Preference will be given to equally qualified Mercyhurst graduates.
- Criminal background checks including finger printing, child abuse clearance and drug screening are a prerequisite within the program. Drug screening results may limit the ability to obtain clinical training sites and can prevent a student from being promoted to the clinical phase of the program or recommended for graduation. Felony or misdemeanor convictions can limit the ability of national certification, state licensure and clinical training experiences. The National Commission on Certification of Physician Assistants - www.NCCPA.net is a good resource for guidance for concerns with background findings.

### Prerequisite Courses:

Biology with labs	8 credits
Chemistry with labs (General and Organic)	12 credits
Biochemistry with lab	4 credits
Anatomy with lab	4 credits
Physiology with lab	4 credits
Microbiology with lab	4 credits
Genetics	3 credits
Statistics	3 credits
Psychology	3 credits
Nutrition	3 credits
Medical Terminology	1 credit

### Curriculum:

#### DIDACTIC YEAR/1st YEAR

##### Summer:

Anatomy w/lab	5 credits
Physiology	3 credits
Microbiology	2 credits
Clinical Skills (history and physical exam skills)	3 credits
Clinical Skills Lab 1	1 credit
Genetics	1 credit
PA Profession	1 credit
Research Methods	2 credits

**Total credits 18**

##### Fall:

Clinical Skills Lab 2	1 credit
Clinical Medicine	6 credits
Pharmacotherapeutics 1	3 credits
Psychology in Healthcare	3 credits
Women's Health	2 credits
Pediatrics	2 credits
Special Topics in Medicine (to include Diversity, Ethics, ARC-PA essentials)	1 credit

**Total credits 18**

##### Spring:

Clinical Medicine	6 credits
Pharmacotherapeutics 2	3 credits
Evidence Based Medicine	1 credit
Healthcare Policy	2 credits

Emergency Medicine and Surgery (to include ACLS/CPR)	4 credits
Procedures in Medicine (Suturing, casting/splints, injections)	1 credit
<b>Total credits</b>	<b>17</b>

## CLINICAL YEAR/2nd YEAR

### Summer:

Rotation I - Internal Medicine	5 credits
Rotation II - Family Practice	5 credits
Thesis Guidance	2 credits
<b>Total credits</b>	<b>12</b>

### Fall:

Rotation III - Women's Health	5 credits
Rotation IV - Pediatrics	5 credits
Rotation V - Emergency Medicine	5 credits
<b>Total credits</b>	<b>15</b>

### Spring:

Rotation VI – Surgery	5 credits
Rotation VII - Elective	5 credits
Rotation VIII – Elective	4 credits
Rotation IX – Mental Health	1 credit
Summative Evaluation Experience	2 credits
<b>Total credits</b>	<b>17</b>

Rotations will be 5 weeks in length, which includes a 4-week Elective Rotation combined with a 1-week Mental Health Rotation. Testing/ Recall Days occur the last 2 days of each rotation, at which time students will be required to be on campus for written/clinical testing, lectures and presentations.

Rotations I-VII assignments will vary among all the various rotational types of experiences. Not all students will be assigned Internal Medicine on Rotation I and may be assigned to any of the required rotations or electives. The Summative Evaluation will take place on campus the last two weeks of the second year spring semester prior to graduation to further prepare the student for the PANCE and entering the workforce.

**Total credits required for Master of Science in Physician Assistant: 97 credits**

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## PHYSICIAN ASSISTANT STUDIES COURSE DESCRIPTIONS

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### DIDATIC YEAR

#### BIO 534/537 Anatomy with Lab (5 credits)

This course in human anatomy is designed to present an extensive and fairly intensive consideration of the regions and systems of the human body. This information will be presented formally in lecture from both regional and systemic perspectives. This body of anatomical knowledge will be supplemented and reinforced by audiovisual materials and direct examination of anatomical models, human skeletal materials, and human cadavers. The laboratory portion of this course includes dissection and students are encouraged to use a hands-on approach when examining the structures of the human body.

#### BIO 544 Physiology (3 credits)

This course is presented in the first semester as a foundation for the clinical medicine courses to follow. The course will focus on an in-depth study of the mechanisms by which the human body functions. The main focus of the course is on the various strategies used to maintain homeostasis and the ways in which the activities of tissues, organs, and organ systems are regulated by neural inputs, endocrine secretions and cellular-level events. Additionally, the course will

highlight, through assigned readings and/ or classroom discussion, a variety of human pathologies and diseases as they relate to normal physiological processes.

#### BIO 524 Microbiology (2 credits)

This course is designed for the health professional and focuses on topics required to understand microbiology as it relates to human disease. This includes a general overview of microbial infection, diagnosis, and the host response, types of bacterial infections, types of viral infections, types of fungal infections, and types of parasitic infections.

#### BIO 514 Genetics (1 Credit)

This course is designed for the health professional and focuses on topics required to understand the genetic basis of human disease. This includes an overview of basic genetic principals, basis of disease and clinical genetic disorders.

#### PUBH 520 Research Methods for Health Professions (2 credits)

This course introduces students to experimental and observational study designs commonly used in health research. Students will learn about research design, conduct, analysis and dissemination. Research designs discussed will include

randomized clinical trials, cohort studies (prospective and retrospective) and case control studies. Students will learn to search the medical literature and find sources and information using PubMed and they will learn how to interpret and understand contemporary medical research.

#### PA 502 PA Profession (1 Credit)

This is an introductory course to the physician assistant profession and the program curriculum. The course will focus on the history of the profession, professional organizations, PA-Physician and interprofessional team, professionalism, leadership skills, basic ethical principles, social issues in health care, advocacy in healthcare and basic skills in communication.

#### PA 510 Clinical Skills (3 credits)

This course is designed to teach medical interviewing techniques, patient history gathering, communication skills and physical examination techniques to include normal and variant physical findings and examination techniques across the lifespan. Instruction will introduce patient education in reference to health promotion, prevention and patient counseling for diverse populations.

**PA 512 Clinical Skills Lab  
(1 credit)**

This lab experience will focus on the application of theory presented in Clinical Skills to include communication and interviewing techniques in the gathering of historical patient data and the performance of physical exam techniques in simulated diverse patient experiences.

**PA 514 Clinical Skills Lab 2  
(1 credit)**

This course will focus on the development of communication and interviewing techniques in the gathering of historical patient data, performance of physical exam techniques, development of differential diagnosis, diagnostic and therapeutic management plans via patient experiences in the lab and health care settings. Students will be introduced to interprofessional team based practice to enhance collaboration and improve patient safety.

**PA 520/521 Clinical Medicine  
(3 credits each)**

These courses will follow a systems approach to introduce common diseases and syndromes focusing on etiology, epidemiology, underlying pathophysiology, signs and symptoms, differential diagnosis, patient evaluation with the selection, use and interpretation of results of laboratory and diagnostic studies and basic therapeutic concepts. The comparison of the clinical presentation and management of disease states in diverse patient-centered acute and longitudinal care across the lifespan will be included. Appropriate preventive health care, patient education and health maintenance recommendations will be presented. The application of the principles of evidence based clinical practice will also be utilized.

**PA 522/523 Clinical Medicine  
(3 credits each)**

These courses are a continuation of PA 520 and PA 521. They will follow a systems approach to introduce common diseases and syndromes focusing on etiology, epidemiology, underlying pathophysiology, signs and symptoms, differential diagnosis, patient evaluation with the selection, use and interpretation of results of laboratory and diagnostic studies and basic therapeutic concepts. The comparison of the clinical presentation and management of disease states in diverse patient-centered acute and longitudinal

care across the lifespan will be included. Appropriate preventive health care, patient education and health maintenance recommendations will be presented. The application of the principles of evidence based clinical practice will also be utilized.

