# Gannon University
# Graduate Catalog
# 2013 - 2014

Since 1964 Gannon has provided graduate-level course work for the Erie community, the tri-state region, and beyond. We pride ourselves on the resulting professional accomplishments of our 8879 master's degree and 275 doctoral alumni, included among them are presidents of over 50 organizations, vice presidents, controllers, executive directors, officers, principals, superintendents, and upper-level managers in 200 organizations worldwide. Many of our graduate school alumni have received the Ph.D. degree.

Our urban location provides both support to the regional professional communities and a significant source of hands-on experience for graduate studies. Over the years Gannon students have had many enriching opportunities to do projects, consult, complete internships, and otherwise involve themselves in the business, health care, human service, educational, and government communities at our doorstep. Additionally, representatives of these professions visit the Gannon campus regularly to supplement classroom theory via guest lectures, seminars, workshops, and adjunct teaching.

Office of Graduate Admissions
Courthouse Commons
109 University Square
Erie, PA 16541-0001

Phone (814) 871-7474 or
Toll Free 1-800-GANNON-U
FAX (814) 871-5827
E-mail: graduate@gannon.edu

# University Mission Statement

Gannon is a Catholic, Diocesan university dedicated to excellence in teaching, scholarship and service. Our faculty and staff prepare students to be global citizens through programs grounded in the liberal arts and sciences and professional specializations. Inspired by the Catholic Intellectual Tradition, we offer a comprehensive, values-centered learning experience that emphasizes faith, leadership, inclusiveness and social responsibility.

## Gannon University Graduate Programs are accredited by:

The Middle States Association of Colleges and Secondary Schools
3624 Market Street, Philadelphia, PA 19104
(215) 662-5606 FAX (215) 662-5501, www.msache.org

Pennsylvania Department of Education
333 Market Street, Harrisburg, PA 17126-0333
(717) 787-5041 FAX (717) 783-0583

Accreditation Council for Business Schools and Programs,
11520 West 119th St., Overland Park, KS 66211
(913) 339-9356, FAX (913) 339-6226, www.acbsp.org

Accreditation Council for Occupational Therapy Education
4720 Montgomery Lane, Bethesda, MD 20824-1220
(301) 652-2682, FAX (301) 652-7711

Accreditation Review Commission on Education for the Physician Assistant, Inc.
1000 North Oak Ave.
Marshfield, WI 54449
(715) 387-3785, FAX (715) 387-5163

Commission on Accreditation in Physical Therapy Education
1111 North Fairfax Street, Alexandria, VA 22314
(703) 684-2782 FAX (703) 684-7343, www.capte.org

Commission on Collegiate Nursing Education
One Dupont Circle, NW, Suite 530
Washington, DC 20036
(202) 887-6791, FAX (202) 887-8476, www.aacn.nche.edu

Council for Accreditation of Counseling and Related Educational Programs
1001 North Fairfax Street, Suite 510
Alexandria, VA 22314
(703) 535-5990, FAX (703) 739-6209, www.cacrep.org

Council on Accreditation of Nurse Anesthesia Educational Programs
222 South Prospect Avenue, Suite 304, Park Ridge, IL 60068-4010
(847) 692-7050, FAX (847) 692-7137

## Gannon University holds membership in:

American Association of Colleges of Nursing
One Dupont Circle, Suite 530, Washington, DC 20036
(202) 463-6930, FAX (202) 785-8320, www.aacn.nche.edu

American Association of Colleges for Teacher Education
1307 New York Avenue NW, Suite 300, Washington, DC 20005-4701
(202) 293-2450, FAX (202) 457-8095, www.AACTE.org

American Assembly of Collegiate Schools of Business
600 Emerson Road, Suite 300, St. Louis, MO 63141-6762
(314) 872-8481, FAX (314) 872-8495

American Council on Education
One Dupont Circle, NW, Suite 800, Washington, DC 20036
(202) 939-9300, FAX (202) 833-4760, www.acenet.edu

Association of Independent Colleges and Universities of Pennsylvania
800 North Third Street, Suite 502, Harrisburg, PA 17102
(717) 232-8649, FAX (717) 231-4053

The Board of Law Examiners of the Commonwealth of Pennsylvania
5035 Ritter Road, Suite 1100, Mechanicsburg, PA 17055
(717) 795-7270

College Entrance Examination Board (The College Board)
45 Columbus Ave, New York, NY 10023-6992
(212) 713-8000

The Council of Independent Colleges
One Dupont Circle, Suite 320
Washington, DC 20036
(202) 466-7230, www.cic.org

Middle Atlantic Association of Colleges of Business Administration
La Salle University, 1900 W. Olney Avenue
Philadelphia, PA 19141
(215) 951-1040

Pennsylvania Association of Colleges and Teacher Educators
1201 Northwestern Drive, Monroeville, PA 15146
(412) 373-9185

Pennsylvania Association of Colleges and Universities
800 North 3rd Street, Harrisburg, PA 17102
(717) 232-4446 or (717) 232-8639

Pennsylvania Association of Graduate Schools
President, James F. Matta, Assistant Vice President for Graduate Studies and Research,
Bloomsburg University, 400 E. Second Street, Bloomsburg, PA 17815
(570) 389-4015, jmatta@bloomu.edu

State Education Department of New York
Cultural Education Center, Room 5A-11, Albany, NY 12230
(518) 474-3901, FAX (518) 473-0271, www.nysed.gov/tert/homepage.com

**Advocate for Campus Accessibility**
Dr. Harvey Kanter is the 504/ADA coordinator for students with disabilities who require accommodation of facilities, programs or services of the University. Students seeking information or assistance in any matter regarding accessibility or accommodations should contact him promptly upon admission to the University:
Harvey Kanter, Disability Student Services, Gannon University,
109 University Square, Erie, PA 16541, (814) 871-5522,
kanter002@gannon.edu, fax (814) 871-7499

**Gannon University Policy of Equal Opportunity**
It is the policy of Gannon University to affirmatively implement equal opportunity to all qualified applicants and existing students and employees. In administering its affairs, the University shall not discriminate against any person on any basis prohibited by law. All aspects of employment including recruitment, selection, hiring, training, transfer, promotion, termination, compensation and benefits conform to this policy. All aspects of student affairs and education of students including recruitment, admissions, financial aid, placement, access to facilities, student discipline, student life and student employment conform to this policy. Questions or inquiries regarding the University's policy should be directed to the Director of Human Resources, Gannon University, 109 University Square, Erie, PA 16541-0001; phone (814) 871-5615.

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Gannon University is dedicated to excellence in holistic education. In 1933, Archbishop John Mark Gannon established Cathedral College, a two-year institution for men which by 1941 had evolved into a four-year college, the Gannon School of Arts and Sciences. The name Gannon College was adopted in 1944, and Gannon achieved university status in 1979. Then, in 1989, the delivery of higher education was further enhanced as Villa Maria College, founded in 1925, became part of the University community.

Today, Gannon University is a co-educational institution with 1000 graduate students among a total student body of 4008 enrolled full and part-time in a variety of graduate, undergraduate and associate degree programs.

Key to Gannon's mission is the personal and professional development of its students. A range of campus organizations and activities enhance academic interests, as well as foster leadership, volunteerism, and community service. The University community provides numerous opportunities for intellectual, moral, and spiritual growth.

# Graduate Study at Gannon

Gannon first offered graduate course work in 1964 and the first master's degrees were awarded in 1966. From a small beginning with fewer than 50 students enrolled in English and Education master's degree programs, graduate offerings grew dramatically in the late 60's and early 70's with the introduction of Counseling Psychology, Engineering, Public Administration, Nursing, and the tri-state area's first MBA program. Growth and development continued with the addition of a number of certificate programs in the late 70's and 80's. The Ph.D. in Organizational Learning and Leadership was first offered in 2007 and the University announced the addition of the Doctor of Nursing Practice and the MS in Sport and Exercise Science programs in 2012.

Perhaps the single most distinguishing characteristic of Gannon is that it is a Catholic university. This means that academic focus is placed upon the quality and dignity of human life. We treasure each individual graduate student and strive to provide the highest level of professional and academic training within a context of growth and supportiveness. Graduate students, both full and part-time, are valued members of the University community. They are encouraged to participate in the many cultural, social, recreational, and athletic activities of Gannon.

**Statement of Principles of Good Practice**
Gannon University subscribes to the National Association for College Admission Counseling's Statement of Principles of Good Practice. Admission policy has been established to protect all students' rights, privileges and privacy, while providing well-qualified students with an opportunity to enroll at the University. Gannon University reserves the right to deny admission to applicants who have a criminal record or other indications that they could harm or impact the wellness of the Gannon Community.

**Graduate Studies Mission Statement**
The mission of graduate education at Gannon University is to provide distinctive and rigorous programs in diverse disciplines for students who are seeking to: advance their knowledge and attain mastery in their profession; engage with the faculty in the integration of scholarship, research and professional practice; and succeed as critical thinkers and decision makers and as contributing leaders of their professions in a global society.

**Graduate Studies Vision Statement**
Graduate programs at Gannon University will be recognized for their academic excellence and their innovative pedagogies. Our programs will produce life-long learners who successfully compete in their respective careers, provide ethical leadership, and serve their communities. Graduate education will be acknowledged and supported as central to Gannon's continued growth and innovative, entrepreneurial spirit.

**Graduate Studies Learning Outcomes**
Graduates of a Gannon University Graduate Program will:

**Master Knowledge and Skills:**
1. Master the skills, methods, and knowledge appropriate to the discipline.
2. Demonstrate the skills needed to continue professional development and life-long learning appropriate to the discipline.

**Think Critically**
3. Access, analyze, and evaluate information.
4. Disseminate and communicate information.

**Conduct and Analyze Research**
5. Evaluate and utilize research methodologies appropriate to the discipline.
6. Use data driven decision-making to impact practice and/or enhance the discipline.

**Manifest Leadership and Professional Responsibility**
7. Demonstrate the ability to assume leadership roles appropriate to the discipline.
8. Demonstrate the ability to apply ethical standards appropriate to the discipline.

*The University reserves the right to make any changes in the contents of this catalog or in the documented course of study that it deems necessary or desirable. When changes are made they will be communicated to the appropriate students.*

# Programs of Study

Gannon offers four different levels of graduate programs:
(1) Doctoral programs, (2) Master's degrees with concentrations, (3) graduate level certificates, and (4) select course work for professional development.

## Doctoral Programs

**Doctor of Nursing Practice (DNP)**
**Organizational Learning and Leadership (Ph.D.)**
**Physical Therapy (DPT)**

## Master's Degree Programs

The following areas of study lead to master's degrees. Concentration areas are listed under degree programs where applicable.

- **Business Administration (Master of Business Administration – MBA)**
- **Clinical Mental Health Counseling (Master of Science – MS**
- **Computer and Information Science (Master of Science – MSCIS)**
  - Applied Computer Science
  - Information Systems
  - Software Engineering
  - Web Development
- **Education (Master of Education – MEd)**
  - Curriculum and Instruction
  - Reading
- **Education (PDE Certifications)**
  - English as a Second Language Program Specialist
  - Principal
  - Reading Specialist
  - Secondary or K-12 Teacher
  - Supervisor of Curriculum
  - Superintendent Letter of Eligibility
- **Electrical Engineering (Master of Science in Electrical Engineering – MSEE)**
- **Embedded Software Engineering (Master of Science in Embedded Software Engineering–- MSES)**
- **Engineering Management (Master of Science in Engineering Management – MSEM)**
- **English (Master of Arts–MA)**
- **Environmental Health and Engineering (Master of Science – MS)**
- **Mechanical Engineering (Master of Science in Mechanical Engineering – MSME)**
- **Nursing (Master of Science in Nursing - MSN)**
  - Administration
  - Anesthesia
  - Family Nurse Practitioner
- **Occupational Therapy (Master of Science – MS)**
- **Pastoral Studies (Master of Arts – MA)**
  - Pastoral Ministry
  - Religious Education
- **Physician Assistant (Master of Physician Assistant Science – MPAS)***
- **Public Administration (Master of Public Administration – MPA)**
- **Sport and Exercise Science (Master of Science - MS)**

* Note: The Physician Assistant program is limited in the number of spots we are able to offer due to limitations set by Gannon's accrediting body. Given an overwhelming response to our program, we do not currently have any post-baccalaureate spots available.

## Graduate Level Certificates

Graduate certificate programs involve prescribed sets of courses and/or projects/internships that are designed to build expertise in a specialized area. The total credit requirements (usually 12 to 18) are substantially fewer than that of a master's degree. Some students pursue graduate certificates in lieu of making a commitment to an entire degree program. Others use certificates to build specializations with master's degree programs, to retool after a master's degree has been earned, or for professional development. Certificate students must apply and be accepted on a non-degree basis. Gannon University offers the following graduate level certificate programs:

Family Nurse Practitioner
Nurse Anesthesia
Theological Studies

## Coursework for Professional Development

As a continuing service to the regional professional community, Gannon University offers qualified students the opportunity to pursue professional development via sequences of graduate course work. Students wishing only to build expertise in areas of interest or to gain new knowledge may apply for non-degree status. However, like certificate students, non-degree students must satisfy graduate level entrance requirements.

# Admission

While the requirements for admission to various programs differ, the general requirements and procedures are listed below. Please refer to the individual program description for specific details.

## General Requirements

Applicants for graduate study must hold a bachelor's degree from an appropriately accredited college or university, and demonstrate the motivation, ability, and preparation needed to pursue graduate study successfully. A determination of this capacity will be made by the graduate program director and/or the respective Academic Dean, based upon records of undergraduate achievement, prior graduate work (if any), scores on required standardized tests (GRE, GMAT, etc.), letters of recommendation, and other information. Official transcripts and test scores must be sent directly from the appropriate institution to the Office of Graduate Admissions of Gannon University.

## Process

Prospective applicants must submit a completed application for graduate study. Applicants should direct all application materials and questions regarding the process of admission to the:

**Office of Graduate Admissions**
109 University Square
Erie, PA 16541-0001
Phone (814) 871-7474
Toll Free 800-GANNON-U
(Press 3 when you hear the voice prompts.)
E-Mail: graduate@gannon.edu

An admissions representative will be happy to assist you with any questions regarding program admission requirements or the decision process.

## Standardized Admission Tests

Each of the master's degree programs has its own requirements with regard to standardized admission tests. Please refer to the individual program descriptions for the appropriate tests or contact a graduate admissions representative. An applicant who already holds a graduate degree is not required to take an exam when applying to a Gannon master's degree program. The results of standardized tests should be sent directly to the above office from the test administrator.

## Graduate Student Designations

Each graduate student's admission status will be determined based upon the specifics of the application decision and the student's individual circumstance.

**Degree Status**
Students who submit a complete application portfolio and meet the program admission requirements qualify for degree status.

**Provisional Status for Degree Seeking Students**
There are two general circumstances which lead to this designation:

**A. Provisional/Academic**
If a student does not meet an admissions criterion (i.e., GPA, test scores, etc.) but shows potential in other areas, the student may be admitted with provisional/academic status. Continued enrollment is contingent upon demonstration of sufficient ability to do graduate work. Generally, to receive degree status, students must achieve a minimum cumulative average of 3.00 in 9-12 credits of graduate work. This is determined by the Program Director.

**B. Provisional/Administrative**
This status applies to an applicant showing great promise but who has a missing component of information, such as a letter of recommendation or test score. This status allows students an initial semester to complete the admissions portfolio. In general, provisional students may not register for more than one semester however, specific programs may have different limits.

In either case, the responsibility is on the student to petition the Program Director by letter for a change to degree status as soon as the deficit has been alleviated. Generally, credits earned as a provisional student are fully applicable to graduate degrees and certificates.

**Non-Degree Status**
This designation is reserved for students who are not pursuing a degree at Gannon. There are a variety of common reasons for this status, including students who are pursuing a course or two for professional development, certificate students, students from other graduate schools who are planning to transfer course work back to their own institutions, or students who are attending workshops and institutes which offer graduate credit. In some cases, with the permission of a graduate program director, credits earned as a non-degree student may be applied toward a degree or certificate program at Gannon.

With the exception of students in graduate certificate programs, the non-degree student is limited to nine credits of graduate course work under this status. Only with special permission of the program director and respective Academic Dean may a non-degree student enroll for more than nine credits.

# Scheduling

We make every effort to create schedule alternatives which provide convenience and ease for graduate students. Since many students work full or part-time, most graduate courses are scheduled in the evenings or on weekends. The regular academic semesters begin in late August (Fall semester) and again in mid January (Spring semester). In addition, there are a variety of summer offering formats generally designed to meet the needs of students in specific programs. Several program directors require an interview with new students prior to registering. Please refer to the individual program descriptions regarding the necessity of an interview.

# Academic Regulations

## Academic Integrity Policy

Gannon University considers the maintenance of academic integrity of utmost importance and stresses that students are responsible for thoroughly understanding this code.

Absolute integrity is expected of every Gannon student in all academic undertakings; the student must in no way misrepresent his/her work, fraudulently or unfairly advance his/her academic status, or be a party to another student's failure to maintain integrity.

The maintenance of an atmosphere of academic honor and the fulfillment of the provisions of this code are the responsibilities of the students and faculty of Gannon University. Therefore, all students and faculty members shall adhere to the basic principles of this Code.

**I. Forms of Academic Dishonesty**

**A. Plagiarism**

Plagiarism is the inclusion of someone else's words, ideas or data as one's own work. When a student submits work for credit that includes the words, ideas or data of others, the source of that information must be acknowledged through complete and accurate documentation, and specific footnote references, and, if verbatim statements are included, through quotation marks as well. By placing his/her name on work submitted for credit, the student certifies the originality of all work not otherwise identified by appropriate acknowledgments.

A student will avoid being charged with plagiarism if there is an acknowledgment of indebtedness.

**EXAMPLES** (Including but not limited to)

Whenever one quotes another person's actual words.

Whenever one paraphrases another person's idea, opinion or theory; and whenever one borrows facts, statistics, ot other illustrative materials, unless the information is common knowledge.

Downloading or purchasing material from Internet without identifying appropriate acknowledgement.

**B. Fabrication**

Fabrication is the use of invented information or the falsification of research or other findings with the intent to deceive.

**EXAMPLES** (Including but not limited to)

Citing information not taken from the source indicated.

Listing sources in a bibliography not used in the academic exercise.

Inventing data or source information for research or other academic exercise.

Submitting as your own any academic exercise (e.g., written work, documentation or legal document [e.g., patient charts, etc.], painting, sculpture, etc., etc.) prepared totally or in part by another.

Taking a test for someone else or permitting someone else to take a test for you.

**C. Cheating**

Cheating is an act of deception by which a student misrepresents that he/she has mastered information on an academic exercise that he/she has not mastered.