**PA 530 Pharmacotherapeutics 1  
(3 credits)**

This course will concentrate on patient-centered pharmacotherapeutics of pharmacokinetics, drug metabolism, drug interactions and adverse reactions, applications of drug for various body systems integrated with the Clinical Medicine course.

**PA 532 Pharmacotherapeutics 2  
(3 credits)**

This course is a continuation course and will concentrate on patient-centered pharmacotherapeutics of pharmacokinetics, drug metabolism, drug interactions and adverse reactions, applications of drug for various body systems integrated with the Clinical Medicine course.

**PSYC 525 Psychology in Healthcare  
(3 credits)**

This course provides a foundation of the common psychological disorders as they may present across the lifespan. Students will develop knowledge of clinical presentations, potential medical complications and therapeutic interventions inclusive of cultural perspectives for the psychological disorders. The psychological and behavioral processes in health, illness and healthcare will be introduced and resources presented for the patient, caregiver/family and provider for health promotion.

**PA 540 Women's Health  
(2 credits)**

This course will focus on the reproductive system of female patients and common conditions associated within gynecology and obstetrics. The course will include instruction in the evaluation and management of emergent, acute and chronic patient presentations in the areas of women's health across the life span. This will include breast diseases, human sexuality, domestic violence, birth control, infertility, pregnancy, pre and post-natal care, labor and delivery and menopause. The course will address diverse patient-

centered care, education, prevention and referral sources.

**PA 545 Pediatrics  
(2 credits)**

This course will focus on diverse patient-center care from birth to age 18. Normal and abnormal growth and development from infancy through childhood and adolescence will be presented. The course will include instruction in the evaluation and management of emergent, acute and chronic pediatric presentations; there will be instruction on routine health maintenance, anticipatory guidance, preventative care and family dynamics.

**PA 550 Special Topics in Medicine  
(1 Credit)**

This course will focus on an overview of current topics in healthcare inclusive of public health, cultural competency, integrative medicine, service learning, health care literacy, death, dying and loss, ethical dilemmas and processes relevant to clinical practice in relationship to patient-centered care.

**PA 565 Evidence Based Medicine  
(1 credit)**

This course will introduce students to the principals of evidence based medicine (EBM) including using a problem based learning style with case scenarios of typical patient problems supported by relevant primary studies. Students will develop skills in evidence based medicine including asking focused questions, searching for good answers, critiquing literature and applying conclusions in clinical scenarios. Students will demonstrate skills in identification and prioritization of problems, formulation of questions, consideration of clinical decision options and critical appraisal in the context of the patient scenario. This method will guide students to become skilled users of medical evidence that has already been appraised.

**PA 570 Healthcare Policy  
(2 credits)**

This course will introduce systems-based practice and health care management to include healthcare policy, healthcare delivery systems and the role of public health in the preventative healthcare. Topics will include quality improvement, risk management, patient safety and prevention of medical errors. It will also focus on



professional and legal issues encountered in practice, as well as current trends and political issues that affect PA practice. Communication with patients will be developed through exposure to educational activities in leadership, cultural diversity, health literacy, prevention, and spirituality.

#### **PA 575 Emergency Medicine and Surgery (4 credits)**

This course will focus on the management of emergency medical and surgical presentations, with an emphasis on working collaboratively in interprofessional patient centered teams while providing care across the lifespan to varying patient populations. Students will learn triage, stabilization, diagnostic and therapeutic management plans, referrals and the appropriate specialty consultations. The fundamentals of surgical practices will be presented to include pre, intra and postoperative patient care. Students will also have instruction in basic life support and advanced cardiac life support.

#### **PA 580 Procedures in Medicine (1 credit)**

This course will present theory and/or hands on experience in procedures in office, emergency and surgical settings. Principles of sterile technique, injections, intravenous catheterizations, phlebotomy, urethral catheterizations, gowning and gloving, knot tying, suturing, casting and splinting are examples of the course content.

### **CLINICAL YEAR**

#### **PA 620 Thesis Guidance (2 credits)**

This is a 2 week course to assist the student in developing the master portfolio project that includes active learning and the application of learning to improve the practice of medicine, a current standard implemented by the physician assistant profession. This project will be done with guidance from the student's advisor and in partnership with a preceptor/office practice. The project will include comparison of some aspect of practice to national benchmarks, performance guidelines or other established evidence based metric or standard. Based on the comparison, the student will develop a plan for improvement in that area.

#### **PA 602 Internal Medicine Rotation (5 credits)**

This is a 5 week rotation in an ambulatory, in/outpatient hospital or office-based primary care facility under the direction of a preceptor. The student will perform comprehensive history and physical exams, develop differential diagnoses, diagnostic and therapeutic management plans for patients with acute and chronic medical problems. The student will provide patient education on health maintenance and promotion sensitive to diverse populations across the adult life span. The student will recognize the need for consultation and referral, transfer to an emergency or acute care setting. The student's experiences can include behavioral and long term health care.

#### **PA 610 Family Practice Rotation (5 credits)**

This is a 5 week rotation in an ambulatory, in/outpatient hospital or office-based primary care facility under the direction of a preceptor. The student will perform comprehensive history and physical exams, develop differential diagnoses, diagnostic and therapeutic management plans for patients with acute and chronic medical problems. The student will provide patient education on health maintenance and promotion sensitive to diverse populations across the life span. The student will recognize the need for consultation and referral, transfer to an emergency or acute care setting. The student's experiences can include behavioral and long term health care.

#### **PA 630 Women's Health Rotation (5 credits)**

This is a 5 week rotation in an ambulatory, in/outpatient hospital or office-based primary care facility under the direction of a preceptor. The student will perform comprehensive history and physical exams, develop differential diagnoses, diagnostic and therapeutic management plans for patients with women's health medical conditions to include prenatal and obstetrical care. The student will provide patient education on health maintenance and promotion sensitive to diverse populations. The student will recognize the need for consultation and referral, transfer to an emergency or acute care setting.

#### **PA 640 Pediatrics Rotation (5 credits)**

This is a 5 week rotation in an ambulatory, in/outpatient hospital or office-based facility under the direction of a preceptor. Students will perform comprehensive history and physical exams; develop differential diagnoses, diagnostic and therapeutic management plans for common conditions in infants, children and adolescents. The student will recognize normal growth and development and be able to differentiate common abnormalities of growth and development. The student will provide health maintenance and promotion, and patient education sensitive to diverse pediatric populations.

#### **PA 650 Emergency Medicine Rotation (5 credits)**

This is a 5 week rotation in an emergency department facility under the direction of a preceptor. Students will perform focused history and physical exams, develop differential diagnoses, diagnostic and therapeutic management plans to include common procedures in the emergency room. Emphasizes will be placed on the evaluation and management of emergent and acute conditions, psychological emergencies and surgical conditions unique to the clinical practice of emergency medicine. Students will experience working collaboratively in interprofessional patient-centered teams while providing care across the life span to diverse patient populations.