**EXAMPLES** (Including but not limited to)

1. Copying from another student's test paper and/or other assignments.
2. Actively facilitating another student's copying from one's own test paper/other assignments.
3. Using the course textbook or other materials such as a notebook not authorized for use during a test.
4. Collaborating during a test with any other person by receiving information without authority.
5. Using specifically prepared and unauthorized materials or equipment during a test, e.g. notes, formula lists, notes written on student's clothing, etc.
6. Reporting a clinical visit completed when it was not.
7. Falsifying reports of clinical visits, laboratory exercises, or field experiences.

**D. Academic Misconduct**

Academic misconduct is the tampering with grades, or taking part in obtaining or distributing any part of a test not administered.

**EXAMPLES** (Including but not limited to)

1. Stealing, buying or otherwise obtaining all or part of an unadministered test.
2. Selling or giving away all or part of an unadministered test including answers to an unadministered test.
3. Bribing any other person to obtain an unadministered test or any information about the test.
4. Entering a building, office, file or computer/computer system for the purpose of changing a grade in a grade book, on a test, or on other work for which a grade is given.
5. Changing, altering, or being an accessory to the changing and/or altering of a grade in a grade book, on a test, a "change of grade" form, or other official academic records of the University which relate to grades.
6. Entering a building, office, file, or computer/computer system for the purpose of obtaining an unadministered test.
7. Hiding and/or mutilating library/classroom books and/or equipment.

**II. Procedure**

**A. Informal Procedure**

If an instructor suspects that a student or students may have violated Gannon University's code of Academic Integrity, he/she will promptly notify the student(s) involved and request an explanation of the alleged discrepancies noted. The student(s) will be invited to meet with the instructor to review the matter in question. The process of notification and meeting will take place within 30 calendar days of the alleged violation. If the student is cleared of the suspicion, the matter will be dropped. If the student(s) admits to the allegation as alleged, the instructor will impose a sanction upon the student. The student(s) should be aware that admission of guilt does not eliminate or lessen the sanction imposed by the instructor. A written statement of the infraction will be forwarded to the student(s) academic advisor(s) by the Academic Dean. The records are maintained at the Academic Dean's office for a period of three years after the student leaves or graduates from the university.

**B. Formal Procedure**

1. If an instructor suspects that a student or students may have violated Gannon University's Code of Academic Integrity, he/she will promptly notify the student(s) involved and request an explanation of the alleged discrepancies noted. The student(s) will be invited to meet with the instructor to review the matter in question. The process of notification and meeting will take place within 30 days of the alleged violation. If the student(s) is/are cleared of the suspicion, the matter will be dropped.
2. If the student(s) and the instructor are not able to agree on the matter of guilt on the alleged violation or on the severity of the sanction imposed by the instructor, the student(s) may appeal the instructor's decision to the Dean of the College. Any appeal must be made within 10 calendar days of the instructor/student meeting. (Note: exceptions can be made for unusual circumstances [end of semester, graduation, late grade returns, etc.].) Students are expected to continue to attend class during the appeal process.
3. A hearing will be scheduled with the Academic Dean. The instructor will present pertinent evidence and the student will be given the opportunity to challenge the evidence and present a defense.
4. The Dean will issue a finding based upon the evidence presented. If the Dean determines that not enough evidence has been presented, the matter will be dropped. If the Dean finds the student(s) in violation of the Code of Academic Integrity, he/she has the power to issue a sanction. Finally, the Dean has the power to support the sanction originally imposed by the instructor. (The Dean has the power to augment the sanctions by issuing administrative sanctions [i.e. suspension or separation]) in addition to the academic sanctions imposed by the faculty member. In all deliberations, the Dean may take into account not only the evidence of the appeal proceeding but also the record of any previous infraction.
5. Following the Dean's decision, the student(s) may wish to make a final appeal to the Provost with respect to the fairness of the original proceeding and/or the appropriateness of the punitive sanction imposed. The Provost will issue a decision within 10 calendar days of the appeal. Students are expected to continue attending class during the appeal process.

Records of completed disciplinary proceedings are destroyed if the student is acquitted. Records of the completed disciplinary proceedings are maintained in the Student Conduct Office and the Academic Dean's Office if the student is found guilty. The records are maintained for a period of three years after the student leaves or graduates from the University.

**Academic Dishonesty Sanctions**

Any student found guilty of academic dishonesty will be subject to penalties, which, depending on the gravity of the offense, may include the following:

1. Failure of the assignment involved (subject to decision by faculty member)
2. Failure of the course (subject to decision by faculty member)
3. Subject to review and approval of the Academic Dean, separation from the University
4. Subject to review and approval of the Academic Dean, expulsion from the University.

**III. Policy of Professional Integrity**

All students have an obligation to maintain ethical behavior in relationship to their profession.

**Professional Behavior**

Those behaviors reflecting status, character, and standards of the given profession.

**Ethical Behavior**

Those behaviors in accordance with the accepted principles of right and wrong that govern the conduct of a profession.

Any student of Gannon University who engages in unprofessional or unethical conduct is subject to disciplinary action which could include reprimand, probation, separation and expulsion from the University.

**IV. Sources**

Robert M. Gorell and Charlton Laird, Modern English Handbook, 6th Edition (Englewood Cliffs, NJ, Prentice-Hall, 1976), p. 71.
Campus Rules and Moral Community; In Place of In Loco Parentis by David A. Hoekema. Lanham, Maryland: Rowman & Littlefield Publishers, Inc., 1994.
The format and definitions for the policy on Academic Integrity were adapted from the "Academic Honesty and Dishonesty" brochure produced by the College of Health Sciences, Gannon University, Erie, PA 16541.
The format and definitions for the policy on Academic Integrity were adapted from the School of Hotel Administration, Code of Academic Integrity, Cornell University.

# Access to Student Records

In accordance with the 1975 Family Educational Rights and Privacy Act, the University has established a policy concerning access to student records. The full policy is available upon request from the Registrar's Office. The following items are included here because of their general interest:

1. Probation and suspension letters, and other correspondence are sent directly to all students at their home address.
2. Access to student records is permitted only upon receipt of a written release by the student.
3. Students may have access to parental financial records submitted in support of financial aid applications.
4. With certain exceptions, each student has access to his or her personal and academic records.
5. Students may request that directory information not be released to anyone.

# Advising

The essence of a quality graduate experience, regardless of the program, is academic advising. Each program has its own unique system for delivering information and monitoring the progress of its graduate students; thus it is essential that each graduate student contact the director of his or her program to ask for direction. This advice is most important at the onset of the program to avoid scheduling conflicts and problems with course sequencing, and to assure that the steps required to complete the program are understood.

# Auditing

With permission of the faculty member and program director, persons holding bachelor's degrees may audit select course offerings. No graduate credit is awarded to audit students. The conditions of the audit with regard to assignments and examinations will be determined by the faculty member after discussing each situation with the audit student. Auditors must have written approval of the course instructor and are advised that they cannot retroactively upgrade to credit-seeking status after the first two weeks of the regular semester. Additionally, after the first two weeks of the semester, a credit student cannot switch to audit status. Once written instructor permission is obtained, students should contact the Registrar's Office. Records of the course will be noted on a student transcript with a grade of AU which carries neither credits nor grade points.

# Changing Graduate Programs

Graduate students who are enrolled in one program may seek to switch into another graduate program at Gannon. The decision to accept such transfers is at the discretion of the new program director and, for students whose cumulative grade point average is below 3.0, the respective Academic Dean.

Students who change programs are required to meet with the new program director and have a new program plan developed. While all courses taken will remain on a single graduate transcript, it will be the prerogative of the new director to select courses from those previously completed to become part of the new program requirements.

For purposes of the Academic Program GPA computation, the new program director will compute a grade point average on the basis of the courses which are required for that particular program. At the time that the new program director interviews a student, a letter identifying the courses factored into the GPA is to be shared with the student, and placed in the student's graduate file.

# Class Attendance

Attendance at all classes and laboratory sessions is expected of all students and all courses are conducted with this understanding. A student's grades are based upon the general quality of work performed in each course and by such factors as prompt completion of all assignments, papers, and readings, by presence for all examinations, and by participation in class discussion. Ultimately, it is the responsibility of each faculty member to set reasonable attendance policies appropriate to individual courses and to publish those policies on course syllabi. When so indicated on the course syllabus, class attendance may directly influence final grades in a course.

# Comprehensive Examination

Many graduate programs require that a student achieve a satisfactory rating in a comprehensive examination. The comprehensive examination is ordinarily written but, at the option of departmental faculty, an oral examination may be required in addition to or in lieu of the written exam. The comprehensive exam is an evaluation of the student's ability to integrate the content of the program's courses and research. Comprehensive examinations are administered on a date that shall be arranged by the individual program director. A student who fails the comprehensive may petition for permission to retake the examination during the next scheduled period. Graduate students are eligible to take the comprehensive examination two times only. A student who fails the comprehensive examination a second time is subject to dismissal.

# Dismissal

Students may be dismissed from Graduate Studies for academic and/or professional reasons.

**Academic**: All students whose GPA falls below 3.0 are subject to review each semester by their program director and their Academic Dean. Separation from the University is the responsibility of the appropriate Academic Dean in consultation with the program director.

**Professional**: All students whose professional behavior in the classroom or in clinical situations falls below professional standards will be subject to dismissal from the program.

Appeal of dismissal action may be made to the Academic Dean. Reinstatement to graduate studies at Gannon is possible only with written permission of the Academic Dean.

Graduate Student Academic Action for a cumulative grade point average below 3.0 will be based upon the following guidelines:

- Graduate students who have attempted fewer than 9 credits at Gannon University will receive a letter of warning.
- Graduate students who receive a provisional academic admission and have attempted 9 credits or more at Gannon University will be dismissed.
- Graduate students who received a regular admission and attempted 9 credits or more but fewer than 24 credits at Gannon University will be placed on academic probation. Graduate students who fail to raise their cumulative grade point average to a 3.0 or above after attempting 9 additional credits will be dismissed.
- Notwithstanding the prior guidelines, graduate students who have attempted 9 credits or more at Gannon University whose cumulative grade point average is less than 2.3 will be dismissed.
- Graduate students who have attempted 24 credits or more at Gannon University will be subject to dismissal.

None of these guidelines will supersede individual program requirements that create a higher expectation.

# Grade Change

A grade change can only be initiated by the faculty member who gave the grade. Students who feel there has been an error in grading, or who wish to challenge a grade, should contact their professor.

# Grade Point Average Computation

Computation of Grade Point Average for a semester or cumulatively is accomplished by dividing total grade points earned by the total semester hours for courses where a letter grade between A+ and F is received. In some circumstances, certain courses not appropriate for a program (e.g. when a student changes programs) may be excluded from the computation of the GPA in the program. The grade of A+ carries the same GPA weight as an A, but represents academic work of extraordinary distinction.

# Grading System

The work of all graduate students is evaluated and then reported in terms of the following grades:

| Grade | Grade Points Per Credit Hour |
|---|---|
| A+ | 4.0 |
| A | 4.0 |
| A- | 3.7 |
| B+ | 3.3 |
| B | 3.0 |
| B- | 2.7 |
| C+ | 2.3 |
| C | 2.0 |
| F (Failure) | 0 |
| I (Incomplete) | 0 |
| X (Withdrawal) | 0 |
| P (Pass) | 0 |
| AU (Audit) | 0 |

A program may require students receiving a grade below B- in a specific course to repeat that course. A program may limit a student to two grades below B-. No student may graduate with a GPA below 3.0. There is no pass/fail election.

# Graduation

Degrees are conferred three times per year: December, May, and August. Attendance at Commencement ceremonies, which are held in December and in May, is highly recommended, since graduation is such an important and joyous occasion in the life of academic institutions. A graduate student is eligible to participate in the December ceremony only after all requirements are completed. Students who have applied for May or August graduation and who have had their application approved by their program director may participate in the May commencement ceremony and have their names listed in the program. Graduate students with more than six credit hours remaining to be completed in the summer may not be approved for August graduation nor participation in the May ceremony. Graduate students enrolled in current and future programs that have a structured curriculum that requires more than 6 hours in the summer as the final semester, such as the Physician Assistant Program, may participate in the May ceremony.

Prospective graduates should complete an application for graduation early in the semester (or year) of planned commencement. Submission of this form, which is available in the offices of the Dean, Registrar, and on GUXpress under student academic forms, will begin an administrative process in which the student's file will be carefully examined by the program director with regard to program requirements for graduation and potential difficulties. An early application will allow for both expeditious processing of the request and time to make up any deficiencies. December graduates must apply for graduation before September 15. May and August graduates must apply for graduation before February 15.

# Incomplete Grades

Incomplete grades may be assigned at the discretion of the faculty member in cases of serious need. Students may request "I" grades, but the decision to grant this concession will be made by the faculty member.

Students who receive an "I" grade have until the conclusion of the next regular (not summer) academic semester to complete their work, submit it, and have the "I" grade changed to a regular letter grade. Incomplete grades which are not finished within this time period will be changed to the grade of F, unless an extension is petitioned and granted by the appropriate faculty member. Exceptions on extensions may be made in cases of the thesis or research project. International students that receive an "I" grade may alter their visa status. The status of their visa should be verified with the International Student Office.

# Interruption of Study

**For Master's students**

It is expected that degree-seeking students will make steady and continued progress towards completion of the program. However, students occasionally must interrupt their studies to take a semester (or more) off due to personal or professional needs. Each program handles this situation differently, and the student should contact the program director as needed. Forms for documenting the leave of absence or withdrawal from the University are available in the Office of the respective Academic Dean. However, if a student has been off for two years or longer, that student must re-apply for admission to the Office of Graduate Admissions.

**For Doctoral Students**

Doctoral students who need to interrupt their program of study for personal or professional reasons must complete a leave of absence form and have it signed by their program director or department chair. Unless excused by an official leave of absence (which in no case may exceed one year throughout the student's degree program), all doctoral students are required to be continuously enrolled and must pay tuition and fees in order to remain in the program. Criteria for what constitutes continuous enrollment varies by program, as specified in the program listings in this catalog. If a student fails to obtain a Leave of Absence or maintain continuous enrollment in their program of study, he or she is required to apply for readmission and must be in good financial standing with the University before readmission is granted. Under no circumstances may a student utilize a leave of absence to pursue courses in another graduate program at Gannon University.

**For International Students**

Regardless of the degree being sought, international students who are not continuously enrolled in their program of study must return to their home country and then reapply for admission to the Office of International Students.

# Level 500 Courses

The general rule is that a 500-level course may be taken by undergraduates only in their senior year, either for undergraduate credit (cross-listed as a 400-level course) or for graduate credit with permission of the program director. However, because of the nature of particular integrated programs, 500-level courses may be taken in the junior year; such programmatic exceptions must be approved by the Academic Affairs Committee of the college based upon a recommendation from the Graduate Council.

# Medical Leave

Graduate students who find it necessary to take a medical leave from the University must:

- Meet with their respective Program Director/Chair or advisor
- Submit medical documentation that substantiates/verifies need for the leave
- Medical leave form must be completed
- Conditions of return are to be formulated and addressed in a letter from the program director/chair and dated and signed by the student
- Medical leave of absence is granted for up to two (2) semesters
- Student must submit medical clearance to return to coursework AND a written plan of action needs to be developed with input from the program director/chair prior to returning
- If a student does not return to the University within two (2) years, they will be required to reapply for admission
- Failure to comply with this policy may result in the assignment of an "F" grade for all courses for which the student is enrolled in during the current semester, and forfeiture of the rights for readmission
- International students must work closely with the International Student Office when contemplating a leave or withdrawal from studies

# Minimum Credit Requirements

The minimum required number of credits is 30 for a Master's degree and 12 for a certificate. Most degree and certificate programs, however, have requirements which are in excess of this minimum.

# Repeat Courses

A student may elect to repeat a course. The letter "R" will be placed in front of the original grade and the original grade will not be calculated in the GPA. Students are required to submit written notice of a repeated course to the Registrar's Office if they wish to have the repeat noted on their transcript. Forms are available in the Registrar's Office. Graduate students may repeat only 6 credit hours of coursework under this policy unless otherwise indicated in their program.

## Second Master's Degree

An increasing number of students are expressing interest in earning a second Gannon master's degree. In cases where (1) the first master's degree has been earned recently, (2) select course work from the first degree would normally be part of the second degree, and (3) the graduate program director judges the application of these credits to be appropriate, up to twelve credits of upper (600 or 700) level course work within the second master's degree level course work may be accepted in transfer from the first degree.
Course applicability would require that the earlier course work, rather than the degree itself, be recent (no more than seven years old) and judged by the particular graduate program director to be an appropriate substitution for course work within the second master's degree.

## Statute of Limitations

University policy requires that students must complete a Master's degree program within six years of matriculating into the program of study. Individual programs may establish a shorter statute of limitations. Consult the program director for exceptions.

University policy requires that students must complete a doctoral degree program within seven years of matriculating into the program of study. Individual programs may establish a shorter statute of limitations. Consult the program director for exceptions.

Exceptions can be granted only by the program director and the Academic Dean. The statutes of limitations are not extended due to interruption of study or medical leave.

## Thesis or Research Project

For thesis and research projects, students should refer to the program's guidelines for advice and direction.

## Transcript Policy

The student's authorization and written signature are needed to release a transcript. The student can request the transcript in person in the Registrar's office, can write a letter addressed to the Registrar's office, or can FAX the request.

Official transcripts must be mailed directly from the Registrar's office to the party requested. All transcripts given directly to the student will be stamped "Issued directly to the student."

Students who need transcripts to submit unopened with applications should request that the transcript be issued to them in a sealed envelope. The transcript is stamped "Issued directly to the student," has the Registrar's stamp and the school seal. The envelope is sealed and has the Registrar's stamp. The student must submit the transcript in the unopened envelope with the application. If the envelope is opened it is no longer valid as an official transcript.
Transcripts are not released for students with financial holds.

Partial transcripts are not issued. Each transcript includes the complete academic record at Gannon University and work accepted from other colleges.

Official transcripts of credit earned at other institutions, which have been presented for admission or evaluation of credit and have become a part of the student's permanent record in this office, are not reissued or copies duplicated for distribution, other than internally. Transcripts from other institutions must be official and received by Gannon University directly from the original institution(s). Copies issued to the students with the college seal will not be accepted.
Transferred credit is not added to the Gannon University transcript unless it is applicable toward a degree at Gannon University.

## Transfer of Credits

Transfer credits from other institutions are accepted at the discretion of program directors. Generally, a maximum of six credits from an accredited university may be accepted in transfer for courses in which a student received at least a grade of "B" (3.0).

# International Students

Gannon has a long tradition in receiving and welcoming students and scholars from around the world. International students and scholars are a great source of cultural enrichment offering insight and experience to the various graduate classrooms and the opportunity for American students to develop friendships with persons from widely divergent cultures.

## International Student Services

The International Student Office (ISO) fosters an environment in which international students and their families might thrive intellectually, emotionally, spiritually, physically, professionally, and socially. The ISO staff seeks to serve the international community through counseling, advocacy, immigration advising, and cultural programming, as well as to engage the members of the wider community in cross-cultural dialogue and learning.