#### **PA 660 Surgery Rotation (5 credits)**

This is a 5 week rotation in an in/outpatient setting under the direction of a preceptor. Students will perform comprehensive history and physical exams, develop differential diagnoses, diagnostic and therapeutic management plans to include participation in common outpatient and intraoperative procedures. Emphasizes will be placed on the evaluation and management of pre, intra and postoperative care, systemic diseases and surgical conditions unique to the clinical practice of surgery. Students will experience working collaboratively in interprofessional patient-centered teams while providing care across the life span to diverse patient populations.



**PA 670 Elective Rotation  
(5 credits)**

This is a 5 week rotation in an ambulatory, in/outpatient hospital or office-based facility under the direction of a preceptor in a health care area of choice for the student with preapproval of the clinical director. The rotation will emphasize the pathophysiology, evaluation, diagnostic and therapeutic management of diseases and conditions unique to the clinical practice. This rotation will fulfill the student's clinical area of interest and allow preparation for employment opportunities.

**PA 680 Elective Rotation  
(4 credits)**

This is a 4 week rotation in an ambulatory in/outpatient hospital or office-based facility under the direction of a preceptor in a health care area of choice for the student with preapproval of the clinical director. The rotation will emphasize the pathophysiology, evaluation, diagnostic and therapeutic management of diseases and conditions unique to the clinical practice. This rotation will fulfill the student's clinical area of interest and allow preparation for employment opportunities.

**PA 690 Mental Health Rotation  
(1 credit)**

This is a one week rotation in an ambulatory, in/outpatient hospital or office-based mental health facility under the direction of a preceptor. The student will perform mental status examinations, develop differential diagnoses, pharmacological and nonpharmacological therapeutic treatment plans for patients with mental health conditions. The student will recognize the need for consultation, referral and ancillary services for mental health conditions.

**PA 695 Summative Evaluation /  
Experience  
(2 credits)**

This course will serve as a capstone experience to prepare the student for the physician assistant profession. There will be focus on curricular review of topics in medicine, PA licensure, credentialing, laws and regulations of practice, student presentation of master portfolio projects to include case presentations, service learning and professional growth experiences. Students must successfully complete the

final summative evaluation examination and clinical simulated scenarios for graduation certification; this testing will be conducted 4 months prior to graduation.

# GRADUATE PROGRAM IN SECONDARY EDUCATION

## PROGRAM PHILOSOPHY AND CONTENT

Teaching is more than an art and a science. A teacher provides opportunity for his or her students to develop knowledge and skills. A great teacher models creativity and positive interaction to mold the minds of his or her students in an effort to build a better community.

## MISSION STATEMENT

The Master of Science in Secondary Education: Pedagogy and Practice degree prepares students to earn Pennsylvania Teaching Certification in Biology, Chemistry, Earth Science, English, Math and Social Studies. Our students will demonstrate strong pedagogical skills, leadership and service to other throughout the program. Our graduates will approach teaching using a reflective-practitioner approach that requires strong content knowledge, leadership, hands-on experiences in the field and rigorous research skills. Courses adhere to the Pennsylvania Department of Education objectives listed for development of highly qualified teachers.

## LEARNING OUTCOMES

### 1. Knowing the Content

Content specific program outcomes are met through the evaluation of undergraduate degree coursework. The Departments of Mathematics, Science, History and English evaluate all incoming transcripts. If there are areas of deficiency where standards are not met, a post-baccalaureate Plan of Study may be developed for that student.

### 2. Performances

- Managing the instructional environment
- Planning instruction
- Implementing, adapting and assimilating effective instructional strategies
- Designing, conducting and evaluating laboratory activities
- Assessing and evaluating materials to meet the instructional needs and levels of diverse learners
- Monitoring and adjusting instructional strategies

### 3. Professionalism

- Professional organizations and associations, professional publications and journals
- Integrity and ethical behavior
- Professional relationships
- Communicating effectively

## PEDAGOGY AND PRACTICE

The Master of Science in Secondary Education: Pedagogy and Practice program offers online graduate-level coursework for both individuals already certified as secondary education teachers, as well as those with bachelor degrees in fields other than secondary education who wish to pursue secondary teaching certification in biology, chemistry, Earth science, English, math or social studies.

This master's program focuses on the pedagogical links of teaching as art, science and social justice, as well as teaching as theory, research and practice. Coursework will be offered in educational research, foundations, learner diversity, cross-curricular best assessment and teaching practices, as well as content specific teaching methodologies in English, math, science and social studies.

To obtain the M.S. in Secondary Education: Pedagogy and Practice at Mercyhurst, the graduate student must complete a minimum core of 33 graduate hours of study. This online program can be completed in 12 months (full-time; beginning in summer term). A capstone clinical (EDSE 675) is required for students seeking certification in a content specific secondary program.

## SECONDARY EDUCATION: PEDAGOGY AND PRACTICE DEGREE REQUIREMENTS

### Core courses (All Offered Online)

EDSE 500	Foundation of Pedagogy and Practice
EDSE 502	Educational Research
EDSP 521	Psychology of Diverse Learners 7-12
EDSP 522	Inclusive Practices 7-12
WL101	Culturally and Linguistically Diverse Learners
EDSE 601	Critical Teaching Strategies
EDSE 602	Curriculum and Instruction (Mathematics)
EDSE 603	Curriculum and Instruction (Science)
EDSE 604	Curriculum and Instruction (English)
EDSE 605	Curriculum and Instruction (Social Studies)
EDSE 610	21st Century Literacies
EDSE 665	Clinical I Experience
EDSE 675	Capstone Clinical Experience
EDSE 676	Thesis: Secondary Education
EDSE 677	Research-based Project: Secondary Education

**EDSE 500  
Foundation of Pedagogy and Practice 3  
credits**

This course will introduce students to the role of teaching as science, art, and social justice in urban middle and high schools. Topics include theory and application of critical pedagogy, the role of teacher as educational leader, the interconnectedness of school and community, and the application of inquiry-based learning leading to pedagogy of risk-taking. Includes a 15-hour Clinical I experience.

**EDSE 502  
Educational Research  
3 credits**

This course will examine the multiple facets of educational research across diverse school populations. Emphasis is placed on understanding, conceptualizing, applying and critically analyzing such research methodologies as descriptive and meta-analytical. Special emphasis will be placed on the analysis, strategies, tactics and application of single subject experimental research methodologies. Students will learn to critically evaluate published educational literature.

**EDSP 521  
Psychology of Diverse Learners  
3 credits**

This course provides an overview of the psychology of learning, motivation, growth and development, personality dynamics and social adjustment with emphasis on the diversity of learners in today's classrooms. It satisfies the Pennsylvania Department of Education special education requirement.

**EDSP 522  
Inclusive Practices 7-12  
3 credits**

This course addresses issues related to the inclusion of students with disabilities into general education classrooms and programs through policy, research and practice. Participants will be given an opportunity to explore and develop their personal philosophy toward inclusion and collaboration in schools and communities. Participants will learn tools or collaboration, instructional strategies, assessment, and curriculum design, which will allow them to educate students with exceptionalities in the general education

classroom dealing with grades 7 through 12. Practicum required.  
*Prerequisite: EDSP 521*

**WL101  
Culturally and Linguistically  
Diverse Learners**

This course satisfies the Pennsylvania Department of Education requirement for all graduate secondary education majors, provides the knowledge, skills and dispositions that enable 7-12 teachers to facilitate learning among students from various linguistic and cultural backgrounds. Specifically, the course will (1) explore variations in personality, educational background, social class, ethnicity, national origin, language and culture;(2) analyze the issues of race, racism, and culture in historical and contemporary perspectives, (3) explore strategies for teaching multicultural and multilingual English language learners in 7-12 settings, and (4) identify obstacles to participation in the educational process by diverse cultural and ethnic groups. Includes a Clinical I experience.

**EDSE 601  
Critical Teaching Strategies  
3 credits**

The purpose of this course is to critically examine curriculum design and instruction for the 21st century middle and high school. The course will require students to analyze and develop standards-based instructional units, paying close detail to academic rigor, instructional decision-making, and urban educational theory. Includes a 30-hour clinical experience.

**EDSE 602/603/604/605  
Curriculum and Instruction –  
Mathematics or Science or English or  
Social Studies (content specific)  
3 credits**

The purpose of this course is to critically examine curriculum design and instruction for the 21st century urban middle and high school specific to the fields of mathematics (EDSE 602), science (EDSE 603), English (EDSE 604), and (EDSE 605) social studies. The course will require students to analyze and develop standards-based instructional units, paying close detail to academic rigor, inquiry-based learning and instructional decision-making as they pertain to the fields of English, mathematics, science and social studies.

**EDSE 610  
21st Century Literacies**

The purpose of this course is to equip the secondary teacher candidate with expertise in current technology as an assistive learning tool and to explore the integration of literacy across disciplines as well as prepare content area teachers to support, accommodate and coach students with disabilities in develop content specific reading and to use these strategies to improve literacy for all students on content areas in grades 7-12. Prerequisite: EDSP 521 and EDSP 522.

**EDSE 665  
Clinical I  
3 credits**

This field experience represents the first extensive internship of the program. Students, working in urban settings, will tutor individual students as well as teach in small and large groups settings. Students will assist in assessment, instructional planning and mathematics/science lab design and teaching. Weekly seminars will bring students and mentor together with faculty to critically examine weekly progress. Includes a 120-hour Clinical I experience.

**EDSE 675  
Capstone Clinical: Secondary Education  
6 Credits**

This experience is designed to prepare students to assume full teaching responsibilities under the mentorship of secondary supervision in an urban setting. Students seeking secondary education certification who hold no teaching certificate are required to complete a 6-credit (360 hours) Capstone Clinical teaching experience in a middle or secondary school.

**EDSE 676****Thesis****3 credits**

This capstone course provides an opportunity for students to engage in scholarly research to develop a research project that establishes a strong qualitative or quantitative project that may be theoretical or applied in nature. A strong literature review, detailed analysis, scholarly insights and defense of conclusions is required. Prerequisite: EDSP 502 Educational Research. Research must be approved by the program director prior to initiating the research. Any Institutional Review Board applications must also be initiated through the program director.

**EDSE 677****Research-based Project****3 credits**

This capstone course may be substituted for the thesis requirement. It provides an opportunity for students to engage in site-based research in local schools where students will engage in after school programming and research for urban schools in the area. *Prerequisite: EDSP 502 Educational Research. Research –based Project must be approved by the program director prior to engaging in the site-based the research. Grant writing is a component of this research-based project. Any Institutional Review Board applications must also be initiated through the program director.*



# GRADUATE PROGRAM IN SPECIAL EDUCATION

## PROGRAM PHILOSOPHY AND CONTENT

The graduate program in Special Education is designed to provide opportunities for providers of educational and behavioral services to (a) refine their critical thinking and analytical skills to the highest level of proficiency necessary to attain excellence in the field, and (b) develop applied research competencies necessary to create innovations in education and behavioral services that benefit individuals with disabilities or unique learning needs. Graduate students are encouraged to become scientist-practitioners, in which they to refine and redefine the links between teaching and research, theory and best practice. Following a scientist-practitioner model, graduates from this program will have the unique ability to advance both the science and art involved in a meaningful career in services for individuals with disabilities.

The master's program in Special Education provides the candidate with the experiences in field-centered activities, strongly supported by the principles of evidence-based practices, effective and appropriate education, normalization, critical pedagogy, and tolerance of individual differences. Candidates are prepared to assess learning and behavioral strengths and deficits in order to help individuals grow and achieve their goals within the contexts of special education and behavioral service settings. Through this program, students may pursue teacher certification, Pennsylvania Behavior Specialist Licensure, Board Certification in Applied Behavior Analysis, and Autism Spectrum Disorder Endorsement from the Pennsylvania Department of Education. Additionally, students may complete concentrations in Applied Behavior Analysis (ABA), Autism Spectrum Disorders (ASD), or English Language Learners. The ABA certificate program meets the BACB coursework and field eligibility requirements, allowing students to sit for the BACB examination once other requirements have been fulfilled. The ASD concentration allows students to receive an endorsement on their Pennsylvania Department of Education certificates.

## MISSION STATEMENT

The Graduate Special Education program provides current and future special education practitioners with the skills and experiences necessary to implement evidence-based practices in the helping professions of teaching, behavior analysis, and disability services. A Mercyhurst Graduate Special Education graduate is prepared to create learning opportunities that allow individuals with educational and behavioral challenges to realize opportunities for self-determination and independence. Program graduates are encouraged to be scientist-practitioners who serve the field in three evidence-driven ways: As consumers of applied research in their practice as teachers and clinicians; as producers of applied research or data-driven strategies in both their graduate studies and their professional careers; and to disseminate their clinical or research endeavors through the presentation of resulting data to others in the field.

## LEARNING OUTCOMES

Upon completion of the Graduate Special Education program, graduates will be able to:

1. Write procedures for evidenced-based practices across disability groups and life spans
2. Utilize evidenced-based practices and assessments in clinical settings
3. Write measurable objectives such as those found in an Individual Education Plan (IEP)
4. Analyze and Critique educational research.
5. Design single subject research proposal using APA writing style
6. Discuss the connection between educational assessment and assessment-based instructional decisions
7. Apply ethical conduct in the field of education
8. Apply dimensions of applied behavior analysis

## SPECIAL EDUCATION MASTER'S DEGREE COURSE REQUIREMENTS

### I. Special Education Core Courses

*Required for All Students (9 credits)*

EDSP 501	Behavior Management: Introduction to ABA and Behavior Change
EDSP 502	Educational Research: Single Subject Design
EDSP 536	Ethical, Professional, and Legal Issues

### II. Special Education Capstone Project

*One Required for All Students (3 credits)*

EDSP 676	Special Education Thesis, OR
EDSP 677	Research-Based Project

### III. Special Education Capstone Experience

*One required for All Students (3-9 credits)*

EDSP 672	Intensive Practicum: Applied Behavior Analysis (for ABA concentration only) OR
EDSP 673	Internship: Special Education (for students not seeking PA certification) OR
EDSP 675	Capstone Clinical - Special Education (for students seeking PA certification)

### IV. Concentrations

In addition to the above course, students will select a concentration and take the associated courses.

If no specific concentration is chosen, students must complete a minimum of 5 additional elective courses; required core plus elective course work must total at least 30 credits.

### AUTISM SPECTRUM DISORDER CONCENTRATION

This concentration is for graduate students who are looking to specialize in providing Special Education services to students with autism. With associated clinical hours, this concentration also qualifies those who hold any PA Dept. of Education Certification to add an ASD Endorsement to their certificate.