Staff members of the International Student Office serve as Gannon University's Designated School Officials (DSOs) and Responsible Officers (ROs). They are responsible for student and University compliance with U.S. immigration regulations, as well as reporting required data to the Department of Homeland Security (DHS) through the Student and Exchange Visitor Information System (SEVIS). In order for international students to be apprised of their immigration regulations, all new international students on F-1 or J-1 visas are required to attend international student orientation. This orientation is in addition to any other required University orientations. International Student orientation is offered the week before the first day of classes each semester.

## English Language Requirements

Students for whom English is not their native language must demonstrate a proficiency in English for academic purposes before beginning course work for their degree. Students who want to begin course work for their degree immediately must attain a TOEFL iBT score of 79, an IELTS total band score of 6.0, ELS level 112, or EIKEN Grade Pre-1 (Japan). Otherwise, students will be tested for English-language proficiency and placed, if necessary, into the appropriate level of English-as-a-Second-Language (ESL) coursework. Other forms of assessment such as transcripts for campus-based training may be considered depending on a student's academic profile and related circumstances.

## Admission Requirements

International applicants must submit official notarized English translations of all undergraduate and graduate-level transcripts, TOEFL or IELTS results, if necessary, 3 letters of recommendation, financial affidavit of support, and required standardized test scores (see academic requirements). The Graduate Admissions Committee will not render a decision until originals of all required admissions records are received.

All records become the property of Gannon University and cannot be returned to the applicant nor forwarded to a third party.

## Financial Arrangements

Students must submit financial documents in conjunction with the Affidavit of Support Form as part of the requirements for issuing the Form I-20. Per United States immigration law, this financial statement and supporting documentation must show that all educational expenses, including tuition, room, board, books and health insurance, can be fully met by the student, his/her family, or a sponsor for the duration of the student's stay in the United States.

Once a student has been admitted and the financial affidavit of support has been reviewed and approved the student will be sent a letter of acceptance and an I-20 form. Students must notify the International Student Office of their planned date of arrival. All students are required to fill out the Arrival Form located on our website at *www.gannon.edu/arrivalform.*

Although financial assistance is very limited for graduate study at Gannon University, students will be automatically considered for any available aid. Information regarding assistantships is available from the various academic departments. All students must make arrangements to pay their tuition and fees (and room and board if applicable) prior to the first day of class each semester. Students may estimate the cost of attending Gannon University from the Tuition and Fees information provided in this catalog or on Gannon's Web site.

# The Library

The Msgr. Wilfrid J. Nash Library provides resources, services, facilities, and instructional programs in support of the University curricula and the scholarly needs and interests of the Gannon community.

Nash Library's collections contain over 265,000 book volumes and more than 3000 audiovisual items. Special collections include the University Archives and a curriculum materials collection to serve those in the School of Education. The library subscribes to 150 periodicals and provides online access to over 50,000 more. The library's website provides access to the online catalog, online indexes and databases, and electronic book and full-text electronic journal collections. Interlibrary loan service is available to request items not owned by Nash Library. Additionally, reference service and information literacy instruction are integral components of the library's educational mission.

The library is open 97 hours per week during the Fall and Spring semesters and provides a variety of spaces for study including tables, lounge-type furniture, private study carrels, and group study rooms. There are several computer workstations providing access to library resources as well as the Microsoft Office productivity suite and other software. The entire library is covered by Gannon's wireless network. Laptop computers are available to check out for in-library use.

# Academic Computing

Gannon University seeks to provide state-of-the-art computing, networking, and instructional technology to its students, faculty, and staff.

The campus currently offers:

- wireless access to Gannon's network and the Internet in all campus buildings;
- close to 100% of classrooms equipped with instructional technology;
- an online learning management system to provide an enhanced classroom environment;
- general computer labs in each Academic building;
- labs and classrooms with equipment geared to specific discipline requirements in several departments including Biology, Business, Chemistry, Computer Science, Health Sciences, Communications, Mechanical Engineering, and Electrical Engineering;
- access to view your tuition bill, grades, schedule, and transcript as well as view available courses and schedule online. You can also print your academic evaluation, register, or drop classes online.
- a debit card used on campus at all dining locations, library, bookstore, special events, and at many off-campus vendors.

# Tuition and Fees

## 2013-2014

Tuition and fees for 2013-2014 are subject to change

### Tuition

| | | |
|---|---|---|
| All graduate programs *(except those listed below)* | $885 | per credit |
| Curriculum and Instruction (majors 753 & 831) | 450 | per credit |
| Advanced Education Programs (all other Ed majors) | 590 | per credit |
| Act 48 Courses designated by GUEC | 298 | per credit |
| MBA Outreach | 665 | per credit |
| Physician Assistant Program - 5th Year | 1,015 | per credit |
| Occupational Therapy Program - 5th Year | 1,015 | per credit |
| Doctor of Nursing Practice Program | 1,000 | per credit |
| Doctor of Physical Therapy Program | | |
| Full time | 14,720 | per term |
| Part time (less than 10 credits) | 8,195 | per term |
| PH.D. in Organizational Learning and Leadership | 885 | per credit |

## Special Fees and Expenditures:

| | | |
|---|---|---|
| Application Fees | | |
| Doctoral Programs | $50 | |
| Master Programs | 25 | |
| Audit Fee | 150 | per credit |
| Challenge Fee | 50 | per credit |
| Graduation Fee | 80 | |
| Late Fee | 50 - 100 | |
| NSF Check Fee | 25 | |
| University Fee | | |
| Part time (1 - 8 credits) | 18 | per credit |
| Full time (over 8 credits) | 215 | flat fee |

## Course Fees:

| | |
|---|---|
| Applied Anatomy Lab Fee | $273 |
| Computer Lab | 194 |
| Computer Usage Fee (charged for certain courses) | 105 |
| Engineering Lab | 194 |
| Environmental Science Lab – (1 credit) | 179 |
| Environmental Science Lab – (2 credit) | 221 |
| Mechanical Engineering Lab Fee | 105 |
| M.Ed. Portfolio Fee | 28 |
| Nursing Lab | 55 |
| Occupational Therapy Lab | 55 |
| OT State Board Prep Test Fee | 295 |
| Physician Assistant Course Fee | 55 |
| Student Teaching Fee | 300 |

## Refund Policy:

**Tuition refund information for dropped courses will be included with your semester bill.**

## Payment

Semester bills are due one week before the start of the semester. The following payment options are available:

- **Cash or Check**

- **On-Line Payment**
  E-Check and Credit Card payments can be made on GUXpress using the "Pay on Account" link or at www.gannon.edu/epayment. There is no charge for E-Check transactions. A 2.65% service fee is assessed on credit card transactions. Cards accepted: VISA, MasterCard, Discover and American Express.

- **Deferred Payment Plan**
  This plan enables you to defer up to $2,500 per semester. There is a $30 per semester processing fee. For a balance greater than $2,500, a down payment of the difference between the total due and $2,500 is required.
  For a balance less than $2,500, a 25% down payment is required. In either case, a signed Deferred Payment Agreement is required which is available on the back of the bill or in Gannon's Cashier Office. The balance deferred plus the $30 processing fee will be divided into three equal payments and will be due the 20th of September, October, and November for the Fall semester and the 20th of February, March, and April for the Spring semester.

- **Company/School District Reimbursement**
  A student who receives 100% reimbursement must make a $100 down payment per term. A student who receives partial reimbursement must pay tuition or fees not covered by their employer. In both cases, payment must be made by the time the semester bill is due. The balance is deferred until 30 days (45 days for school district reimbursement) from the last day of the semester. Any student who fails to make payment in full by this date will be liable for a $50 late fee. Employer or grade delays will have no effect on the final payment date.

  The Company/School District Reimbursement Agreement is limited to credit courses. Application fees and late fees cannot be deferred. These fees, if applicable, are payable at the time charged. Books cannot be deferred. It is the student's responsibility to provide the employer with grades and/or other necessary paper work to obtain reimbursement.

  It is the student's responsibility to make payment of the tuition balance to Gannon. Students should also ensure that the conditions of reimbursement are stated clearly and completely on the reimbursement form by their employer. Application forms for the Company/School District Reimbursement Agreement are available on GUXpress or in the Office of Graduate Studies.

## Indebtedness Policy

A student who is in debt to the University may not register or receive an official transcript from the Registrar until the indebtedness has been discharged.

## Past Due Accounts

Past due accounts without satisfactory arrangements with Gannon's Cashier Office will be turned over to a collection agency. All reasonable collection costs, including attorney fees and other charges necessary for collection, will be the student's responsibility.

# Financial Aid

Gannon operates a full-time office with financial aid representatives who will work with you to facilitate your financial needs. These individuals have access to information relative to loans, grants, and programs at all private and government levels. Graduate students should contact Gannon's Financial Aid Office at the earliest possible time to facilitate processing.

## Federal Direct Student Loan (FDSL)

Full and part-time graduate students are eligible to apply for a student loan. Students must file the Free Application for Federal Student Aid (FAFSA) and have a FDSL Master Promissory Note on file. FAFSA applications can be completed online at: www.fafsa.ed.gov. The FDSL MPN is available online at: www.studentloans.gov

Students may be eligible to borrow up to $20,500 per academic year, depending on the number of credits for which the student is enrolled. Students must successfully complete 18 credits in order to be eligible for the next increment of $20,500. Please note: Graduate students are not eligible for PHEAA or PELL grants.

## Graduate Student Incentive Awards

Students may qualify for a Graduate Student Incentive Award. The awards range from $100 - $525 per semester and are available to graduate students who are receiving no other form of assistance such as scholarship, grant, tuition discount, or company reimbursement (excluding educational loans). To be considered for this award, you must be a US citizen or eligible non-citizen and complete either the FAFSA or a Graduate Student Incentive Award application. Online programs and certain majors are excluded from this scholarship program. Refer to the Office of Graduate Admissions brochure "Financial Facts and Policies for Graduate Students" for additional information or contact the Financial Aid Office. Graduate Student Incentive Award applications are available in the Offices of Graduate Admissions and Financial Aid.

## Gannon University Grant for Diocesan Employees

Full-time employees of the Catholic Diocese of Erie or an approved affiliate institution are eligible for the Gannon University Grant for Diocesan Employees. This grant from Gannon University is designed to assist Diocesan employees who are continuing their education at Gannon University on a part-time (fewer than 9 credits per semester) basis. Students are not eligible if they are enrolled in Health Science or Doctoral programs. For additional information refer to the Office of Graduate Admissions brochure "Financial Facts and Policies for Graduate Students" or contact the Education Office of the Diocese of Erie. Students cannot be receiving any other type of assistance.

Application forms are available in the Office of Graduate Admissions and the Education Office of the Diocese of Erie. The application must be completed by the student and approved by the Vicar of Education each semester and submitted to the Cashier's Office prior to the due date of the bill. Once the approved application is received, the grant will be applied to the student's bill.

## Employment Services

The Office of Career Development and Employment Services, located in the Student Success Center on the first floor of the Palumbo Academic Center, is available to assist graduate students in their job search. Staff will work with students who are seeking part-time employment while completing their degree, as well as those who are seeking professional positions at any time after graduation.

## Experiential Education

Graduate students have the opportunity to participate in co-op and internship placements. The professional experience acquired through participation in co-ops and internships can give the Master's degree graduate a competitive edge in the job market. Students can explore these opportunities with their academic advisor or through the Center for Experiential Education located in the Student Success Center on the first floor of the Palumbo Academic Center.

## Assistantships

There are a limited number of assistantships available through various departments of the University. Generally the positions require part-time professional contributions by the student in return for tuition waiver and a stipend. For an updated list please call the Office of Graduate Admissions. Competition for assistantship openings is quite intense; therefore, early application is essential.

# GRADUATE PROGRAMS, DEPARTMENTS AND COURSES

# Business Administration

***Director: Michael J. Messina, Ph.D.***

## INTRODUCTION

Gannon University is a student-oriented teaching university. This philosophy guides our approach to curriculum design, teaching, and advising. We recognize and understand the dramatic changes ongoing in the world of business. The mission of the Gannon MBA Program is to provide students with the vision, values, and skills required to lead successful professional and rewarding personal lives within this exciting new world. Our approach is to pay careful attention to each student, challenge them to grow, and help them to reach their own personal and career objectives. Courses in the Master of Business Administration Program (MBA) are rigorous and challenging by design, but the faculty is prepared to work with each student to build the skills needed for the business world of the 21st century.

Our experience as the region's first and largest graduate school of business has taught us some important lessons. Simply having a master's degree, regardless of the type of degree or apparent status of the degree-granting institution, is no assurance of success or happiness. To succeed in business, individuals need real skills, an understanding of the world of business and an appreciation for life. Our network of over 1,400 MBA alumni is a proud testament to Gannon's ability to make success happen for its graduate students. Gannon MBA Alumni include Presidents/CEO's, Vice Presidents, CFO's, Treasurers, and Managing Partners. In addition, over 60 have earned advanced degrees, including doctorates from some of the most prestigious academic institutions in North America (Indiana University, University of Michigan and University of Pennsylvania's Wharton School, Stanford University to name a few). More than 45 Gannon MBA's are currently teaching in colleges and universities.

One of the common dreams of graduate business students has traditionally been to own a business. Our alumni currently include over 75 individuals who are owners/operators of their own businesses. Gannon has continued to provide both instruction and motivation for these entrepreneurs and our faculty is proud of its supportive efforts in helping these alumni businesses to succeed.

## OFFERINGS

Gannon University offers the Master of Business Administration (MBA) Degree, a specialized Five Year Bachelor Degree with an MBA Degree Program, the Gannon Online Degree (GOLD) Program, and the MBA Bridge Program. In addition, Gannon provides customized packages of graduate courses in business administration (and related topics) for working professionals who wish to upgrade skills or retrain. The Gannon MBA can be designed either as a general degree or with a concentration. Concentration areas are designed for the student who can take advantage of course offerings to allow for a specialization in a specific area. These concentrations include Finance, Human Resources Management, and Marketing.

The Gannon MBA Program may be pursued on either a full-time or part-time basis.

## MISSION AND OUTCOMES OF THE MBA PROGRAM

The mission of the Gannon University Master of Business Administration Program is to provide an ethically based graduate level education with an emphasis on practical knowledge and application in the functional areas of management grounded in sound business theory presented by faculty actively engaged in scholarship in the pure and applied fields of business consistent with the mission and goals of the University as well as those of the Dahlkemper School of Business Administration.

To achieve the practical knowledge outlined above, the outcomes of the program are:

1. Understand the global business environment;
2. Understand and integrate the functional areas of business;
3. Be able to apply analytical skills to solve problems in a business environment;
4. Develop leadership skills and ethically responsible behavior in an organizational context;
5. Be able to communicate effectively; and
6. Understand how to work effectively in team settings.

## ACCREDITATION

The Business Administration program is accredited by the Accreditation Council for Business Schools and Programs (ACBSP) an international accreditation body for business schools.

## ADMISSION REQUIREMENTS

For all students:

- A Bachelor's Degree in any discipline from an accredited college or university
- A GMAT score (this requirement is waived for students with an undergraduate GPA of 3.2 or higher). If a student has a GPA less than 3.2 they also have the option of being admitted as a "Provisional" student that requires that the student complete three of four 500 level classes with a minimum of a "B" in each class. The courses include GMBA 501, GMBA, 521, GMBA 525, and GMBA 561. If a student has waived all 500 level courses, then it is required that the student complete GMBA 601, GMBA 641, and GMBA 661 with a grade not less than a "B" in each class. Any student not meeting the minimum grade of a "B" in each class will not be permitted to register for any further MBA classes. Students can thus be admitted by either earning an acceptable GMAT score or successfully completing the identified courses as a ""Provisional" student with a minimum grade of "B" in each course within two consecutive semesters.
- A completed application for admission
- A completed resume
- Official transcripts from all prior institutions
- Three letters of recommendation
- TOEFL scores if English is not a first language

Degree Status is awarded to students whose undergraduate grade point average was 3.2 or higher or who score at least 1050 using the following formula: 200 x (Undergraduate GPA) + GMAT Score

Provisional Academic Status may be awarded at the discretion of the Director of Graduate Programs to students who show academic promise but do not achieve 1050 on the formula above. These students may petition for Degree status after completion of 9 credits with a minimum of 3.0 GPA.

Non-Degree Status is awarded to students who, in the opinion of the admissions committee, show academic promise and are seeking professional development. A maximum of 9 credits may be taken as a non-degree student.

## CURRICULUM

The Gannon MBA is a professional degree program. Students begin studies with a wide variety of academic and work backgrounds. MBA curriculum requirements range from 30 to 48 credits depending upon these experiences. Courses are presented in three general categories:

- 0 to 18 credits of MBA Foundation courses. This series is designed to bring all students up to the same preliminary level before commencing with the common body of course work. Foundation courses are waivable (or challengeable) on the basis of academic experience.
- 30 credits of MBA Core courses. The Gannon MBA Core represents the common body of topics and skills that MBA's are generally expected to possess.
- 9 credits of MBA Elective courses. MBA Elective courses allow students to customize a curriculum or build a concentration finance, human resource management or marketing.

**1. MBA Foundation Courses (0-18 credits – courses may be waived on a course by course basis based on academic background at the discretion of the Director of Graduate Programs)**

| | | |
|---|---|---|
| GMBA 501 | Financial Accounting | 3 |
| GMBA 521 | Quantitative Techniques | 3 |
| GMBA 525 | Statistical Analysis | 3 |
| GMBA 531 | Management and Marketing Concepts | 3 |
| GMBA 561 | Fundamentals of Financial Management | 3 |
| GMBA 571 | Economic Environment of the Firm | 3 |

**2. MBA Core Courses (21 credits)**

| | | |
|---|---|---|
| GMBA 601 | Managerial Accounting | 3 |
| GMBA 631 | Organizational Culture, Creativity and Change | 3 |
| GMBA 641 | Operations and Supply Chain Management | 3 |
| GMBA 651 | Strategic Marketing Management | 3 |
| GMBA 661 | Financial Management | 3 |
| GMBA 686 | Leadership and Business Ethics | 3 |
| GMBA 799 | Business Policy and Strategy | 3 |

**3. MBA Elective (Select 9 credits of free electives or a concentration in finance, human resource management or marketing).**

**Total Credits 30-48**

## WAIVER OF FOUNDATION COURSES

The MBA Foundation courses may be waived in either of the following two ways:

**1. Waiver by Transcript**

Students should make an appointment with the MBA office to determine if any MBA Foundation courses can be waived. A waiver request is based upon previously completed undergraduate or graduate courses which are equivalent to the Foundation course in question. The student must demonstrate the equivalency of the prior courses by completing a Course Waiver Form. The form is completed and returned to the MBA Office. To waive a Foundation course the student should have taken specific courses within 7 years and obtained at least a grade of B (where two courses are listed, a grade of at least a B must be achieved in both courses). Below are the Foundation courses and the undergraduate courses required to waive each by transcript. International students with a three (3) year bachelor degree will be required to take all 18 credits of the Foundation level as well as other designated courses and may not waive nor challenge these courses.