EDSP 540	Intro to Autism Spectrum Disorder
EDSP 501	Behavior Management: Intro to ABA & Behavior Change
EDSP 504	Behavior Management: Intro to ABA & Behavior Change Clinical
EDSP 541	Instructional Assessment and Methods: ASD

## APPLIED BEHAVIOR ANALYSIS CONCENTRATION

This concentration prepares individuals to work as Behavior Analysts within the fields of education and developmental disabilities. These courses, in addition to other requirements including an Intensive Practicum experience, also prepare graduates to apply for the Board Certified Behavior Analyst examination administered by the Behavior Analyst Certification Board.

EDSP 640	Basic Principles of Behavior
EDSP 650	Functional Assessment and Intervention Development
EDSP 660	Advanced Seminar: ABA

## ENGLISH LANGUAGE LEARNERS CONCENTRATION

This concentration is for graduate students who are looking to specialize in instructing English Language Learners (ELLs). Our education department's recent creation of the Carpe Diem Academy, in conjunction with the Erie School District, is creating new opportunities for our students to interact with ELLs and witness the need for skilled educators with training in English language learning. The program is a mixture of core special education course plus cross-listed ELL courses including:

ELL 500	Culturally and Linguistically Diverse Learners
ELL 501	Second Language Acquisition ( <i>with 20 hour practicum</i> )
ELL 505	Professionalism and Program Development for English Language Learners
ELL 512	Second Language Acquisition ( <i>with 20 hour practicum</i> )
ELL 514	Introduction to Sociolinguistics
ELL 515	Supporting Literacy for English Language Learners ( <i>with 20 hour practicum</i> )

## ADDITIONAL SPECIAL EDUCATION ELECTIVES

(SELECT 2 ELECTIVES)

The general special education track allows students the flexibility to create a graduate program that is most closely aligned to their unique interests in the field. Students may round out their graduate coursework with a two electives, including seminars where they can explore topics of greatest interest to them under the guidance of graduate faculty.

EDSP 500	Cultures and History of Disabilities
EDSP 531/2	Curriculum and Instruction: High-Incidence Disabilities
EDSP 533/4	Curriculum and Instruction: Low-Incidence Disabilities
EDSP 540	Intro to Autism Spectrum Disorder
EDSP 635	Leadership in Urban Education
EDSP 640	Basic Principles of Behavior

## UNDERGRADUATE AND CO-REQUIREMENTS FOR TEACHER CERTIFICATION:

### Special Education Grades 7-12

EDSP 521	Psychology of Diverse Learners <b>OR</b> ESPE 101 at undergraduate level
EDSP 522	Inclusive Practices <b>OR</b> ESPE 201/ESPE 202 at undergraduate level
EDSP 523	Supporting Literacy <b>OR</b> ESPE 301/ESPE 302 at undergraduate level
EDSP 524	Culturally and Linguistically Diverse Learners <b>OR</b> WL 101 at undergraduate level
EDSE 500	Foundation of Pedagogy and Practice
EDSE 501	Applied Behavior Analysis and Classroom Management
EDSE 502	Educational Research
EDSE 601	Critical Teaching Strategies

EDSE 602	Curriculum and Instruction (Mathematics) <b>OR</b>
EDSE 603	Curriculum and Instruction (Science) <b>OR</b>
EDSE 604	Curriculum and Instruction (English) <b>OR</b>
EDSE 605	Curriculum and Instruction (Social Studies) <b>OR</b>
EDSE 635	Leadership in Urban Education
EDSE 665	Directed Urban Field Experience
EDSE 676	Thesis: Secondary Education <b>OR</b>
EDSE 677	Applied Research Project: Secondary Education
EDSP 535	Assessment and Data Driven Decision Making

## Undergraduate and Co-Requirements for Teacher Certification: Special Education PK-4 Prerequisite Courses

EDSP 521	Psychology of Diverse Learners <b>OR</b> ESPE 101 at undergraduate level
EDSP 522	Inclusive Practices <b>OR</b> ESPE 201/ESPE 202 at undergraduate level
EDSP 523	Supporting Literacy <b>OR</b> ESPE 301/ESPE 302 at undergraduate level
EDSP 524	Culturally and Linguistically Diverse Learners <b>OR</b> WL 101 at undergraduate level

## PreK-4 Early Childhood Education co-requirements

EDUC 222	Aesthetic Education
EDEC 201	Reading Methods
EDEC 203	Language & Literacy II
EDEC 205	Math Methods
EDEC 401	Integrated Methods
EDEC 473	Systems, Policies & Practices
EDEC 474	Pre-Teaching Internship
ECSP 305	Family & Community
ECSP 307	Observation & Assessment II

## Prerequisites for Teacher Certification: Special Education PK-8 (Candidates already hold teacher certification in Early Childhood or Middle Level Education)

EDSP 521	Psychology of Diverse Learners <b>OR</b> ESPE 101 at undergraduate level
EDSP 522	Inclusive Practices <b>OR</b> ESPE 201/ESPE 202 at undergraduate level
EDSP 523	Supporting Literacy <b>OR</b> ESPE 301/ESPE 302 at undergraduate level
EDSP 524	Culturally and Linguistically Diverse Learners <b>OR</b> WL 101 at undergraduate level

## Disclosure Statement:

Under the current graduate program, any candidate seeking certification in any content area must complete the prescribed course of study, completion of student teaching, successful completion of PDE's required certification exams, and application to the Pennsylvania Department of Education.

**EDSP 500**  
**History and Cultures of Disability**  
**3 credits**

This course examines the treatment accorded and supports extended to persons with disabilities from Jean Marc Gaspard Itard, and the publication of "The Wild Boy of Aveyron" (1801) to the present. Attention will be directed to the identification of key factors that impinge on the social and educational process; including state and federal law, educational policy, learning theory/foundations, service delivery, the nature of "intelligence", and public attitudes (which characterize shifts in educational philosophy, from the historical preoccupation with deficit identification to the current philosophy of emphasis on strengths, self-determination, culture, and potential).

**EDSP 501**  
**Behavior Management:**  
**Intro to Applied Behavior Analysis and Behavior Change**  
**3 credits**

In addition to being a required Special Education graduate course for all students, this course meets the requirements of the Applied Behavior Analysis (ABA) graduate certificate program, and serves as the third course in this sequence of instruction. Instruction and related activities will cover advanced concepts related to behavioral theory, and behavioral assessment and intervention techniques related to teaching, learning, and management of aberrant behaviors within the group-oriented context of the classroom. Of particular interest will be the application of basic principles of operant conditioning to group-oriented behavioral contingencies, the development of systems support concepts to ensure that such interventions may actually be carried out, the incorporation of solid behavioral principles in teaching practices and curriculum design, strategies to develop self-management, generalization procedures, strategies to promote independence within classroom routines, and differential schedules of reinforcement. Students will have the opportunity to review behavioral assessment techniques and applications, reinforcer assessment, single-subject research design, and data analysis. Above all, this course will focus primarily on PRACTICAL applications of ABA within a group/systems context.

**EDSP 502**  
**Educational Research: Single Subject Design**  
**3 credits**

This graduate course will examine the multiple facets of educational research. Emphasis is placed on understanding, conceptualizing, applying, and critically analyzing research methodologies. Special emphasis will be placed on the analysis, strategies, tactics, and application of single subject research methodologies (within, between, and combined series designs) related to research-based educational and clinical practices. In addition, students will learn to critically evaluate published educational research paying special attention to design, methodologies, logic, and experimental control. This course will also introduce research-professional ethics, and the art and science of publication.