GMBA 501 Financial Accounting
1 course in Introductory Accounting

GMBA 521 Quantitative Techniques
1 course in Algebra for Business or Calculus 1
GMBA 525 Statistical Analysis
1 course in Statistics
GMBA 531 Management and Marketing Concepts
1 course in Principles of Marketing and 1 course in Principles of Management
GMBA 561 Fundamentals of Financial Management
1 course in Financial Management or Corporate Finance
GMBA 571 Economic Environment of the Firm
1 course in Introductory Micro Economics and 1 course in Introductory Macro Economics

**2. Waiver by Proficiency Examinations**
Students who have taken the equivalent courses in the past, and do not meet the requirements in number one, above, but feel that they have a strong background in an area which is not reflected on their transcript (i.e. the courses were taken more than 7 years prior to admission or the student did not achieve the appropriate grade) may request challenge exams to demonstrate their proficiency. Please see the Director of Graduate Programs for more information.

**GANNON GOLD MBA PROGRAM**
Gannon's Online Degree (GOLD) Program in Business Administration uses an internet delivery system for a robust teaching and learning experience for students who work full-time and may have travel schedules and/or family obligations. Gannon uses the ANGEL delivery mechanism. With ANGEL, students have access to all their course materials, collaborative workspaces and online resources. Courses require that students work both independently and interdependently with their instructors and with fellow students. Participants in these courses must maintain their own internet access and have Microsoft Word or compatible word processing software.

All courses are three credits and will be delivered in efficient seven-week sessions. There is an expectation that the student will stay current with the course, remain engaged in all learning activities, and if necessary, seek help in a timely fashion. Students can begin their studies in any seven-week session and may either take one class per session as a part-time student or may take two classes in a session as a full-time student.

While applications may be submitted at any time, Gannon reviews applications on a rolling basis. Please contact our admissions representative to discuss details about our next start date and how to apply. Students must complete the application process prior to the start date of a given session.

Gannon's On Line MBA Program consists of 18 credits of foundation courses, 21 credits of core courses and 9 credits of free electives or concentration courses. MBA concentrations are available in finance, human resource management and marketing. A student may enroll in the Gannon Gold MBA Program on a full-time or part-time basis.

**GANNON'S THREE-YEAR MBA BRIDGE PROGRAM**
The MBA Bridge Program is designed for international students coming from non-Bologna compliant three-year baccalaureate degree programs. This program comprises of one year of undergraduate academic study intended to bridge the difference between the student's three-year baccalaureate degree and a four-year U.S. baccalaureate degree. The MBA Bridge Program requires 60 credits and is outlined as follows:

Bridge Curriculum (30 credits)

| | | |
|---|---|---|
| SPCH 111 | Speech | 3 |
| BCOR 203 | Legal Environment of Business | 3 |
| BCOR 231 | Business and Professional Communication | 3 |
| BCOR 306 | Global Business | 3 |
| GMBA 501 | Financial Accounting* | 3 |
| GMBA 521 | Quantitative Techniques* | 3 |
| GMBA 525 | Statistical Analysis* | 3 |
| GMBA 531 | Management and Marketing Concepts* | 3 |
| GMBA 561 | Fundamentals of Financial Management* | 3 |
| GMBA 571 | Economic Environment of the Firm* | 3 |

*Upon acceptance into the Gannon MBA Program, the Director of Graduate Programs will evaluate prior post-secondary coursework to determine if any of the MBA Foundation courses can be waived. If MBA Foundation courses are waived, the Director of Graduate Programs will determine alternative courses so that the matriculated student will earn a total of 30 credits at Gannon University prior to commencing the MBA core coursework

MBA Curriculum (30 credits)

| | | |
|---|---|---|
| GMBA 601 | Managerial Accounting | 3 |
| GMBA 631 | Organizational Culture, Creativity and Change | 3 |
| GMBA 641 | Operations and Supply Chain Management | 3 |
| GMBA 651 | Strategic Marketing Management | 3 |
| GMBA 661 | Financial Management | 3 |
| GMBA 686 | Leadership and Business Ethics | 3 |
| GMBA 799 | Business Policy and Strategy | 3 |
| GMBA 7xx | Electives | 9 |

**FIVE-YEAR BACHELOR DEGREE/MBA DEGREE PROGRAM**
The Five-Year Bachelor Degree/MBA Degree Program is designed to allow outstanding undergraduate students the opportunity to earn both an undergraduate degree in many disciplines and an MBA within a five year period. Students from any major may apply and should do so before they begin their junior year. Working with both the undergraduate advisor and Director of Graduate Programs, the student will customize a schedule in which MBA Foundation course work will be completed during the undergraduate years. These MBA courses will be used as substitutes for undergraduate requirements, electives, or cognates. At the completion of the undergraduate work, provided the student has taken the appropriate coursework in their undergraduate career, the 18 credits of foundation work will be met

and the student will need only 30 more graduate credits to earn an MBA. Applicants to the program must have a 3.2 undergraduate GPA with no grades in business courses below a C. Retention in the program requires that the student maintain a minimum of a 3.2 GPA for their undergraduate studies.

**MBA CONCENTRATIONS**

Although it is not necessary to work toward a concentration, many students do so in an effort to become more attractive in the job market. A concentration consists of the student taking three courses in one of the following cognate areas: Finance, Human Resource Management, or Marketing. With the permission of the graduate director, additional GMBA 700 electives can be substituted for the required concentrations within each concentration in Finance, Human Resource Management and Marketing.

The Concentration in Finance requires 9 credits and is outlined as follows:

GMBA 761 Advanced Financial Management
GMBA 764 Investments
GMBA 767 Security Analysis and Portfolio Management

The Concentration in Management requires 9 credits of management courses in consultation with the Graduate Director including:

GMBA 744 Strategic Management and 6 credits of management electives approved by the Graduate Director.

The Concentration in Marketing requires 9 credits and is outlined as follows:

GMBA 752 Consumer Behavior
GMBA 753 Marketing Research
GMBA 754 International Marketing or Marketing elective approved by the Graduate Director

**INTERNSHIPS AND COOPERATIVE EDUCATION**

Gannon MBA students may, with permission of the Director of Graduate Programs, accept placements in fields that are related to their academic studies. The University generally has a number of professional opportunities available students that can be valuable resume and portfolio builders for graduate students. Placements range from short term assignments to full-time positions and are often administrated in cooperation with either the Co-op Office or the Small Business Development Center. Interested students are advised to check with both for placement opportunities. In some circumstances, these placements can be credit bearing and substituted for an elective course. Students may take up to 3 credits of internship/cooperative education for credit with the permission of the Director of Graduate Programs, provided the experience adds to the student's knowledge and ability in their chosen field of study.

**DUAL MBA/MPA PROGRAM**

A student who has earned an MBA or MPA can obtain a second master's degree with a reduced number of courses. See the Director of Graduate Programs for more information.

**COURSE DESCRIPTIONS**

**Gannon MBA Foundation Courses**

**GMBA 501 Financial Accounting**
3 credits
A study of basic accounting concepts, techniques, and systems with a focus on reporting, analysis, and interpretation of accounting data used for decision making.

**GMBA 521 Quantitative Techniques**
3 credits
An introduction to scalar and matrix algebra and differential and integral calculus.

**GMBA 525 Statistical Analysis**
3 credits
A survey of the elements of probability theory and methods of statistical inference which are useful for decision making. Correlation, regression, and significance testing are also covered.

**GMBA 531 Management and Marketing Concepts**
3 credits
An overview of managing the modern organization, including a discussion of the functional areas of the organization, history of management thought, and the structure of organizations. Approximately half the course involves discussion of the elements of marketing management.

**GMBA 561 Fundamentals of Financial Management**
3 credits
Prerequisites: GMBA 501
A survey of financial decision making, using ratio analysis, the time value of money, the cost of capital, and capital budgeting concepts. Considerable time is spent outlining the environmental (macro-finance) factors that affect financial decisions.

**GMBA 571 Economic Environment of the Firm**
3 credits
Selected topics in the economic theory of the business firm. A mathematical approach will cover those areas of both micro and macro economics which are critical to economic decision making at the management level.

**Gannon MBA Core Courses**

**GMBA 601 Managerial Accounting**
3 credits
Prerequisite: GMBA 501
A study of the accounting information utilized in the control and evaluation of managerial decision making. The focus is cost accumulation, cost allocation and control. Critical attention is placed upon budgeting, cost-volume-profit relationships, and variance analysis as they relate to production, working capital management, and marketing decisions.

**GMBA 631 Organizational Culture, Creativity and Change**
3 credits
Prerequisite: GMBA 531
The course addresses the application of the behavioral sciences to management. The focus is on the analysis of structure and behavior in work organizations as well as classical organizational theory.

**GMBA 641 Operations and Supply Chain Management**
3 credits
Prerequisite: GMBA 521 and GMBA 525
The course is designed to introduce students to the principles of operations and supply chain management and their application in decision making. The topics covered include logistics, transportation, inventory management, warehousing, materials management, global supply, demand management, project management, e-commerce, finance, and network design.

**GMBA 651 Strategic Marketing Management**
3 credits
Prerequisites: GMBA 531
An examination of the marketing system and the use of various marketing applications such as marketing research, advertising research, and consumer behavior to assist the marketing manager in the major decision areas of targeting, product planning, channels of distribution, personal selling, pricing, promotion, branding, and development of integrated marketing programs.

**GMBA 661 Financial Management**
3 credits
Prerequisites: GMBA 521, GMBA 525, and GMBA 561
A study of risk and risk management, including advanced analysis of the investment decision using the Markowitz portfolio model and the capital asset pricing model. Other areas of study include the financing and dividend decisions, sources of short and long term capital, and current asset management.

**GMBA 686 Leadership and Business Ethics**
3 credits
A study of leadership theory and how it impacts relationships in the organization and organizational performance. This course will provide a critical investigation of the ethical issues associated with decision making.

**GMBA 799 Business Policy and Strategy**
3 credits
Prerequisite: Open only to students who are in their final semester of MBA course work.
In this course, the student will apply functional expertise to actual strategic issues. The students will be challenged to assess real managerial problems, to integrate all of the skills developed in the MBA curriculum, and to develop well-reasoned, innovative, and practical solutions to these problems.

**MBA Elective Courses**

**GMBA 710 Management Information Systems**
3 credits
Prerequisites: GMBA 631
A study of the use of information as a corporate resource in the support of decision making by managers. The position and role of the MIS manager are discussed. A study of technology, foundations and support systems for the corporate information system is included.

**GMBA 735 Employee Relations and Employment/Labor Law**
3 credits
Prerequisite: GMBA 631
A survey of labor law issues designed to give the student a fundamental, practical, working knowledge of the impact of various federal, state and local laws on the workplace The distinctive nature of management of a unionized workforce will also be studied focusing upon union avoidance, certification and decertification elections, collective bargaining, arbitrations, and other elements of employee relations.

**GMBA 736 Human Resource Management**
3 credits
Prerequisite: GMBA 631
The knowledge, skills, and abilities of the workers in a firm are its most valuable resource. This course helps students recognize the strategic importance of human resource management. The student will explore contemporary techniques of resource analysis, testing, recruiting, selection, training, appraisal, and compensation planning, and will integrate these techniques with the strategic focus of the firm.

**GMBA 737 Quality Management**
3 credits
Prerequisites: GMBA 631
This is a course in the study of leadership and the organizational improvement process. Students will be exposed to contemporary thought on process and organization improvement and will obtain an understanding of the strategic importance of quality. Topics include Baldridge criteria, the cost of quality, assessing organizational performance, lean and Six Sigma techniques, process improvement and the development of a customer orientation.

**GMBA 741 Advanced Operations Management**
3 credits
Prerequisite: GMBA 641
A comprehensive study of the literature of management science and operations research, discussing specific models and problems.

**GMBA 752 Consumer Behavior**
3 credits
Prerequisite: GMBA 651
Examines the social and psychological influences on individual, household, and organizational buyer behavior and explores models of buyer behavior and consumer research by applying them to marketing decision-making processes.

**GMBA 753 Marketing Research**
3 credits
Prerequisites: GMBA 525, GMBA 651
This course will acquaint students to the field of marketing research by combining both a practical and theoretical approach to the research process. The course will examine the process of defining marketing problems and issues, developing a research design, generating primary data, examining secondary data, formulating recommendations, preparing a research report and presentation and implementing research results. The course includes the design of marketing research study.

**GMBA 754 International Marketing**
3 credits
Prerequisite: GMBA 651
A survey of international marketing concepts and practices, with a focus on the current problems and issues of international firms. International marketing strategies, policies and structures are evaluated.

**GMBA 761 Advanced Financial Management**
3 credits
Prerequisite: GMBA 661
Advance topics in finance, such as forecasting, lease and buy considerations, and advanced working capital management.

**GMBA 764 Investments**
3 credits
Prerequisite: GMBA 661
A survey of financial instruments and financial markets focusing on the risk and return characteristics of such financial instruments as stocks, bonds, options, futures, tax shelters, real estate, and precious metals.

**GMBA 767 Security Analysis and Portfolio Management**
3 credits
Prerequisite: GMBA 661
A study of security valuation models, discussed in light of the Efficient Market Hypothesis. Also study of security aggregation techniques for increasing portfolio returns and/or risk reduction.

**GMBA 770 Entrepreneurial Management**
3 credits
Prerequisites: GMBA 601, GMBA 651, GMBA 661
For those considering going into business for themselves. Topics include marketing, financing, and production of a new product or service. The course will take a seminar approach. For the student who is not considering an entrepreneurial venture, the course should provide several insights into the macroscopic aspects of business. The course includes one research project in the form of a feasibility study in the area of the student's interest.

**GMBA 774 Strategic Management**
3 credits
Prerequisites: GMBA 561, GMBA 651
A study of how the organization plans for its long term survival based on analysis of the impact of changes in the economic, social, legal, competitive, and technological environments. Uses of long range strategic planning for competitive advantage are examined and discussed.

**GMBA 790-794 Special Topics**
3 credits
Prerequisites: Permission of the Director of Graduate Program and Instructor
Course content will vary among topics in accounting, finance, economics, management, and marketing. Current issues and trends in business and organizations will be addressed using a best practices approach. The class may be taken multiple times as long as the class topic title is different. The same class topic title may not be retaken for additional credit.

**GMBA 795 Graduate Thesis**
3-6 credits

**GMBA 797 MBA Internship**
3 credits
Prerequisite: Permission of the Director of Graduate Programs
Students are placed in work roles related to their professional interests and supervised by both a faculty member and a field coordinator.

**GMBA 798 Co-operative Education Placement**
1-6 credits
Prerequisite: Permission of the Director of Graduate Programs
Note: Current business experience cannot be used to fulfill the requirements of this course.

**GMBA 799 Business Policy and Strategy**
3 credits
Prerequisite: Open only to students who are in their final semester of MBA course work.
In this course, the student will apply functional expertise to actual strategic issues. The students will be challenged to assess real managerial problems, to integrate all of the skills developed in the MBA curriculum, and to develop well-reasoned, innovative, and practical solutions to these problems.

# Clinical Mental Health Counseling

## Master of Science (M.S.) Degree

***Director: Timothy Coppock, Ph.D***

## INTRODUCTION

Gannon University offers the Master of Science in Clinical Mental Health Counseling. The M.S. in Clinical Mental Health Counseling is a 60 credit-hour program accredited by the Council for the Accreditation of Counseling and Related Educational Programs (CACREP). The program is accredited through 2017. CACREP, the professional accrediting body for counselor education, promotes the professional competence of counseling and related practitioners through preparation standards, excellence in program development, and accreditation of professional preparation programs. Note: The Clinical Mental Health Counseling Program is currently accredited under the 2001 standards for Community Counseling programs as a Community Counseling program. The CACREP 2009 standards combine the Community Counseling and Mental Health Counseling standards into standards for Clinical Mental Health Counseling programs. The counseling program intends to seek accreditation as a Clinical Mental Health Counseling program when it comes up for reaccreditation, per CACREP guidelines.

All students complete a minimum of 60 semester hours for the degree. The program is designed to prepare individuals for careers in a variety of professional counseling settings such as community mental health, human service agencies, college and university counseling, and residential treatment. The curriculum provides a blend of counselor training experiences designed to provide the skills and knowledge necessary to become a professional counselor. The program prepares graduates to pursue National Counselor Certification (NCC) and licensure as a Professional Counselor (LPC).

## MISSION STATEMENT

The mission of Gannon University's Clinical Mental Health Counseling Program is to educate and train students to become professional counselors who are committed to the wellness of individuals, families, groups, and the greater community. The philosophy of the program focuses on the development of the competencies required of professional counselors. The program is committed to (a) enhancing students' knowledge of counseling theory and concepts; (b) developing strategies to facilitate human growth and development over the lifespan; (c) providing skills and training requisite of generalist entry-level counseling practitioners; (d) developing multicultural competencies; (e) promoting the development of sound legal and ethical decision-making skills; and (f) preparing individuals for national certification and professional licensure. Although students typically are drawn from the regional area, applicants with diverse backgrounds and from outside the region are encouraged to apply. Students are guided to embody and contribute to the spirit of diversity to which the program and profession are committed.

## STUDENT LEARNING OUTCOMES

Learning outcomes are statements of knowledge, skills and abilities an individual student possesses and can demonstrate upon completion of a program of study. Students graduating from the Clinical Mental Health Counseling Program at Gannon University are expected to achieve the following learning outcomes:

1. Core Professional Counselor Knowledge and Skills – Demonstrate the core knowledge and skills reflective of a Professional Counselor consistent with CACREP common core curriculum content and the counseling profession.
2. Clinical Mental Health Counselor Professional Orientation – Demonstrate understanding of clinical mental health counselor identity, roles, professional organizations, credentialing, and clinical mental health counselor development.
3. Clinical Mental Health Counseling Theory and Skills – Demonstrate clinical counseling theory and skills consistent with the CACREP Clinical Mental Health Counseling curriculum content and the counseling profession.
4. Clinical Mental Health Case Conceptualization and Mental Health Service Delivery – Demonstrate case conceptualization skills and implementation within the various components of mental health service delivery consistent with the CACREP Clinical Mental Health Counseling curriculum content, multicultural and spirituality competencies, and the counseling profession.
5. Assessment of Mental and Emotional Disorders and Conditions – Demonstrate assessment of mental and emotional disorders and conditions including crisis, disaster, trauma causing events, and substance abuse, consistent with the CACREP Clinical Mental Health Counseling curriculum content and the counseling profession.
6. Treatment of Mental and Emotional Disorders and Conditions – Demonstrate treatment of mental and emotional disorders and conditions including crisis, disaster, trauma causing events, and substance abuse, consistent with the CACREP Clinical Mental Health Counseling curriculum content and the counseling profession.
7. Professional and Ethical Practice – Demonstrate the ability to apply professional and ethical decision making, and adhere to

ethical, legal, and professional standards related to the practice of professional counseling, the American Counseling Association and its divisions.