**EDSP 504**  
**Behavior Management:**  
**Intro to Applied Behavior Analysis and Behavior Change Clinical**  
**3 credits**

This one-credit course supplements EDSP 501 for students who are seeking ASD Endorsement for their Pennsylvania Department of Education Certificate. It provides 30 clinical hours in the field working with individuals with autism spectrum disorder. It is a requirement only for those wishing to obtain the ASD Endorsement. EDSP 501 and EDSP 504 are ideally taken simultaneously, but students may take EDSP 504 at a later date if they choose to pursue endorsement. All applicable clearances are required.

**EDSP 521**  
**Psychology of Diverse Learners**  
**3 credits**

Overview of the psychology of learning, motivation, growth and development, personality dynamics, and social adjustment with emphasis on the diversity of learners in today's classrooms.

**EDSP 522**  
**Inclusive Practices**  
**3 credits**

This class addresses issues related to the inclusion of students with disabilities into general education classrooms and programs through policy, research, and practice. This class will give participants an opportunity to explore and develop their personal philosophy toward inclusion and

collaboration in schools and communities. Participants will learn tools for collaboration, instructional strategies, assessment, and curriculum design, which will allow them to educate students with exceptionalities in the general education classroom.

**EDSP 523**  
**Supporting Literacy**  
**3 credits**

This course prepares teacher candidates to explore the integration of literacy across all disciplines and to develop the idea that all teachers teach literacy. It prepares teacher candidates to support, accommodate, and coach students with disabilities in particular literacy strategies, including the use of assistive technologies relevant to content area subjects.

**EDSP 524**  
**Culturally and Linguistically Diverse Learners**  
**3 credits**

This course provides the knowledge, skills and dispositions that enable K-12 content area teachers to facilitate learning among students from various linguistic and cultural backgrounds. It integrates theory and research with practical classroom applications to address the needs of teachers who work with limited English proficient students of all language background. Intended to focus on access to literacy and educational opportunity for ELLs, the course will engage class members in discussions around a variety of topics in educational practice, research, and policy. Specifically, the course will (1) explore variations in personality, educational background, social class, ethnicity, national origin, language, and culture; (2) analyze the issues of race, racism, and culture in historical and contemporary perspectives, (3) explore strategies for teaching multicultural and multilingual English language learners in K-12 settings, and (4) identify obstacles to participation in the educational process by diverse cultural and ethnic groups. Students will be required to complete field experiences and classroom activities that enable them to reflect on their own belief systems, practices, and educational experiences. Field experience is articulated with course outcomes and assignments.



**EDSP 531**  
**Curriculum and Instruction:**  
**High-Incidence Disabilities**  
**3 credits**

This course focuses on the practical application of research-based instructional methods for students with high incidence disabilities. Students enrolled in this course will be expected to (a) demonstrate knowledge of the theoretical frameworks underlying instructional practices that have been shown to be effective for students with mild disabilities, (b) develop and use appropriate assessment tools for instructional decision-making, (c) develop appropriate instructional lessons based on assessment information and models of effective instruction, and (d) generate appropriate modifications and adaptations for content-area curricular materials. Concurrent Enrollment: EDSP 532, Supervised Field Experience: High Incidence Disabilities. A 30-hour, supervised field experience is required. Students will participate in special education programs as observers and teacher aides. Placement will include public schools and other agencies serving children with high incidence disabilities.

**EDSP 532**  
**Clinical: High-Incidence Disabilities**  
**1 credit**

Co-requisite of EDSP 531. A 30-hour minimum, supervised field experience is required. Students will participate in special education programs as observers and teacher aides. Placement will include public schools and other agencies serving children with low incidence disabilities.

**EDSP 533**  
**Curriculum and Instruction:**  
**Low-Incidence Disabilities**  
**3 credits**

This course focuses on research-based methods of instruction for students with low incidence disabilities in basic communication, mobility, sensory, and social skills, as well as academic skills (especially literacy and general education curricular access). Our approach to provision of services for these students is grounded in the broader context of expanding students' valued roles in classrooms, schools, and communities, while teaching skills that will enhance personal competence and life quality today and in the future. An introduction to augmentative and alternative communication (AAC) and assistive technology (AT) is also addressed in this course.

**EDSP 534**  
**Clinical: Low-Incidence Disabilities**  
**1 credit**

Co-requisite of EDSP 533. A 30-hour minimum, supervised field experience is required. Students will participate in special education programs as observers and teacher aides. Placement will include public schools and other agencies serving children with low incidence disabilities.

**EDSP 535**  
**Assessment and Data-Driven**  
**Decision Making**  
**3 credits**

This course provides further study into psychoeducational assessment in education. Topics of study include: 1) overview of basic considerations in assessment, 2) assumptions underlying assessment and legal and ethical considerations in assessment, 3) basic concepts of measurement, with a focus on descriptive statistics, quantification of test performance, norms, reliability, and validity, 4) assessment of processes- intelligence, sensory acuity, oral language, perceptual-motor skills, and personality, 5) assessment of skills-academic achievement, reading, mathematics, written language, adaptive behavior, and 6) applying assessment information to educational decision making.

**EDSP 536**  
**Professional, Legal and Ethical Practices:**  
**Special Education**  
**3 credits**

This course provides an overview of professional, legal and ethical practices related to the provision of meaningful learning opportunities for students with disabilities. The course examines the role of law in forming and shaping special education practices; the ethical dilemmas and debates that drive much of special education, and the opportunity that exists to develop cooperative, collaborative and effective partnerships between parents, districts and service providers that result in quality education programs for students with disabilities.

**EDSP 540**  
**Introduction to Autism**  
**3 credits**

Current issues related to diagnosis, etiology, prevalence, and prognosis of ASD will be discussed. Candidates will learn the defining characteristics of, and diagnostic criteria for, ASD and other associated

defining characteristics of, and diagnostic criteria for, ASD and other associated disorders. This course will explain the relevant history of the disorder as it relates to educational services for individuals with ASD. Candidates will be instructed on the use of various diagnostic instruments and procedures. Additionally, candidates will examine effective collaboration practices used with families, agencies, and the greater community when educationally planning for this population of students. This knowledge base will be built upon in subsequent coursework within the certification sequence. This course has been designed to ensure that students demonstrate required knowledge and skills as outlined by the Pennsylvania Department of Education's competency areas I (Characteristics and Etiology of ASD) and IV (Collaboration with Families, Agencies, and the Community).

**EDSP 541**  
**Autism - Instructional**  
**Assessment and Methods**  
**3 credits**

A diagnosis of an autism spectrum disorder is often associated with significant impairment in social skills, communicative abilities, daily-living tasks, as well as academic skills. Despite the challenging nature of these impairments, research has shown unequivocally that behavioral instructional approaches can be used to promote adaptive repertoires and functional skills. This course will provide candidates with an in-depth examination of evidence-based assessment and instructional methodologies for individuals with an autism spectrum disorder. Candidates will learn to critically evaluate the scientific merits of interventions. Furthermore, candidates will learn to develop and implement comprehensive assessment methods to measure progress and make data-based decisions. This course has been designed to ensure that students demonstrate required knowledge and skills as outlined by the Pennsylvania Department of Education's competency areas related to instruction methods and assessment.

**EDSP 635**  
**Leadership in Urban Education**  
**3 credits**

This course explores (a) the theories, policies, issues, and analysis of the state of urban education, and (b) the behavior of



leadership as change agent. Topics to be addressed include research-based national models of urban reform, local models of urban reform, educational and non-educational variables unique to urban education, examples of effective practices, standards-based practices, school measurement and accountability, and building leadership capacity. The course will also require students to develop a working, research-based proposal of urban education reform either working within an existing school or proposing a new school.