8. Reflective Learning – Demonstrate self-awareness and self-development through engagement in active learning and reflectivity.

## DIVERSITY STATEMENT

The Clinical Mental Health Counseling Program establishes and supports an environment that values the diverse and unique nature of human experiences and backgrounds. We enrich our personal and professional lives by exemplifying Gannon University's call to demonstrate professional respect for the dignity of every person.

## PROGRAM ADMISSION REQUIREMENTS

Students must have a bachelor's degree from an approved institution. A complete application for admissions includes: a resume, three letters of recommendation from appropriate professionals, an essay, and participation in an admissions interview. To be admitted into the program, applicants must have a minimum grade point average of 2.8 in undergraduate coursework. Students must also have Pennsylvania Child Abuse History clearance and the Pennsylvania State Police Criminal Record Check (ACT 33 & ACT 34 clearances) dated within a year of application. Formal admittance to the program is required before enrolling in courses.

**Undergraduate Course Work**

Students enter the Clinical Mental Health Counseling Program from a variety of undergraduate backgrounds. Course work in human services, psychology, statistics, and human development is helpful. Several courses in psychology are recommended.

## ACCREDITATION

The Clinical Mental Health Counseling Program is accredited by the Council for the Accreditation of Counseling and Related Educational Programs (CACREP). Graduates are eligible to sit for the National Counselor Examination administered by the National Board for Certified Counselors (NBCC). For further information on accreditation, contact: CACREP, 1001 North Fairfax Street, Suite 510, Alexandria, VA 22314. Phone: (703) 535-5990. Website: www.cacrep.org. For further information on NBCC, contact: NBCC 33 Terrace Way Greensboro, NC 27403. Phone: (336) 547-0607. Website: www.nbcc.org.

## CURRICULUM

**I. Master's Degree in Clinical Mental Health Counseling Core Courses**

1. Foundations of Professional Counseling Sequence (12 credits)

| | | |
|---|---|---|
| GCOU 605 | Group Dynamics | 3 |
| GCOU 608 | Human Development Over the Life Span | 3 |
| GCOU 627 | Professional Counseling | 3 |
| GCOU 648 | Counseling Strategies & Techniques | 3 |

2. Counseling Core I Sequence (12 credits)

| | | |
|---|---|---|
| GCOU 603 | Research Methodology | 3 |
| GCOU 610 | Counseling & Personality Theories | 3 |
| GCOU 613 | Appraisal in Counseling | 3 |
| GCOU 625 | Multicultural Issues in Counseling | 3 |

3. Counseling Core II Sequence (15 credits)

| | | |
|---|---|---|
| GCOU 612 | Family Systems | 3 |
| GCOU 622 | Career Development & Counseling | 3 |
| GCOU 631 | Diagnosis and Treatment Planning | 3 |
| GCOU 642 | Child and Adolescent Counseling | 3 |
| GCOU 690 | Seminar in Counseling (GCOU 690 and 691 must be completed after the Counseling Core II sequence and prior to enrolling in GCOU 651) | 3 |
| GCOU 691 | Counselor Preparation | 0 |

4. Advanced Core Sequence (12 credits)

| | | |
|---|---|---|
| GCOU 649 | Mental Health Counseling | 3 |
| GCOU 660 | Counseling and Spirituality | 3 |
| GCOU 667 | Crisis and Disaster Counseling | 3 |
| GCOU 668 | Addictions Counseling | 3 |

5. Supervised Counseling Experience (9 credits)

| | | |
|---|---|---|
| GCOU 650 | Supervised Practicum | 3 |
| GCOU 651 | Supervised Internship | 6 |

**II. Comprehensive Examination**

Each candidate will be required to pass a comprehensive examination during GCOU 691 Counselor Preparation.

## SPECIAL FEATURES

**Clearances**

Clinical Mental Health Counseling Program applicants must present an acceptable Pennsylvania Child Abuse History clearance and an acceptable Pennsylvania State Police Criminal Record Check (ACT 33 & ACT 34 clearances). Clearances must be dated within a year of application. Applicants with documented criminal or abuse records will be evaluated on an individual basis for acceptance in the program.

**Licensure**

Professional counselors are licensed by the Commonwealth of Pennsylvania State Board of Social Workers, Marriage and Family Therapists, and Professional Counselors. The overall goal of the Clinical Mental Health Counseling Program is to provide academic preparation for graduates to become Licensed Professional Counselors. There are additional postgraduate clinical supervision requirements in order to attain licensure.

**National Certification**

The National Board for Certified Counselors (NBCC) administers the National Counselor Examination (NCE). Gannon University sponsors the NCE on campus as a service to program students and

alumni. Graduates of CACREP accredited programs receive their NCE immediately after passing the NCE exam. The NCE is also used for licensure as an LPC in Pennsylvania. The program requires successful completion of the Counselor Preparation Comprehensive Examination (CPCE) which provides ample preparation for the NCE. Graduates are encouraged to pursue both national certification and licensure.

**Post-Graduate Coursework**
Individuals who have completed a Master's degree in counseling may take courses in the Clinical Mental Health Counseling Program in order to meet the requirements for licensure. All post-graduate students must apply to the Office of Graduate Admissions and be approved by the program director.

# COURSE DESCRIPTIONS

**GCOU 603 Research Methodology**
3 credits
This course provides an understanding of principles and methods of counseling research and program evaluation including statistical and qualitative analysis. Students will learn to critically evaluate counseling research, literature, consider ethical issues relevant to counseling research, and identify how research and program evaluation can improve counseling effectiveness. It is strongly recommended that students have taken an undergraduate statistics course.

**GCOU 605 Group Dynamics**
3 credits
This course provides an understanding of group counseling, group dynamics, types of groups, and group leadership. Students will experience integrative learning by participating in a developmental process group. Guidelines for group treatment, ethics, and diversity will be discussed.

**GCOU 608 Human Development Over the Life Span**
3 credits
This course provides an understanding of human growth and development over the life span including theoretical approaches and issues relevant to human services. It emphasizes physiological, cognitive, social, emotional, personality, spiritual, and moral development from conception to death. Legal and ethical issues related to human development, as well as diversity issues, will be reviewed in relation to human services.

**GCOU 610 Counseling and Personality Theories**
3 credits
This course provides an overview of the major theories in counseling and psychotherapy. The theoretical and historical backgrounds will be reviewed along with current practices. The strengths, limitations, and appropriate use of major counseling theories will be reviewed. This course will help students consider their own evolving theoretical orientation applicable to professional counseling settings and diverse client populations.

**GCOU 612 Family Systems**
3 credits
This course provides a comprehensive understanding of various approaches to couples and family counseling. Within the context of systems theory, emphasis will be placed on understanding various methods of conceptualizing family dynamics and intervention strategies.

**GCOU 613 Appraisal in Counseling**
3 credits
Prerequisites: GCOU 603
This course provides an understanding of individual and group approaches to assessment and evaluation in professional counseling. Emphasis is placed on all aspects of clinical assessment including risk assessment, personality assessment, assessing achievement, intelligence assessment, and career testing. Students will have the opportunity to administer selected assessment instruments.

**GCOU 622 Career Development and Counseling**
3 credits
This course provides an introduction to the theoretical bases of career development and individual career decision making. It incorporates career assessment instruments and techniques for evaluating individuals relevant to career development, planning and placement. Emphasis is placed on understanding career, educational and labor market information, technology in career counseling, legal and ethical standards, multicultural and gender bias as well as an appreciation for career trends across the life-span.

**GCOU 625 Multi-Cultural Issues in Counseling**
3 credits
This course provides an overview of the theories of multicultural counseling and development. Issues related to social and cultural diversity will be examined as well as guidelines for developing multicultural competencies. An experiential focus is designed to increase sensitivity in counseling.

**GCOU 627 Professional Counseling**
3 credits
This course provides an introduction to the field of professional counseling. Multiple aspects of counselor professional identity and the specific role of clinical mental health counselors will be explored. Counselor roles, legal and ethical standards, organizational affiliations, and credentialing will be reviewed. Counselor preparation and training as well as professional development will be explored.

**GCOU 631 Diagnosis and Treatment Planning**
3 credits
This course provides an understanding of diagnosis according to the DSM and the practice of treatment planning. Emphasis is placed on differential diagnosis, the etiologies of mental and emotional disorders, as well as the cultural, contextual, and ethical issues related to the development of a diagnosis and treatment plan. Students will have the opportunity to demonstrate diagnostic and treatment planning skills.

**GCOU 642 Child and Adolescent Counseling**
3 credits
Prerequisite: GCOU 610 and GCOU 648
This course provides specialized knowledge and skills training in counseling children and adolescents. Students will learn to assess behavior and incorporate developmentally, culturally, ethnically, legally, and gender appropriate strategies and techniques to meet the needs of counseling children and adolescents. Students will examine various theoretical, behavioral, and play therapy techniques for counseling children and adolescents. Special emphasis will be placed on the differential diagnosis of mental and emotional disorders related to children and adolescents according to the DSM.

**GCOU 648 Counseling Strategies and Techniques**
3 credits
This course provides training in the core counseling skills essential for the counseling relationship and effective treatment outcomes. Students receive supervised training through modeling, live observation, skill rehearsal, and videotaping within the counselor training facilities.

**GCOU 649 Mental Health Counseling**
3 credits
Prerequisite: GCOU 610 & GCOU 648
This course will provide instruction and skills training in mental health strategies and techniques. Students will develop competencies in diagnosis and integrative treatment approaches for selected psychological conditions and behavior problems. Emphasis is placed on establishing a therapeutic relationship, evidence-based treatment, and legal and ethical practice.

**GCOU 650 Supervised Practicum**
3 credits
Corequisite: GCOU 690
Practicum provides preparation for internship through highly structured and supervised counseling practice. 100 hours of supervised counseling experience in an approved community counseling setting. Students will demonstrate the basic competencies required of professional counselors, providing direct and indirect counseling services under supervision. Students will receive individual on-site supervision and weekly on-campus group supervision.

**GCOU 651 Supervised Internship**
3-6 credits
Prerequisite: GCOU 650
Internship provides 600 hours of supervised counseling experience in an appropriate community or school setting. Students will provide direct and indirect counseling services under supervision. Emphasis is placed on counselor identity development, legal and ethical practice, and demonstration of multicultural and counseling competencies. Students will receive individual on-site supervision and weekly on-campus group supervision.

**GCOU 660 Counseling and Spirituality**
3 credits
This course will focus on integrating spirituality into the practice of professional counseling. Spirituality, spiritual issues, spiritual diversity, and ethical concerns will be examined. Critical topics, such as illness, death and dying, suicide, and trauma will be explored. Students will review guidelines and competencies for integrating spirituality into the counseling relationship.

**GCOU 667 Crisis and Disaster Counseling**
3 credits
This course provides a comprehensive overview of how crises, disasters, and trauma-causing events impact the practice of professional counseling. Students will develop competencies relating to the assessment and counseling of persons experiencing trauma, crises, and/or disasters. Emphasis is placed on differentiating between normal and pathological functioning as well as understanding crises and disaster coordination, emergency response, and interdisciplinary engagement.

**GCOU 668 Addictions Counseling**
3 credits
This course will examine addictions and addictive behaviors including strategies for prevention, intervention, and treatment. Course topics include the etiology, assessment and treatment of addictions, substance abuse, and co-occurring disorders. Treatment strategies such as harm reduction and motivational interviewing will be examined.

**GCOU 688 Directed Studies**
1-3 credits
Prerequisite: Permission of Instructor
A directed study provides the advanced counseling student the opportunity to pursue knowledge and training in areas of interest within the counseling profession. The student will demonstrate a thorough investigation and understanding of the selected topic.

**GCOU 690 Seminar in Counseling**
3 credits
Prerequisite: Completion of Foundations, Core I and Core II coursework
This seminar reviews counselor preparation for certification and licensure. Legal and ethical standards of practice and consultation in professional counseling will be emphasized and reviewed. Students will prepare for the comprehensive examination, create a professional vitae, and a presentation portfolio.

**GCOU 691 Counselor Preparation - Comprehensive Examination**
0 credits
Prerequisite: Completion of Foundations Core I and Core II coursework
Students will be required to pass a comprehensive exam. This exam should be taken the same semester as GCOU 690.

# Computer and Information Science

*Chair: Theresa M. Vitolo, Ph.D.*

## INTRODUCTION

Computer and Information Science (CIS) has been one of the most dynamic fields in recent years. With growing demand for CIS professionals, the program is designed to provide advanced studies for those who wish to continue preparation for effective participation in computer-related professions. The program provides continuing education in advanced subjects for CIS professionals who wish to stay abreast of the rapidly changing technological world. Emphasis is placed on the development of the student's skill for independent study and continued professional growth.

## PROGRAM OUTCOMES

At the conclusion of any of the programs of study leading to the degree of Master of Science in Computer and Information Science, the graduate is able to:

1. Elicit, document, and analyze the requirements for software systems.
2. Design mainstream or advanced software systems from requirements.
3. Build mainstream or advanced software systems from designs.
4. Utilize tools, languages, and environments for effective analysis, design, and development.
5. Obtain a comprehension of the evolving computer-based technology and its ramifications.
6. Identify, plan, and manage the schedule and risks for the activities involved in software-based systems development.
7. Provide a research contribution or development of value to the profession, industry or society.

## DEGREE OFFERED

The program offers a Master of Science in Computer and Information Science (MS-CIS) degree.

## ADMISSION REQUIREMENTS

1. An applicant must present a baccalaureate degree in computer and information science or a related field from a regionally accredited institution with a GPA of at least 2.5/4.0.
2. Completed application
3. Complete resume
4. Transcripts from all prior institutions
5. Three letters of recommendation
6. TOEFL scores if English is not a first language

Factors for consideration include work experience in related areas of CIS and letters of recommendation. A committee appointed by the department chairperson will review applications for admission.

## ADMINISTRATION

Retention is contingent on maintaining at least a 3.0 grade point average. The course work is expected to be completed within two years for full-time students and within six years for part-time students. The degree requirements are at least thirty credit hours of study.

Each academic semester typically consists of fourteen weeks of instruction including one week for final exams. Some courses follow a 15-week schedule. Lectures meet fifty-five minutes per week for each credit.

Although it is anticipated that many of the courses in the program would be offered in evening sessions, no special requirements for either the students or instructors will be made. The courses are scheduled as regular sessions and classes meet in rooms appropriate for the course being taught. Courses requiring the use of lab equipment as part of their instructional model are taught in computer teaching labs, and may include an additional lab fee.

The University's policy is that a master's degree program must be completed within six years of taking the first course. Only the Program Director and/or the Dean can grant exceptions.

## WAIVER OF COURSES

Students must complete the waiver process within one year of beginning coursework. The foundations-series (GCIS56x) courses can be waived. Course descriptions are provided below.

- GCIS 561Computer Networking
- GCIS 562 Object-Oriented Problem Solving in C++
- GCIS 563 Object-Oriented Programming in Java
- GCIS 564 Data Structures
- GCIS 565 Database Management Systems
- GCIS 566 Systems Analysis and Design
- GCIS 567 Software Engineering in UML

Any of the 56x-series courses may be waived in either of the following ways:

**1. Waiver by Transcript**

A waiver request is based upon previously completed undergraduate or graduate courses which are equivalent to the 56x-course in question. The student must demonstrate the equivalency of the prior courses by completing a Course Waiver Form available in the CIS

office. The form is completed and returned to the CIS office. To waive a 56x-course, the student must have taken the courses within the last seven (7) years and obtained at least a grade of B. Special circumstances may be considered where other factors demonstrate currency and proficiency in the subject. Transcript-based waiver notification may accompany admissions notification. Transcript waiver applications must be completed by the end of the first semester of enrollment to be applied to course waivers.

**2. Waiver by Proficiency Examination**
Students who are confident of and can substantiate a strong background in an area which is not reflected in their academic transcript (i.e., the courses were taken more than 7 years prior to admission, or the student did not achieve the appropriate grade) may request challenge examination(s) to demonstrate their proficiency. Proficiency exams must be scheduled and taken by the end of the first semester of enrollment to be applied to course waivers. See the CIS Office for details.

## PROJECT REQUIREMENT

Each graduate student is expected to conduct a directed research/ development project or thesis for completion of the degree; (see Plans A and B below). To propose an independent project or thesis, the student requests a specific CIS faculty member as the project advisor to chair his/her review committee in agreement with the CIS faculty member. These are normally completed as part of the required GCIS 602 *Professional Quality Module: Research* course. Decisions about the topic and the committee members are shared between the student and the review committee chair. The committee members participate in proposing and reviewing quality and content for the directed research project/thesis and its written component. These project proposals and formulation of graduate project/thesis committees must be completed prior to registration for any Thesis or Directed Research credits.

The directed research project/thesis advisor directs the student's work and determines when to recommend the manuscript for review by a faculty committee. The review committee is appointed by the usual academic approval sequence and consists of at least two full-time Gannon CIS faculty members familiar with the subject material and one member from outside the CIS department. The outside member can be from industry. The CIS faculty member who chairs the review committee becomes the student's academic advisor.

**Plan A (Thesis):**
The candidate is required to submit a 6-credit thesis as part of the 30-42 credits of graduate course work and to pass a final oral examination on the thesis material and related subjects. Individuals considering further doctoral graduate studies are recommended to pursue the thesis option. The content should represent a researched and creative expression of the student's advanced capability as a result of the graduate program. The thesis should be proposed and approved prior to the commencement of the thesis work. Proposals must be approved prior to registering for thesis credits.
Thesis students register for GCIS 799 *Thesis* when beginning the research effort and after having received agreement from a faculty member to be the chair of the student's research effort. While enrolled in GCIS 799 *Thesis*, the student will be required to satisfy other department-stipulated activities such as attendance at research seminars, participation in research presentations, and writing- or research-improvement seminars. Students who elect to complete a thesis apply three of their thesis credits as a graduate elective within their course of study.

**Plan B (Directed Research):**
The student is required to complete a 3-credit independent project and to pass a final oral examination covering the student's project area and related subject areas. The content of the independent project can be either (1) in-depth scholarship culminating in a publishable-quality manuscript or (2) study and development of a prototype-level application culminating in a publishable-quality technical report. The content should represent a researched and creative expression of the student's advanced capability as a result of the graduate program. The directed research project should be proposed and approved prior to the commencement of the independent project work. Proposals must be approved prior to registering for project credits.