**EDSP 640**  
**Basic Principles of Behavior**  
**3 credits**

This course provides an introduction to the basic principles of behavior, according to both operant and respondent conditioning paradigms. The learner will be provided with an examination of the guiding principles of Applied Behavior Analysis, as described by Baer, Wolf, and Risley (1968), and developed through a body of research spanning half a century. Specifically, the learner will identify the basic dimensions of human behavior, the environmental factors involved in operant conditioning, and the tools and techniques developed to measure, record, and analyze resulting data. An underlying context for this course's content will be the application of discussed concepts to treatment for individuals with developmental disabilities, including autism. Additionally, the learner will identify developments, which are historically significant to the establishment of a scientific and empirical approach to human behavior.

**EDSP 650**  
**Functional Assessment and Intervention Development**  
**3 credits**

This course will give students a comprehensive overview of functional behavior assessment and intervention development. Students will be exposed to the full spectrum of functional behavior assessment methodologies. Students will be taught how to develop interventions based on the results and findings of a functional behavior assessment.

**EDSP 660**  
**Advanced Seminar:**  
**Applied Behavior Analysis**  
**3 credits**

The Advanced Seminar in Applied Behavior Analysis will examine the multiple facets of behavioral research and practice issues. In addition, students will critically evaluate published educational research, and current research in the field of autism, developmental disabilities, and educational practices paying special attention to research design, methodologies employed, and experimental control. Faculty will present recently published, current, and ongoing research and contemporary topics through a weeklong series of seminars and workshops.

**EDSP 672**  
**Intensive Practicum**  
**Applied Behavior Analysis**  
**9 credits**

This 750-contact hour Intensive Practicum is designed to further establish, and ultimately solidify a link between research-theory and application-practice within the field of applied behavior analysis. More specifically, this Practicum requires graduate students the opportunity to (a) determine individual student learning differences through curriculum prioritization and assessment, (b) plan, integrate, and implement individual, small group, and collaborative assessment-driven instruction, (c) develop class-wide and individual management protocols designed to explore the functionality of behavior within the context of the school environment, (d) develop problem solving strategies to enhance the educational experience, and (e) establish leadership, dialog, and critical analysis in the field of behavior analysis.

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# MASTER'S CONCENTRATION/GRADUATE CERTIFICATE IN APPLIED BEHAVIOR ANALYSIS

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The graduate certificate in Applied Behavior Analysis is designed to meet the educational requirements for certification by the Behavior Analysis Certification Board. This ABA program focuses on integrating research, basic principles, and specialized coursework with fieldwork in the areas of MR/DD, autism, and MH/MI.

Prospective students will have a choice to complete the certificate alone, or as a concentration while pursuing a graduate degree in Special Education.

To achieve professional certification, a candidate must complete the five-course sequence:

## REQUIREMENTS, CERTIFICATE: APPLIED BEHAVIOR ANALYSIS (24-27 CREDIT HOURS)

EDSP 501	Extended Applications: Classroom Management and Applied Behavior Analysis for Groups
EDSP 502	Educational Research: Single Subject Design
EDSP 536	Professional, Legal and Ethical Practices: Special Education (Required for ABA certification for students)
EDSP 640	Basic Principles of Behavior
EDSP 650	Functional Assessment and Intervention Development
EDSP 660	Advanced Seminar: Applied Behavior Analysis
EDSP 672	Intensive Practicum - Applied Behavior Analysis (9 credits)

A college certificate of completion will be awarded to students who complete the five-course sequence. Students are responsible for meeting the work experience and exam requirements listed below:

- Complete the designated number of hours of supervised work experience. This may be met through enrollment in EDSP 672.
- Pass the "Board Certified Behavior Analyst" Examination

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## GRADUATE FACULTY

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### **PHILLIP BELFIORE**

*B.S. Duquesne University  
M.Ed. Kent State University  
Ph.D. Lehigh University*

Dr. Belfiore is the director of the Special Education graduate program. His areas of expertise include severe disabilities, urban education, applied behavior analysis, functional analysis and single subject research. He has published over 50 original research papers in such publications as the *Journal of Behavioral Education* and the *Journal of Applied Behavior Analysis*. He is the author of *Recognizing Choices in Community Setting by People with Significant Disabilities*.

### **MEREDITH BOLLHEIMER**

*B.A. Pennsylvania State University  
J.D. University of Pittsburgh School of Law*

Attorney Bollheimer is an associate professor of business and organizational leadership and holds a Juris Doctorate from the University of Pittsburgh School of Law, where she served as the Business Manager for the Journal of Law and Commerce. She has practiced in the area of insurance defense, family law, worker's compensation, and higher education law. Attorney Bollheimer teaches courses in business law, leadership, higher education law, and interdisciplinary legal studies. Her research interests include gender studies, the legal profession, corporate social responsibility, and higher education law topics.

### **JAMES G. BRECKENRIDGE**

*B.A. Virginia Tech  
M.A., University of Virginia  
M.B.A. & Ph.D. Gannon University*

Dr. Breckenridge is the Dean of the Ridge College of Intelligence Studies and Applied Sciences. Dr. Breckenridge is the former Dean of the Walker School of Business and was appointed as the first chair of the Department of Intelligence Studies at Mercyhurst University. He designed the curricular requirements and gained accreditation for the new major in Intelligence Studies in 2002, the graduate program in Applied Intelligence in 2004, and the Graduate Certificate program in 2005. During his military career, his leadership responsibilities ranged from commanding the U.S. Army's first unit to engage in combat since the Vietnam War (in Beirut, Lebanon 1983) to serving as a Professor of Military Science. During his military career he taught Middle Eastern History and served as the course director for the World History program at the United States Military Academy at West Point. Dr. Breckenridge is a founding board member of the International Association for Intelligence Education (IAFIE), a former President of the Fairview School Board, and a former member of the Transportation Committee of the Erie Chamber of Commerce.

### **MARY B. BRECKENRIDGE (Missy)**

*B.A. Virginia Tech  
M.S. University of Southern California  
D.Ed. Indiana University of Pennsylvania*

The Dean of the Walker College of Business, as well as Dean of Graduate Studies, Dr. Breckenridge regularly teaches course for the Organizational Leadership graduate program. Dr. Breckenridge's research interests are in the areas of gender and leadership along with higher education administration and assessment. Recent publications include a co-authored article titled "Homeland Security – Related Education and the Private Liberal Arts College" in *Homeland Security Affairs* and an article co-authored with Janet Wojtalik titled "There's No Place Like Home: The Effects of Childhood Themes on Women's Aspirations for Leadership," in the *Journal of Women in Educational Leadership*.

### **AMY BURNISTON**

*B.S. Pennsylvania State University  
M.S. Mercyhurst University  
Ed.D. Liberty University (ABD)*

Amy Burniston is the director and chair of the Secondary Education Graduate Program. Ms. Burniston joined Mercyhurst University in 2013 as an instructor of biology and has since transitioned to dual appointments in both the Department of Biology and the Department of Education. Ms. Burniston is currently working with students to research the effects of small mammal predators (coyote and red fox) on tick populations (and spread of Lyme disease in our area) and is completing her doctoral dissertation on the use of explicit constructivist pedagogical approaches to teach undergraduate students the nature of science. Other research interests include the hybridization of the Eastern coyote and the decrease of red fox populations, authentic science education, case-based instruction, and online learning as related to collaborative instruction.

### **LUIS L. CABO-PEREZ**

*M.S. University of Oviedo*

Mr. Cabo received his M.S. degree in Natural and Biological Resources with an additional specialization in zoology. He worked professionally and as a researcher in the Departments of Geology and Biology of the University of Oviedo on more than 15 archaeological projects involving human and animal remains, and took part as a research fellow in six long-term research projects, including some of the most important Neanderthal sites in Europe. Since 1999 he has served as Director of Paleoenvironmental Studies of the Archaeological Plan for the Navia River Basin, Asturias, Spain.

### **ORLANDREW E. DANZELL**

*B.A. Cameron University  
M.A. and Ph.D. from Kansas State University*

Dr. Orlandrew E. Danzell is an Assistant Professor in the Department of Intelligence Studies. Dr. Danzell teaches both graduate and undergraduate courses within the Department of Intelligence Studies. He received a Ph.D. in Security Studies from Kansas State University in May 2011. He earned an M.A. in Political Science from Kansas State University in 2007 and B.As in History and Political Science from Cameron University in 2003 (Summa Cum Laude). Dr. Danzell's research focuses on international/domestic terrorism, military interventions, and national security. His research uses both quantitative and qualitative methods to develop and test new theoretical insights on these themes. Dr. Danzell's scholarly work has appeared in journals such as *Journal of Conflict Resolution and Defense Security Analysis*. He has several other projects under review. He is currently working on research related to radicalization and evolution of lone wolf terrorism.

### **DENNIS C. DIRKMAAT**

*B.A. University of Pittsburgh  
Ph.D. University of Pittsburgh, 1989; D-ABFA 1996.*

Dr. Dirkmaat directs the graduate program in Forensic and Biological Anthropology. Dr. Dirkmaat is one of only 50 active board-certified forensic anthropologists in North America and has consulted in well over 150 cases for Pennsylvania coroners, State Police and the FBI. Dr. Dirkmaat is also a member of DMoRT, a federal agency that assists local officials in the documentation and identification of victims of mass fatality events, and has been involved in airplane crashes in Pittsburgh (USAir 427), Guam (KAL 901), Rhode Island (EgyptAir 800) and Pennsylvania (United 93).







He holds an Advanced National Diploma from National Soccer Coaches Association of America (NSCAA) with a winning percentage of approximately 75% at the intercollegiate level. Dr. Parente's student centered beliefs guide his research interests which focus on the recruiting process from the athlete and parental perspective, intercollegiate athletics, and the over 3.5 billion dollar fantasy sport industry. In addition, he has written and presented on gender equity issues in the sports world.

#### **CHARLES REDMOND**

*B.A. Temple University*

*Ph.D. Lehigh University*

Dr. Chad Redmond joined the Mercyhurst University faculty in 1993. His interests are in probability theory and ranking systems, and he has published articles and results in the *Annals of Applied Probability*, the *Journal of Stochastic Processes and Their Applications*, *Mathematics Magazine*, the *College Mathematics Journal*, and *Mathematics Teacher*. Some of his mathematical artwork was recently exhibited at the joint mathematics meetings. Dr. Redmond now devotes all of his time to teaching data science courses. He has previously taught courses in python, processing, html and CSS, JavaScript and jquery, php and MySQL, computer animation, web GIs, Alice, and computational art.

#### **KEVIN SULLIVAN**

*B.A. Gannon University*

*M.A. University of Dayton;*

*Ph.D. Marquette University*

Dr. Sullivan is an associate professor of philosophy whose areas of special interest include professional ethics (with special emphasis on law, medicine and bioethics), the ethics of organizations and institutions, and moral psychology.

#### **BILL WELCH**

*B.A. Point Park University*

*M.S. Mercyhurst University*

William Welch (Bill) is an instructor in the Mercyhurst University Department of Intelligence Studies, primarily teaching Intelligence Writing and Presentation to undergraduate and graduate students. He worked as a reporter and city editor with the Erie Times-News for 29 years. Welch has been involved with the MCIS Press, the press arm of the Institute for Intelligence Studies. Since arriving at Mercyhurst in 2002, Welch frequently taught in the Mercyhurst University Communication Department.

#### **KRISTAN J. WHEATON**

*B.B.A. University of Notre Dame*

*M.A. Florida State University*

*J.D. University of South Carolina*

Kristan J. Wheaton (Kris) is an associate professor of intelligence studies at Mercyhurst University in Erie, Pennsylvania. He is a retired Foreign Area Officer with the US Army who specializes in national security matters, analytic methods, intelligence communications and game-based learning. He has served as a defense and legal attaché to various US embassies and missions in Europe. He has also served in various intelligence or intelligence related billets including the S-2 to the 559th Artillery Group in Vicenza, Italy, Attaché to the Office of the Legal Counselor in The Hague; and Chief of European Analysis at the Directorate of Intelligence, EUCOM, in Stuttgart. He is the recipient of the CIA Seal Medallion and the State Department's Superior Honor Award and is a member of the South Carolina Bar.

#### **DAWN M. WOZNEAK**

*B.A. SUNY at Fredonia*

*M.S. Mercyhurst University*

*Ph.D. Capella University*

Dr. Dawn Wozneak is an assistant professor within the Applied Intelligence Program and currently serves as the chair of the Graduate Programs in Applied Intelligence. She worked as an intelligence analyst for the Federal Bureau of Investigation and as a police officer for several policing agencies in Western New York. She teaches courses in law enforcement intelligence, geospatial analysis, and data visualization. Her research interests include human geography and the geospatial analysis of national security and law enforcement issues, transnational crime, counterintelligence, political crime, Asia-Pacific issues, and integration of data science and intelligence techniques.

#### **ANNE ZAPHIRIS**

*B.A. Edinboro University of Pennsylvania*

*M.A. Kent State University*

*Ph.D. SUNY at Buffalo*

Dr. Zaphiris is an associate professor in the Organizational Leadership graduate program and serves as Director of the Sustainability Studies concentration. Her research interests include analyzing corporate and media messages, organizational values, and corporate social responsibility initiatives. The Fresh Face Forward communication campaign ([freshfaceforward.org](http://freshfaceforward.org)) evolved out of her interest in the role of communication in social change and environmental issues.

#### **STEPHEN ZIDEK**

*B.A. University of Illinois – Champaign-Urbana*

*M.A. Finders University of South Australia*

Prof. Zidek an assistant professor teaching undergraduate and graduate students in the Intelligence Studies Program at Mercyhurst University in Erie, PA. Prior to that, he co-founded a cyber intelligence and strategic business company called GenuFi, Inc., catering to corporate and government organizations concerned about intellectual property protection, monetization of premium online content, and cyber security. Prior to founding GenuFi and after leaving the US government, he joined the private sector as Vice President and Director of the Anti-Piracy Intelligence Center at the Motion Picture Association in Los Angeles, an organization dedicated to identifying and mitigating intellectual property and cybercrimes affecting the six major Hollywood Studios. Before entering into the private sector, Mr. Zidek worked as an Intelligence Officer for the U.S. Government in a number of analytical and policy positions at the US Department of State, Defense and Office of the Director of National Intelligence. Mr. Zidek is a decorated Marine for his service in Iraq and is now a Lieutenant Colonel in the Marine Corps Reserve. As a Marine reservist, he has served with the Marine Corps Intelligence Activity, the Joint Staff's Intelligence Branch (J2) and Navy-Marine Intelligence Training Command besides numerous infantry commands.

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