Directed Research students register for GCIS 698 *Directed Research* when completing the research effort and after having received agreement from a faculty member to be the chair of the student's research effort. GCIS 699 *Directed Research* is used for larger, non-thesis research projects. While enrolled in GCIS 698 and GCIS 699 *Directed Research*, the student is required to satisfy other department-stipulated activities such as attendance at research seminars, participation in research presentations, and writing- or research-improvement seminars.

## THE CURRICULUM PLAN

The MS-CIS is a professional degree program. Students may begin studies with a wide variety of academic and work backgrounds. The MS-CIS curriculum may range from 30-42 credits depending upon these experiences. Upon commencement of graduate studies, students choose to complete their course of study in one of the defined degree options: Applied Computer Science (ACS), Information Systems (IS), Software Engineering (SE), or Web Development (WD).

Courses are presented in four general categories:

- *Foundations Series*: From 0 to 12 credits of (GCIS 56x-series) classes. The series is designed to bring all students up to the same preliminary level while commencing the common body of course work. Foundation courses can be waived (or challenged) on the basis of academic and professional experience.
- *Quality Module Series:* 3 credits of professional development work. The courses focus on specific topics providing foundations for success in advanced graduate work and in the workplace. Topics include communications, professional development and applied research methods.

- *Option-Specific Courses:* 18-24 credits of coursework focused on a particular applied area in computer and information science.
- *Project Series:* From 3 to 6 credits of directed research (GCIS 698/699) or thesis (GCIS 799) work. Students must have completed 12 credits of graduate work, have completed all prerequisites including a formal proposal of their project to register for their project work. Students are encouraged to begin developing and planning their project work well in advance of the semester in which they register for their directed research or thesis credits.

The student must complete 30-42 credits of graduate course work. Students must maintain a cumulative grade point average of at least 3.0 for the duration of their master's degree program. A total of ten graduate level courses (500-level or higher) exclusive of GCIS56x-series foundation courses are required.

# MASTER OF SCIENCE IN COMPUTER AND INFORMATION SCIENCE OPTIONS

The Master of Science in Computer and Information Science offers students four options, which allow the student to select a practical, professional focus for the application of computing technologies. These options consist of Applied Computer Science, Information Systems, Software Engineering, and Web Development. Each option consists of 30 credits of graduate work beyond the foundations series, and each specifies its own foundations series courses. Each of the specific courses of study is described below.

## COURSE OF STUDY FOR APPLIED COMPUTER SCIENCE (ACS)

The Applied Computer Science (ACS) Option offers students a focus on the practical application of computer science technologies and development techniques to the creation of effective software systems. In addition to the overall program outcomes, at the conclusion of the program of study, the ACS-option graduate will be able to:

ACS-1. Design, build, and use effective relational databases.
ACS-2. Develop and deploy digital image processing applications
ACS-3. Develop and deploy intelligent systems applications

## CURRICULUM REQUIREMENTS

The ACS option requires 30 credits beyond 12 credits of foundations courses. Nearly all graduates from four-year Information Systems, Computer Science, Software Engineering and related programs are eligible to have all 12 credits of foundation series courses waived.

**Foundations Series (12 Credits):**
Programming Fundamentals:
*One of:*
GCIS 562 Object-Oriented Problem Solving in C++ *or*
GCIS 563 Object-Oriented Programming in Java
Data Structures: GCIS 564 Data Structures
Database Fundamentals: GCIS 565 Database Management Systems
Software Design & Development:
*One of:*
GCIS 566 Systems Analysis and Design *or*
GCIS 567 Software Engineering in UML

**Programming and Development Technology (3 Credits):**
*One of:*
GCIS 501 Advanced Programming *or*
GCIS 555 Dynamic Web Development

**Database Systems (3 Credits):** *One course*
GCIS 511 Advanced Database Management Systems

**Systems and Modeling (3 Credits):**
*One of:*
GCIS 504 Requirements Engineering *or*
GCIS 512 Object Oriented Modeling

**Project Management and Quality Assurance (3 Credits):**
*One of*:
GCIS 611 Software Project Management *or*
GCIS 515 Software Testing and Quality Assurance

**Applied Computing Science (9 Credits):** *Three courses:*
GCIS 532 Digital Imaging
GCIS 635 Computer Vision
GCIS 645 Intelligent Systems Technologies

**Elective (3 Credits):** *One of:*
Approved GCIS Electives. Electives may be any non-foundations series GCIS course approved by the faculty advisor. These choices may include non-GCIS graduate-level courses with approval of the department chair. Students who successfully complete the GCIS 799 course may waive one elective.

**Professional Quality Modules (3 Credits):** *Three courses:*
GCIS 601 Professional Quality Module: Communication
GCIS 602 Professional Quality Module: Research
GCIS 603 Professional Quality Module: Professional Development

**Independent Project or Thesis: (3-6 Credits):**
*One of:*
GCIS 698 Directed Research *or*
GCIS 698 and GCIS 699 – Directed Research *or*
GCIS 799 Thesis

## COURSE OF STUDY FOR INFORMATION SYSTEMS (IS)

The Information Systems (IS) option focuses on the technologies and effective application of information science techniques for the creation of effective system applications for organizations. In addition to the overall program outcomes, at the conclusion of the program of study, the IS-option graduate will be able to:

IS-1. Identify and manipulate the knowledge-based components of systems in order to enable better decision-making or to provide stable representations
IS-2. Design and build knowledge-based systems
IS-3. Critique and manage the information resources of an organization
IS-4. Design, build, and use effective relational databases.

## CURRICULUM REQUIREMENTS

The Information Systems option requires 30 credits beyond 12 credits of foundations courses. Nearly all graduates from four-year Information Systems, Computer Science, Software Engineering or related programs are eligible to have all 12 credits of foundation series courses waived.

**Foundations Series (12 Credits):**
Networking Fundamentals: GCIS 561 Computer Networking
Programming Fundamentals:
*One of:*
GCIS 562 Object-Oriented Problem Solving in C++ *or*
GCIS 563 Object-Oriented Programming in Java
Database Fundamentals: GCIS 565 Database Management Systems
Software Design & Development:
*One of:*
GCIS 566 Systems Analysis and Design *or*
GCIS 567 Software Engineering in UML

**Systems and Modeling (6 Credits):** *Two courses:*
GCIS 504 Requirements Engineering
GCIS 512 Object-Oriented Modeling

**Information Systems (9 Credits):** *Three courses*:
GCIS 546 Management Information Organizations
GCIS 612 Integrated Information Systems
GCIS 644 Knowledge-Based Systems

**Database Systems (3 Credits):** *One course:*
GCIS 511 Advanced Database Management Systems

**Project Management (3 Credits):** *One course:*
GCIS 611 Software Project Management

**Elective (3 Credits):** *One of:*
Approved GCIS Electives. Electives may be any non-foundations series GCIS course approved by the faculty advisor. These choices may include non-GCIS graduate-level courses with approval of the department chair. Students who successfully complete the GCIS 799 course may waive one elective.

**Professional Quality Modules (3 Credits):** *Three courses*:
GCIS 601 Professional Quality Module: Communication
GCIS 602 Professional Quality Module: Research
GCIS 603 Professional Quality Module: Professional Development

**Independent Project or Thesis: (3-6 Credits):**
*One of:*
GCIS 698 Directed Research or
GCIS 698 and GCIS 699 Directed Research *or*
GCIS 799 Thesis

## COURSE OF STUDY FOR SOFTWARE ENGINEERING (SE)

The Software Engineering (SE) option focuses on the methods for effective software development for a variety of computer-based technologies and applications. In addition to the overall program outcomes, at the conclusion of the program of study, the SE-option graduate will be able to:

SE-1. Identify effective quality measures and organize quality activities to support software-based systems development
SE-2. Evaluate alternative designs, and identify the best solution for a given set of software product and project constraints
SE-3. Critique and recommend design improvements for computer-human interfaces
SE-4. Identify change-management issues, and apply effective change-management processes to maintain quality software-based systems

## CURRICULUM REQUIREMENTS

The Software Engineering Option requires 30 credits beyond 12 credits of foundations courses. Nearly all graduates from four-year Information Systems, Computer Science, Software Engineering and related programs are eligible to have all 12 credits of foundation series courses waived.

**Foundations Series (12 Credits):**
Programming Fundamentals: *One of:*
GCIS 562 Object-Oriented Problem Solving in C++ *or*
GCIS 563 Object-Oriented Programming in Java
Data Structures: GCIS 564 Data Structures
Database Fundamentals: GCIS 565 Database Management Systems
Software Design & Development: GCIS 567 Software Engineering in UML

**Programming and Development Technology (3 Credits):**
*One of:*
GCIS 501 Advanced Programming *or*
GCIS 555 Dynamic Web Development

**Systems and Modeling (3 Credits):** *One course:*
GCIS 504 Requirements Engineering

**Software Design (6 Credits):** *Two courses:*
GCIS 518 Software Architecture
GCIS 638 Human Interface Design & Maintenance

**Project Management and Quality Assurance (6 Credits):**
*Two courses:*
GCIS 611 Software Project Management
GCIS 515 Software Testing and Quality Assurance

**Elective (6 Credits):** *Two of:*
Approved GCIS Electives. Electives may be any non-foundations series GCIS course approved by the faculty advisor. These choices may include non-GCIS graduate-level courses with approval of the department chair. Students who successfully complete the GCIS 799 course may waive one elective.

**Professional Quality Modules (3 Credits):** *Three courses*
GCIS 601 Professional Quality Module: Communication
GCIS 602 Professional Quality Module: Research
GCIS 603 Professional Quality Module: Professional Development

**Independent Project or Thesis: (3-6 Credits):**
*One of:*
GCIS 698 Directed Research *or*
GCIS 698 and GCIS 699 Directed Research *or*
GCIS 799 Thesis

## COURSE OF STUDY FOR WEB DEVELOPMENT (WD)

The Web Development (WD) option focuses on the technologies and effective application of the world-wide web for creative software systems. In addition to the overall program outcomes, at the conclusion of the program of study, the WD-option graduate will be able to:

WD-1. Design, build, and deploy database-driven web application
WD-2. Administer internet services platforms
WD-3. Develop goal-oriented, secure, artistic, interactive web sites

## CURRICULUM REQUIREMENTS

The Web Development Option requires 30 credits beyond 12 credits of foundations courses. Nearly all graduates from four-year Information Systems, Computer Science, Software Engineering, and related programs are eligible to have all 12 credits of foundation series courses waived.

**Foundations Series (12 Credits):**
Networking Fundamentals: GCIS 561 Computer Networking
Programming Fundamentals:
*One of:*
GCIS 562 Object-Oriented Problem Solving in C++ *or*
GCIS 563 Object-Oriented Programming in Java
Database Fundamentals: GCIS 565 Database Management Systems

**Software Design & Development (3 Credits):**
*One of:*
GCIS 566 Systems Analysis and Design *or*
GCIS 567 Software Engineering in UML

**Programming and Development Technology (3 Credits):**
GCIS 555 Dynamic Web Development

**Web Technology (9 Credits):** *Three courses:*
GCIS 502 Advanced Web Design
GCIS 503 Artistic Web Design
GCIS 622 Advanced Web Programming

**Systems and Modeling (3 Credits):** *One course:*
GCIS 504 Requirements Engineering

**Project Management (3 Credits):** *One course:*
GCIS 611 Software Project Management

**Advanced Networking (3 Credits):** *One course:*
GCIS 584 Administration of Internet Services

**Elective (3 Credits):** *One of:*
Approved GCIS Electives. Electives may be any non-foundations series GCIS course approved by the faculty advisor. These may include non-GCIS graduate-level courses with approval of the department chair. Students who successfully complete the GCIS 799 course may waive one elective.

**Professional Quality Modules (3 Credits):** *Three courses:*
GCIS 601 Professional Quality Module: Communication
GCIS 602 Professional Quality Module: Research
GCIS 603 Professional Quality Module: Professional Development

**Independent Project or Thesis: (3-6 Credits):**
*One of:*
GCIS 698 Directed Research *or*
GCIS 698 and GCIS 699 Directed Research *or*
GCIS 799 Thesis

# PROFESSIONAL TRACK

Gannon partners with local industry in Erie, providing a two-year work-study program. The objective of the professional track is to present an academic program combined with application training on actual industrial problems to give students a targeted education, complemented by hands-on, real-world development exposure. Students are selected for the track based on academic background, leadership skills, and communication skills. The student is assigned a Gannon professor as a mentor while working at the industrial site. The mentor advises the student about academic work and guides the student on industrial projects. The projects are carefully chosen to reinforce classroom work and to develop the students into outstanding professionals. In addition to the mentorship in technical areas, the professor also mentors the student in leadership skills, work and personal ethics, and communication skills needed in the industrial workplace. The track requires students to work on projects half-time during the school year and full-time during the summer. Students receive full tuition and a yearly stipend for their work. Students need to apply and be accepted separately for the program. The number of students in the track is dependent on availability of industrial sponsorship.

# CO-OP TRACK

The objective of the co-op track is to present an academic program combined with application training on actual industrial problems in computing and systems environments. The track is designed to give students a targeted education on real-world problems. Students may join the program after completing sufficient coursework to be successful in an industrial environment, and receiving approved industrial sponsorship. International students must meet US and CIS eligibility requirements.

Students accepted to the co-op track are assigned a Gannon professor as a mentor. During each semester in which they are enrolled in the co-op track, students must be enrolled in GCIS 601 or GCIS 603.

Students must complete 30 credits of graduate course work beyond their foundations-series coursework in addition to their Graduate Professional Experience courses. Students must maintain a cumulative grade point average of at least 3.0 for the duration of their master's degree program, and fulfill all other requirements for their degree.

# DEPARTMENT POLICIES

**Incomplete Grades in CIS**

Incomplete ("I") grades for a course within the CIS Department require students to follow extra procedures in order for the "I" grade to be appropriately handled.

- Students must obtain confirmation from the course instructor to be assigned the "I" grade.
- The course instructor and student complete and sign an "Incomplete Grades" form. The form identifies deliverables, expected delivery dates, and consequences for not following through on the work
- The course instructor and student complete and sign a "Behavioral Contract". The contract stipulates other activities and arrangements expected of the student in order to earn a grade in the course.
- The course instructor submits both forms to the department and to Graduate Records.
- If the "I" grade is assigned for either GCIS 698 Directed Research, GCIS 699 Directed Research, or GCIS 799 Thesis, then the student is also required to register for GCIS 697 (1 cr.) Directed Project in the semester when the incomplete work is being done. Registering for GCIS 697 Directed Project is to occur regardless of the other courses registered in the semester.

**C-Grade Policy**

Gannon graduate students are required to earn a grade point average (GPA) of 3.0 or better in order to successfully complete the graduate program. CIS graduate students are expected to maintain a semester GPA of 3.0 or better. Because of CIS scheduling patterns, the necessity of retaking a course to improve one's GPA may cause the duration of one's graduate studies to extend one year or more.

# COURSE DESCRIPTIONS

## 500 SERIES

**GCIS 501 Advanced Programming**
3 credits, Fall
Prerequisite: GCIS 563
An introduction to Java programming language for large-scale software development. The course covers the basics of Java programming, object oriented programming concept, graphical user interface using Swing, exception handling, multithreading, JDBC, networking, applets and servlets. Basic object-oriented design principles using UML diagrams as well as design patterns are introduced to facilitate large scale software development.

**GCIS 502 Advanced Web Design**
3 credits, Spring
Prerequisite: GCIS 562 or GCIS 563 or GCIS 501
The course provides the theory and practical application of fundamental web design principles. The course focuses on user-centered design techniques. Topics include how to design a web site, how to translate user goals into effective website design, how to apply User Interface Design patterns, and how those patterns can be applied to a design to accomplish the goals of the website. Advanced topics in best practices of web design are included.

**GCIS 503 Artistic Web Design**
3 credits, Fall
Prerequisite: GCIS 562 or GCIS 563 or GCIS 501
Artistic design is a critical component in developing a successful web application. Students learn how to generate attractive web contexts with text, graphics, sound, animation, and video. The course examines all parts of the multimedia software development process

and provides hands-on experience with the use of multimedia software authoring tools.

**GCIS 504 Requirements Engineering**
3 credits
Focusing on the requirements engineering process from initial requirements elicitation through to requirements validation for systems engineering, the course includes specific techniques for the analysis, modeling, validation, and management of requirements for engineering projects, and is applicable to software, mechanical, electrical, process and other types of engineering projects. Topics include requirements processes, documents, elicitation, analysis, management, modeling, viewpoint analysis, non-functional requirements, advanced topics.

**GCIS 511 Advanced Database Management Systems**
3 credits
Prerequisite: GCIS 565
Use and practices of database management systems including modeling by the entity-relationship approach constitutes the focus of the course. Topics include the relational model, database design, normalization, SQL, concurrent control and recovery techniques, Oracle database administration, and web front-end development for Oracle.

**GCIS 512 Object-Oriented Modeling**
3 credits, Spring
Prerequisite: (GCIS 562 or GCIS 563) and (GCIS 504 or GCIS 566 or GCIS 567 or GENG 580) or permission of instructor
The course offers an advanced treatment of methods for producing a software design, and the testing of that design and ensuing code. Focus is on object-oriented design methods, black-box (functional) testing techniques, includes treatment of the developing unified modeling language (UML) techniques and their application to software development.

**GCIS 515 Software Testing & Quality Assurance**
3 credits, Fall
Prerequisite: GCIS 567 and (GCIS 563 or GCIS 501)
The course is concerned with understanding the role of quality assurance in the software development cycle, and applying these techniques to software products. Course topics include test design methods, test planning, automated test support, quality measurement and quality tracking techniques.

**GCIS 518 Software Architecture**
3 credits, Spring
Prerequisite: GCIS 567 and (GCIS 563 or GCIS 501)
The course is concerned with the issues, techniques, strategies, representations and patterns used to implement a component or large-scale system. Specifically, it focuses on defining architectures that conform to functional requirements and work within defined constraints including resource, performance, reliability, and security.

**GCIS 526 Formal Methods in Software Development**
3 credits, Fall
Prerequisite: MATH 223 (Discrete Mathematics 2) or equivalent
Focusing on the issues and techniques needed to apply formal specification methods to the development of software, the course uses mathematical and logical formalism to develop a precise statement of what software is to do.

**GCIS 531 Distributed Programming**
3 credits, Spring
Prerequisite: GCIS 501 or equivalent
An introduction to the fundamental techniques and tools used to develop programs that rely on interprocess communication. Topics include TCP/IP, client-server paradigm, daemon programs, client socket calls, server socket calls, concurrent vs. iterative servers, connectionless and connection-oriented server paradigms.

**GCIS 532 Digital Imaging and Applications**
3 credits, Fall
In this course, the digital imaging process, from light and image formation to image processing to display systems is explored. This course examines how digital images (and video) are created, stored, compressed, transmitted, displayed, processed, and used in applications such as communications, entertainment, human-computer interaction, medicine, meteorology, and space exploration. Fundamental image processing algorithms are implemented in the context of real-world situations.

**GCIS 546 Managing Information Organizations**
3 credits, Fall
Prerequisites: GCIS 566 or GCIS 567
Introduces theories and techniques of information science and management to information enterprises, concentrating on how the structure and dynamics of the environment influences the behavior of the enterprise. Aspects of organizational structure, knowledge management, decision making, planning, control, political processes, leadership, communication, and human resources are examined in light of the theories.

**GCIS 555 Dynamic Web Development**
3 credits, Fall
Prerequisites: (GCIS 562 or GCIS 563) and GCIS 565
The course is concerned with the development of database systems and their application in multi-tiered systems. The student develops desktop and web-based database applications. Typical coverage includes event-driven programming.

## GCIS 56x FOUNDATION SERIES

*Foundation series courses may not serve as elective courses to satisfy MS graduation requirements.*

**GCIS 561 Computer Networking**
3 credits, Fall
This course is designed to introduce the student to the fundamentals of network technology. The student learns how to identify the different types of networks and to implement and support the major networking components including the server, operating system, and clients. Different types of media used in network communications are explained. Students will learn how to use these media to connect clients to the network. Networking standards, protocols, and access methods will be introduced in order to create appropriate networks for a given environment.

**GCIS 562 Object-Oriented Problem Solving in C++**
3 credits, Fall
The course is aimed at developing advanced object-oriented programming skills. Assuming a background in the basic syntax of C++, full-fledged abstract data type implementation and object oriented programming style are developed.

**GCIS 563 Object-Oriented Programming in Java**
3 credits, Spring
The course covers the application of object-oriented programming to software development which includes the general topics of encapsulation, inheritance, and polymorphism. Topics also include GUI objects, event-driven programming, and exception handling. Basic object-oriented design principles using UML diagrams are introduced to facilitate large scale software development.

**GCIS 564 Data Structures**
3 credits, Spring
Prerequisite: GCIS 562 or GCIS 563
An in-depth programming-based study of data structures and of algorithms for their manipulation. Arrays, tables, stacks, queues, trees, linked lists, sorting, searching and hashing are topics considered.

**GCIS 565 Database Management Systems**
3 credits, Spring
A skills-building course in the fundamentals of database design, creation, and operations. Course topics include the ability to create a project-based database and its associated queries.

**GCIS 566 Systems Analysis and Design**
3 credits, Fall
Prerequisite: GCIS 562 or GCIS 563
An introduction to the role and responsibilities of a systems analyst. Students examine systems by analysis, modeling, and design at the enterprise, process, logical, data, and technology levels. Optionally included topics are feasibility analysis, technology evaluation, project management, object-oriented analysis.

**GCIS 567 Software Engineering in UML**
3 credits, Fall
Prerequisite: GCIS 562 or GCIS 563
An advanced treatment of methods for producing a software design, and the testing of that design and ensuing code. Focus is on object-oriented analysis and design methods, black-box (functional) testing techniques. Includes treatment of the developing Unified Modeling Language (UML) techniques and its application to software development.

**GCIS 584 Administration of Internet Services**
3 credits, Fall
Prerequisites: GCIS 561 or equivalent
The course focuses on the configuration of networks for internet services, and how to deploy and maintain internet servers on multiple platforms. The course includes extensive laboratory work to support the installation and configuration of hardware and software to support networking, servers, and security for internet services, particularly on Windows and UNIX platforms. Includes discussion of the ramifications of internet service technologies.

**GCIS 590-595 Special Topics in CIS**
1-3 credits
Prerequisite: Specific prerequisites are topic-related
The course offers presentation of topics that are emerging as the field of computer and information science changes. The objectives and content reflect the interests of the faculty and the students relative to the topic.

## 600 SERIES

**GCIS 601 Professional Quality Module: Communication**
1 credit
One of three modules emphasizing skills necessary to perform effectively and professionally, the communication module focuses upon writing, listening, and presentation skills. Course activities are related to required coursework and performance expectations of the curriculum.

**GCIS 602 Professional Quality Module: Research**
1 credit
Prerequisite: GCIS 601
One of three modules emphasizing skills necessary to perform effectively and professionally, the research module focuses upon posing a research question, gathering appropriate source materials, analyzing the current status of related materials, planning a valid study, defining project goals, and selecting research methods. Course activities are related to required coursework and performance expectations of the curriculum.

**GCIS 603 Professional Quality Module: Professional Development**
1 credit
Prerequisite: GCIS 601
One of three modules emphasizing skills necessary to perform

effectively and professionally, the professional-development module focuses upon corporate practices, ethical issues, and standard interactions. Course activities are related to required coursework and performance expectations of the curriculum.

**GCIS 611 Software Project Management**
3 credits, Spring
The course provides an overview of software project management, with a special emphasis on risk management, and its relationship to software engineering (SE) practices for the development of information systems. Specifically, it includes a review of SE development practices, including requirements analysis, design process, metrics, verification and validation, software maintenance, and documentation. The course examines ethical practices in software engineering and information systems development.

**GCIS 612 Integrated Information Systems**
3 credits, Fall
Prerequisite: GCIS 504 or GCIS 512
Integrating information systems in organizations requires an understanding of the infrastructure, the processes, and the governance of the enterprise. Through a real-world analysis and design project, students examine, document, and recommend the role of information systems for producing cohesive business processes and functional applications to meet business need. Current and emerging issues of creating, coordinating, and managing the key activities by the organization to build cohesive and strategically responsive information systems are addressed.

**GCIS 621 Artificial Intelligence and Expert Systems**
3 credits, Fall
Prerequisite: GCIS 501
Topics include knowledge representation, machine learning, general problem solving, natural language processing, expert systems, neural nets, and computer vision. A project in an area of the student's choosing is required.

**GCIS 622 Advanced Web Programming**
Prerequisite: GCIS 502
3 credits, Spring
The course provides knowledge of theory and techniques of web programming. The course introduces students to a wide range of topics in Internet and web programming technologies, including scripting languages, development tools, content management tools and n-tier architectures.

**GCIS 635 Computer Vision**
3 credits, Spring
Prerequisite: GCIS 532
The course provides introductory but comprehensive coverage of principles and techniques of computer vision, including radiometric terminology, local shading models, camera models, linear filters, multiview geometry, affine structure from motion, image–based rendering, image segmentation and clustering, finding images in digital libraries, model-based vision, texture modeling, and deformable template matching. It also offers opportunities to explore applications of computer vision techniques in solving real world problems.

**GCIS 638 Human Interface Design & Maintenance**
3 credits, Fall
Prerequisite: GCIS 562 or GCIS 563
The course deals with human-computer interaction (HCI) and covers a wide range of topics, including software tools, usability issues, direct manipulation, command and natural languages, and multiple-window strategies. The course includes identifying and assessing the issues surrounding the maintenance of code, particularly in the context of HCI. Special emphasis is also given to design and maintenance issues for web-enabled systems.

**GCIS 644 Knowledge-Based Systems**
3 credits, Spring
Prerequisite: GCIS 511
An introduction to advanced information systems combining a database management system, model-based management system, and dialog management system. Emphasis is placed on decision support system requirements analysis and specification, the use of alternative analytical methods, iterative design approaches for realization of decision support systems and developing appropriate integrated information systems architecture. Multidimensional databases and data warehousing initiatives are presented as other forms of knowledge-based systems.

**GCIS 645 Intelligent Systems Technologies**
3 credits, Spring
Prerequisites: GCIS 511
The course provides an introduction to the fundamentals of intelligent systems. The essential data mining and knowledge representation techniques used to extract intelligence from data and experts include neural networks and genetic algorithms. The course gives a broad understanding of these technologies, and a methodology to evaluate the advantages and disadvantages of these technologies in the context of real-world problems. Students demonstrate their understanding of intelligent systems technologies in one or more applications.

**GCIS 690-695 Special Topics in CIS**
3 credits
Prerequisite: Specific prerequisites are topic-related
The course offers presentation of topics that are emerging as the field of computer and information science changes. The objectives and content reflect the interests of the faculty and the students relative to the topic.

**GCIS 697 Directed Project**
1 credit

**GCIS 698 Directed Research**
3 credits
Prerequisite: GCIS 602
The course tracks the completion of an independent project. Passing a final oral examination covering the student's project area and related subject areas and documenting the research project are part of its requirements for satisfactorily completing the course. The content of the independent project can be either an

1. in-depth scholarship culminating in a publishable-quality manuscript (hereafter referred to as a 'research project') or
2. the study and development of a prototype-level application culminating in a publishable-quality technical report (hereafter referred to as a 'technical project').

The project content represents a researched and creative expression of the student's advanced capability as a result of the graduate program. The directed research project must be proposed and approved prior to the commencement of the independent project work.

**GCIS 699 Directed Research**
3 credits
Co-requisite: GCIS 698
The course complements GCIS 698 for larger research projects satisfying Plan B of the Project Requirement.

**GCIS 799 Thesis**
3-6 credits
Prerequisite: GCIS 602
The course tracks the completion of an independent research project and the final oral examination covering the student's project area and related subject areas. The content of the independent, in-depth scholarship culminates in a publishable-quality manuscript (here after referred to as a 'research project').
The thesis work represents a researched and creative expression of the student's advanced capability as a result of the graduate program. The thesis must be proposed and approved prior to the commencement of the independent project work. The credits may be taken as a six-credit block, or as two 3-credit blocks.

# Education

## MISSION OF THE GRADUATE SCHOOL OF EDUCATION

The mission of the Graduate Department in the School of Education at Gannon University is to provide professional educators a practitioner-oriented instructional program that is steeped in academic excellence, visionary leadership, ethical practices, and collegiality.

# Master of Education: Curriculum and Instruction - Online

*Director: Dr. Francis S. Grandinetti*
*Phone: 814-871-7533*
*Email: grandine002@gannon.edu*

## OVERVIEW

Gannon University offers the Master of Education in Curriculum and Instruction online. The Master's degree is a 30 credit, non-thesis, portfolio-based program. Twenty-four (24) credits are taken from the Gannon core and six (6) credits are earned as electives.

The program is designed to be convenient and flexible for teachers. Students complete two Gannon core courses (6 credits) each semester for four semesters. Courses are offered online in 7 week sessions and students take only one course at a time. Students complete the electives online whenever and wherever it is most convenient to them.

Students in the M.Ed. in Curriculum and Instruction are required to complete a portfolio. The portfolio enables students through action research to develop projects that will impact their classroom, school, and/or school district. As a result of these projects, students have made significant changes in schools and have emerged as leaders in their respective districts.

## OBJECTIVES

The School of Education offers a program leading to a Master of Education degree designed to facilitate the highest level of teacher performance. The core courses focus on the mastery of teaching effectiveness for teachers in grades K through 12. The objectives enable the teacher to:

- Develop the verbal skills and strategies that produce mastery of positive communication
- Acquire skills that increase student thinking and self-esteem through the instruction process
- Use instructional strategies to reach the learning style preferences of students

- Create lesson formats and instructional processes that match the learning and thinking styles of students
- Develop skills to create a motivating learning environment

## ADMISSIONS REQUIREMENTS

- A Bachelor's degree from an approved institution and fulfillment of requirements for admission to the graduate program at Gannon University
- A completed application for admission including three letters of recommendation
- Evidence by previous academic record that the applicant has the general ability and preparation necessary to pursue graduate study successfully

## CURRICULUM REQUIREMENTS

**Core Courses and Portfolio (24 credits)**

GEDU 612 Leadership, Current Issues and the Teacher as Agent of Change (3 credits)
GEDU 505 Classroom Discipline (3 credits)
GEDU 601 Action Research (3 credits)
GEDU 602 Portfolio
GEDU 609 Inclusive Classroom Practices (3 credits)
GEDU 604 Educational Tests and Measurements (3 credits)
GEDU 621 School Curriculum (3 credits)
GEDU 637 Learning Theory (3 credits)
GEDU 623 Technology: Literacy and Integration (3 credits)
Electives (6 credits)

**Gannon University Elective Cohort**

Gannon University Elective Cohort offers elective courses online that can fulfill the M.Ed. elective requirements. These courses will be offered at a significantly reduced cost from the tuition for the core courses. As always, these courses will be based on the "teacher friendly" model that Gannon University is known for. The courses will be taught utilizing the Gannon University practitioner model that emphasizes theory allied to practical application. Cohort students will have first enrollment priority for these courses but teachers requiring Act 48 credits will also be invited to enroll. The courses will stress the needs of Pennsylvania's educational community and be linked to school district initiatives. For further information go to www.gannon.edu/Act 48.

**Pathways to Advanced Certification Programs**

Students can use the six credit elective requirement to begin taking courses toward an advanced certification as a Reading Specialist (fully online), ESL Program Specialist (fully online), or a Principal (face to face cohort).

# Master of Education: Curriculum and Instruction - Secondary Teacher Certification

*Director: Janice M. Whiteman, M.Ed.*
*Phone: 814-871-7497, whiteman002@gannon.edu*

## OVERVIEW

Students pursuing the Master of Education in Curriculum and Instruction can also seek preparation as a Secondary certified teacher in the content areas of Biology, English, History/Social Studies, or Mathematics.

This program is designed for the professional who holds a Bachelor's degree and who seeks to obtain Pennsylvania Instructional I Teaching Certification in order to teach at the secondary level. This program is designed to allow students to accomplish this while pursuing a master's degree. Courses, except those that have a practicum component, are conveniently offered online to accommodate work and family schedules. Gannon University provides students with the tools to engage in leadership activities, instructional innovation, and ongoing assessment.

Students in the M.Ed. in Curriculum and Instruction are required to complete a portfolio. The portfolio enables students through action research to develop projects that will impact their classroom, school, and/or school district. As a result of these projects, students have made significant changes in schools and have emerged as leaders in their respective districts.

Students seeking teaching certification are also required to complete a professional portfolio. The portfolio is intended to demonstrate and document the professional educator's knowledge, skills, abilities, performances, and professionalism. At the university level, portfolios must demonstrate the degree to which the teacher candidate has attained the outcomes designated by the School of Education and the Pennsylvania Department of Education. Equally important, the professional portfolio is a tool for the interviewing process.

Teacher candidates are required to complete 180 hours of field experiences and 14 weeks of student teaching, which can be conveniently arranged in a local school district. Students are encouraged to talk to their advisor early in the program so that they can take the proper course sequence and meet all certification and program requirements.

## ADMISSION REQUIREMENTS - MASTER'S DEGREE

- A bachelor's degree from a regionally accredited college or university and fulfillment of requirements for admission to the graduate program at Gannon University
- Final, official transcripts from all colleges attended

- An undergraduate and graduate cumulative grade point average of at least 3.0
- A completed application for admission including three letters of recommendation
- Evidence by previous academic record that the applicant has the general ability and preparation necessary to pursue graduate study successfully
- An interview with the program director

Before admission to the graduate program, student transcripts will be reviewed by a faculty member in the content area of intended certification as well as the program director in the School of Education to determine the required program of study.

Students must also apply and be admitted to the School of Education to be eligible for field experiences and upper level education courses. Admission to the M.Ed. program for the purpose of pursuing teacher certification does not guarantee admission to the School of Education. Once admitted to the School of Education, the teacher candidate must complete all certification requirements as outlined in the Teacher Certification Handbook.

## ADMISSION REQUIREMENTS - TEACHER CERTIFICATION

The candidate will provide the following official documentation:

- That all required courses in the candidate's content area of Biology, English, History/Social Studies, or Mathematics, have been successfully completed with a grade of C or better
- Praxis I Mathematics, Reading, and Writing have been passed within the last two years
- The appropriate Praxis II content test(s) has been passed within the last two years
- Two approved college Math courses were successfully completed with a grade of C or better
- Two approved college English courses, one in composition and one in literature, were successfully passed with a grade of C or better
- Valid criminal history clearances, including Criminal Background Check, Child Abuse Clearance, and FBI Fingerprint Check. Please note that fingerprint check must be obtained by following the procedures set forth by the Pennsylvania Department of Education
- Application to the School of Education which includes a writing sample

## CURRICULUM REQUIREMENTS

This program requires the student to take 24 credits of core courses, 6 credits of required electives, and 21 credits of certification requirements.

GEDU 612 Leadership, Current Issues and the Teacher as Agent of Change (3 credits)
GEDU 505 Classroom Discipline (3 credits)
GEDU 601 Action Research (3 credits)
GEDU 602 Portfolio
GEDU 609 Inclusive Classroom Practices (3credits)
GEDU 604 Educational Tests and Measurements (3 credits)
GEDU 621 School Curriculum (3 credits)
GEDU 637 Learning Theory (3 credits)
GEDU 623 Technology: Literacy and Integration (3 credits)

## REQUIRED COGNATE/ELECTIVES FOR TEACHER CERTIFICATION IN SECONDARY EDUCATION

(6 credits)

GEDU 520 Methods and Materials of Teaching ESL/ Practicum (3 credits)
GEDU 627 Foundations of Literacy in the Secondary Program (3 credits)

This course sequence completes the requirements for the M.Ed.
Total credits for M.Ed. Curriculum and Instruction: 30

## CERTIFICATION REQUIREMENTS

(21 credits)

The following additional practicum experiences and courses are required for teacher certification. The practicum experiences and courses must be taken in the following order:

GEDU 537 Students with Exceptional Needs (3 credits)
GEDU 620 Meeting the Needs of Students with Exceptionalities Middle and High School (3 credits)
GEDU 619 Methods and Materials of Instruction (3 credits)
GEDU 628 Secondary/K-12 Education Practicum I (1 credit)
GEDU 629 Secondary/K-12 Education Practicum II (1 credit)
GEDU 632 Secondary/K-12 Education Practicum III (1 credit)
GEDU 550 Student Teaching (6 credits)
GEDU 690 Professional Seminar (taken in conjunction with student teaching) (3 credits)

Total minimum credits required for M.Ed. with teacher certification: 51 credits

# Master of Education: Reading and Reading Specialist Certification Program-ONLINE

*Coordinator: Dr. Robin Quick, D.Ed.*
*Phone: 814-871-5399 quick003@gannon.edu*

## OVERVIEW

Literacy is the key to children's success and provides communication links with society throughout life. The Master of Education degree in Reading and the Reading Specialist Certification Program provide training to become a reading professional who can function collaboratively and in a variety of capacities. Preparation consists of theory, application, and implementation of research-based instruction and assessment practices. The Reading Specialist is trained in instruction and assessment techniques and given leadership opportunities to promote literacy programs for students, parents, other educators, and the community.

## OUTCOMES

The Master of Education Candidate and/or the Reading Specialist Candidate:

- Knows literacy history, theory, and methodology
- Applies theory and knowledge of literacy instruction
- Identifies, selects, and applies literature, textbooks, curricular materials as well as technology for all learners
- Demonstrates the use and interpretation of formal and informal assessment procedures and communicates results and implications to appropriate stakeholders
- Maintains indicators of student progress and achievement
- Aligns Pennsylvania Language Arts Standards with instruction and assessment
- Consults and collaborates using knowledge of literacy practices, including reading and writing processes
- Demonstrates leadership in home, school, and community literacy environments

## ADMISSION REQUIREMENTS

- A completed application for admission including 3 letters of recommendation
- Official transcript showing completion of a Bachelor's degree from a regionally accredited college or university
- Teacher certification and a 3.0 GPA on a 4.0 scale
- Evidence by previous academic record that the applicant has the general ability and preparation necessary to pursue graduate study successfully

## CURRICULUM REQUIREMENTS

Requirements for Reading Specialist Certification (27 credits total)

GEDU 520 ESL Teaching Methods (3 credits)
GEDU 626 Foundations of Literacy in Elementary Programs (3 credits)
GEDU 627 Foundations of Secondary and Content Area Literacy (3 credits)
GEDU 631 Diagnosis and Correction of Reading Difficulties (3 credits)
GEDU 633 Diverse Learner Competencies for Reading Specialists (3 credits)
GEDU 640 Young Adult Literature (3 credits) OR
GEDU 641 Children's Literature (3 credits)
GEDU 645 Leadership and Current Issues Practicum and Seminar (3 credits)
GEDU 647 Assessment of Literacy Development/Clinical Application (6 credits)

Candidates must successfully pass the Reading Specialist K-12 Praxis Exam and have a completed Master's in order to be eligible for certification.

**Additional Requirements for Master of Education in Reading** (33 credits total)

GEDU 643 Overview of Curriculum Design (3 credits)
GEDU 644 Student-Centered Action Research (3 credits)

# English as a Second Language (ESL) Program Specialist-ONLINE

*Coordinator: Robin L. Quick, D.Ed.*
*Phone: (814) 871-5399E-mail: quick003@gannon.edu*

## OVERVIEW

The English as a Second Language Program Specialist Certificate is designed to prepare candidates to become leaders in the field of second language acquisition. Candidates will be prepared to support students and other teachers using their expert knowledge and skills. Those who complete the program will gain an understanding and appreciation of various cultures as well as acquire a solid foundation in the theories and current research in second language acquisition. Coursework is delivered in an online format. Each course has an integrated 15 hour practicum which must be completed in the field. At least one placement must be in a K-12 classroom setting.

## ADMISSION REQUIREMENTS

- A completed graduate application for admission
- A Bachelor's degree from an accredited institution with a cumulative grade point average of at least 3.0 on a 4.0 scale
- Three letters of recommendation
- A valid Pennsylvania Instructional I or II teaching certificate. Those applicants holding a teaching certification from another state should contact their issuing state Department of Education to determine eligibility and requirements for ESL certification in that state.
- International students must provide evidence of proficiency in English as indicated by a rating of "superior" on the OPI.

**Required areas of concentration:**

- Second Language Acquisition/Linguistics.
- Methods of ESL, Academic and Literacy Development, Program Implementation, and Assessment for English language learners.
- Understanding Cultural Diversity in K-12 Classrooms, Multicultural Education.

## CURRICULUM REQUIREMENTS

This program requires the student to take 16 credits focused on preparation for the ESL Program Specialist Certificate. The assessment course and the methods course have a required practicum.

GEDU 518 Multicultural Aspects of ESL/Cross Cultural Communication (3 credits)
GEDU 523 Multicultural Practicum 15 hours (1 credit)
GEDU 520 Methods and Materials for Teaching ESL (3 credits)
GEDU 525 ESL Methods Practicum 15 hours (1 credit)
GEDU 519 The Structures of English (3 credits)
GEDU 524 English Language Practicum 15 hours (1 credit)
GEDU 517 English as a Second Language Assessment and Program Development (3 credits)
GEDU 522 ESL Assessment Practicum 15 hours (1 credit)
**Total credits required for ESL Certificate 16 credits**

# Principal K-12 Certification Program

*Director: Kathleen Kingston, Ed.D.*
*Phone: 814-871-5626, kingston002@gannon.edu*

## PRINCIPAL AS AGENT OF SCHOOL REFORM

This program is designed to prepare principals as instructional leaders who effectively and ethically bring about continuous school improvements that result in increased student achievement. The Principal Preparation Program is designed around the conceptual framework of "Principal as Agent of School Reform" and is designed to meet the Pennsylvania Leadership Standards and the ELCC Standards.

All of the courses in the certification program are approved to meet the Act 45/48 professional development requirement and are also approved as foundational courses for Gannon's Ph.D. in Organizational Learning and Leadership.

## PROGRAM DISTINCTIONS

**Leadership Assessment**
Candidates take part in a *Leadership Assessment* at the beginning of the program to lay the groundwork for the job embedded learning throughout the program

**Cohort**
The design of Gannon's program is based on effective models of adult learning. The program provides candidates in a cohort community the opportunity to cooperate and collaborate throughout the sequence of five connected core courses all of which have job embedded internships. Once the learning community is formed, it becomes the basis of a strong professional network that continues to provide support and professional development for the candidates as they move through their leadership careers.

**Program Delivery Model for Working Professionals**
Classes meet face to face, online, and in a blended format. Candidates meet a total of 13 times throughout the program. The program takes twelve months to complete.

Course sequence:

| | |
|---|---|
| 1st course fall | 5 Saturdays (every other) |
| 2nd course fall | Blended 3 Saturdays |
| 3rd course spring | Blended 3 Saturdays |
| 4th course spring | 5 Saturdays (every other) |
| 5th course summer | Online |
| 6th course spring-summer | Internship |

**Leadership Cohort Mentor/ Portfolio Advisor**
Every candidate has a Leadership Cohort Mentor/Portfolio Advisor that serves as the consistent point of contact and mentor throughout the candidate's progression through the preparation program.

**Highly Qualified Faculty**
Courses are taught by highly qualified content experts who are respected, current, successful practitioners in their respective fields. The courses are taught by either current school administrators or those who have been involved in the field within the past five years.

**Differentiated Internships**
The internships begin during the first course at the introductory level, continue through key skills areas at the developmental level and culminate during the last course in a mastery level capstone internship. This differentiated model allows candidates to have guided practice and formative feedback from faculty mentors and experienced practitioners throughout the program.

**Length of Internships**
The internship experiences take place over the full year life cycle of the school so that candidates are involved in critical leadership responsibilities involving students, faculty and staff, strategic planning, curriculum development, budgeting, and other key areas of district culture.

**Leadership Portfolio**
Candidates develop a Leadership Portfolio throughout their classroom and internship learning experiences and present the portfolio as a capstone experience. The portfolio is a very effective tool in career advancement.

## ADMISSION REQUIREMENTS

Applicants must:

- Complete an application for admission and submit three letters of recommendation, including one from the current superintendent. The letter from the superintendent must speak to the candidate's potential to become an effective school leader and acknowledge permission for the candidate to engage in internship activities throughout the year.
- Have a Master's degree in Education or a related field from a regionally accredited program. Have a 3.0 GPA.
- Submit final, official transcripts from a graduate degree-granting institution.
- It is recommended that candidates have two years of teaching experience before applying to the principal certification program.

## CURRICULUM REQUIREMENTS

**September-October**

| | |
|---|---|
| 3 credits | GEDU 720 Quality Teaching, Continuous Learning, Professional Accountability |
| 1 credit | GEDU 725 Principal Introductory Internship - 35 hours |

**October-December**

| | |
|---|---|
| 3 credits | GEDU 722 School Financial Management |
| 1 credit | GEDU 726 Finance Developmental Internship - 35 hours |

**January-March**

2 credits GEDU 730 Diverse Learner Competencies for School Leaders
1 credit GEDU 731 Diverse Learner Developmental Internship -35 hours

**March-May**

3 credits GEDU 721 Principal as Agent of School Reform

**May-August**

2 credits GEDU 723 Legal Aspects of Educational Administration
1 credit GEDU 727 Legal Aspects Developmental Internship - 20 hours
3 credits GEDU 728 Principal Mastery Internship - 235 hours
1 credit GEDU 732 Principal Leadership Cohort Mentor/Portfolio Advisor

Portfolio Presentation - 21 credits - 3 semesters

# Curriculum Supervisor-ONLINE

*Director: Kathleen Kingston, Ed.D.*
*Phone: 814-871-5626, kingston002@gannon.edu*

## OVERVIEW

The Curriculum Supervisor is a district-wide specialist who works across the total grade organization. Students who successfully complete the principal certification program may elect to take an additional 9 credits of coursework in order to be eligible to apply for certification as a Curriculum Supervisor. Candidates must also take and pass a Praxis examination.

## CURRICULUM REQUIREMENTS

GEDU 618 School and Community Relations (3 credits)
GEDU 617 Administration of School Personnel (3credits)
GEDU 713 Supervisor of Curriculum Internship (3 credits)

# Special Education Supervisor - ONLINE

*Director: Kathleen Kingston, Ed.D*
*Phone: 814-871-5626, kingston002@gannon.edu*

## OVERVIEW

Students who hold an initial certificate in special education may pursue the district-wide Special Education Supervisor certification program, which qualifies the holder to function as a liaison between the administration and the certified professional special education staff of a public school.

Preparation for this professional certificate is at the graduate level and presumes in-depth study in the area of special education. Issuance of the Special Education Supervisor certification requires a minimum of five years professional school experience in a special education area and successfully passing the required Praxis.

## ADMISSION REQUIREMENTS

- A Bachelor's degree from an approved institution and fulfillment of requirements for admission to the graduate program at Gannon University
- Final, official transcripts from all colleges attended
- An undergraduate cumulative grade point average of at least 3.0 on a 4.0 scale
- A completed application for admission including three letters of recommendation
- Evidence by previous academic record that the applicant has the general ability and preparation necessary to pursue graduate study successfully
- A valid Pennsylvania Instructional I or II certificate in Special Education
- Five years of experience teaching Special Education is required for certification

## PROGRAM OF STUDY

GEDU 714 Contemporary Issues in Special Education (3 credits)
GEDU 715 Curriculum Development, Instructional Strategies and Assessment Practices in Special Education/Practicum (3 credits)
GEDU 617 Administration of School Personnel (3 credits online)
GEDU 720 Quality Teaching, Continuous Improvement, and Professional Accountability (3 credits)
GEDU 725 Introductory Internship (1 credit) Integrated into GEDU 720
GEDU 716 Special Education Budgeting and Finance Seminar/ Practicum (1 credit)
GEDU 717 Special Education Law Seminar (1 credit)
GEDU 718 Development and Administration of Special Education Programs and Partnerships (3 credits)
GEDU 719 Special Education Internship (3 credits with approval of program director)

# Superintendent Certification Program

*Director: Kathleen Kingston, Ed.D.*
*Phone: 814-871-5626, kingston002@gannon.edu*

## SUPERINTENDENT AS STRATEGIC SYSTEM LEADER

This program is designed to prepare superintendents as strategic system leaders who can effectively and ethically bring about continuous system improvements that result in increased student achievement. The Superintendent Letter of Eligibility Program is designed around the conceptual framework of "The Superintendents as Strategic System Leader" and is designed to meet the Pennsylvania Leadership Standards and ELCC Standards.

All courses in the certification program are approved to meet the Act 45/48 professional development requirement for practicing administrators and are also approved as foundational courses for Gannon's Ph.D. in Organizational Learning and Leadership.

## PROGRAM DISTINCTIONS

**Leadership Assessment**
Candidates take part in a *Leadership Assessment* at the beginning the program to begin laying the groundwork for the job embedded learning throughout the program.

**Cohort**
The design of Gannon's program is based on effective models of adult learning. The program provides candidates in a cohort community the opportunity to cooperate and collaborate throughout the sequence of five connected core courses all of which have job embedded internships. The learning community formed becomes the basis of a strong professional network that continuous to provide support and professional development for the candidates as they move through their leadership careers.

**Program Delivery Model for Working Professionals**
Classes meet face to face, online, and in a blended format. Candidates meet a total of 16 times throughout the program. The program takes twelve months to complete.

| | |
|---|---|
| 1st course fall | 5 Saturdays (every other) |
| 2nd course fall | Blended 3 Saturdays |
| 3rd course spring | Online |
| 4th course spring | 5 Saturdays (every other) |
| 5th course spring | Blended 3 Saturdays |
| 6th course spring-summer | Internship |

**Leadership Cohort Mentor/ Portfolio Advisor**
Every candidate has a Leadership Cohort Mentor/Portfolio Advisor that serves as the consistent point of contact and mentor throughout the candidate's progression through the preparation program.

**Highly Qualified Faculty**
Courses are taught by highly qualified content experts who are respected, current, successful practitioners in their respective fields. The courses are taught by either current superintendents or those who have been involved in the field within the past five years.

**Differentiated Internships**
The internships begin during the first course at the introductory level, continue through key skills areas at the developmental level and culminate during the last course in a mastery level capstone internship. This differentiated model allows candidates to have guided practice and formative feedback from faculty mentors and experienced practitioners throughout the program.

**Length of Internships**
The internship experiences take place over the full year life cycle of the school so that candidates are involved in critical leadership responsibilities involving students, faculty and staff, strategic planning, curriculum development, budgeting, and other key areas of district culture.

**Leadership Portfolio**
Candidates develop a Leadership Portfolio throughout their classroom and internship learning experiences and present the portfolio as a capstone experience. The portfolio is a very effective tool in career advancement.

## ADMISSION REQUIREMENTS

Applicants must:

- Complete an application for admission and submit three letters of recommendation, including one from the current superintendent. Letter from superintendent must speak to the candidate's potential to become an effective system leader and acknowledge permission for the candidate to engage in internship activities throughout the year.
- Have a Master's degree in Education or a related field from a regionally accredited program
- Submit final, official transcripts from a graduate degree-granting institution
- Document six years of educational experience, three years of which must be work under an administrative or supervisory certificate. Candidates may be admitted with two years of administrative or supervisory experience if they can document that they will have completed three years of experience by the time the program concludes.

## CURRICULUM REQUIREMENTS

**September-October**

| | |
|---|---|
| 3 credits | GEDU 740 Superintendent as Architect of Standards-based Reform |
| 1 credit | GEDU 748 Superintendent Introductory Internship - 35 hours |

**October-December**

| | |
|---|---|
| 3 credits | GEDU 744 Business Administration and Finance |
| 1 credit | GEDU 747 Business Administration Developmental Internship - 35 hours |

**January-March**

| | |
|---|---|
| 2 credits | GEDU 743 Collective Bargaining |
| 1 credit | GEDU 746 Collective Bargaining Developmental Internship - 35 hours |

**March-May**

| | |
|---|---|
| 3 credits | GEDU 741 Superintendent as Strategic System Leader |

**May-August**

| | |
|---|---|
| 2 credits | GEDU 742 Educational Facilities and School Plant |
| 1 credit | GEDU 745 Educational Facilities Developmental Internship - 20 hours |
| 2 credits | GEDU 730 Diverse Learner Competencies for School Leaders (based on transcript review) |
| 3 credits | GEDU 750 Superintendent Mastery Internship - 235 hours |

1 credit GEDU 751 Superintendent Leadership Mentor/ Portfolio Advisor

21-23 credits - 3 semesters

# COURSE DESCRIPTIONS

**GEDU 505 Classroom Discipline**
3 credits
This course is a study of major educational disciplines, theory, and practical application for teachers as they use their knowledge and skills for effective classroom discipline.

**GEDU 517 Assessment and Support for English Language Learners**
3 credits
This course is designed to provide specific knowledge specified by the Pennsylvania Department of Instruction in its requirements for ESL training. Specifically, the course will address part three: English Language Learners (ELLs) Language & Support Services Knowledge. It is designed to expand participants' knowledge of effective assessment practices and support services available for ELL students. In addition to effective assessment practices, purposes for assessment, multiple assessment models, use of evaluation techniques, scaffolding of assessments, and formal/informal assessment tools will be discussed. Participants will learn the range of school support services to assist ELLs in language acquisition and content learning and ways to promote parental/family involvement. Participants will gain hands-on experience in test administration, interpretation, and reporting. Individualized Education Plans for ELLs will also be discussed.

**GEDU 518 Multicultural Aspects of ESL/Cross Cultural Communication**
3 credits
This course explores cultural diversity, the nature of cross cultural communication, and the relationship between language and culture in educational contexts.

**GEDU 519 The Structures of English**
3 credits
This course is a descriptive study of the structures of modern American English. Emphasis is placed on the special characteristics of the English language and the principles and approaches to teaching English to non-native speakers.

**GEDU 520 Methods and Materials for Teaching ESL**
3 credits
This course will provide students with a survey of current research and theory in English as a Second Language (ESL). Students will practice traditional and innovative methodologies for teaching language skills to non-native speakers (K-12).

**GEDU 522 ESL Assessment Practicum**
1 credit
This course is taken together with GEDU 517 Assessment and Support for English Language Learners. The practicum is a 15- hour course embedded application of skills and knowledge learned in the course. During the practicum, candidates will observe effective assessment practices and participate in implementing an assessment of an English Language Learner in order to put into practice the concepts and skills learned in GEDU 517.

**GEDU 523 Multicultural Practicum**
1 credit
This course is taken together with GEDU 518 Multicultural Aspects of ESL/Cross Cultural Communication. The practicum is a 15 hour course embedded application of skills and knowledge learned in the course. During the practicum, candidates will conduct a cultural assessment through observation and interaction with a group of ELL students in order to put into practice the concepts and skills learned in GEDU 518.

**GEDU 524 English Language Practicum**
1 credit
This course is taken together with GEDU 519 Structures of English. The practicum is a 15- hour course embedded application of skills and knowledge learned in the course. During the practicum, candidates will interact with English Language Learners to observe language patterns in order to put into practice the concepts and skills learned in GEDU 519.

**GEDU 525 ESL Methods Practicum**
1 credit
This course is taken together with GEDU 520 Methods of Teaching ESL. The practicum is a 15- hour course embedded application of skills and knowledge learned in the course. During the practicum, candidates will observe classroom environment, teacher's instructional strategies, and student interactions in order to put into practice the concepts and skills learned in GEDU 520 and apply these insights and knowledge to a classroom setting.

**GEDU 537 Children with Exceptional Needs**
3 credits
This course explores the characteristics and needs of special needs children and adolescents who are included in regular classrooms. It also examines effective instructional strategies and adaptations for teaching exceptional children in typical school cultures and environments. Specifically, this course addresses the following: (a) characteristics of various exceptionalities, (b) teacher dispositions, (c) cultural diversity, (d) curricular modifications and adaptations, (e) educational assessment, (f) historical, legislative, current and legal issues in special education and (g) the coordination of regular and special education.

**GEDU 540 American Sign Language I**
3 credits
This course will teach a basic vocabulary of signs used in American Sign Language, the true language of Deaf Americans. Students will learn important aspects of ASL grammar and ASL culture, and will be given a brief introduction to hearing loss and practical issues in the education of Deaf children.

**GEDU 541 American Sign Language II**
3 credits
This course will teach more advanced vocabulary of signs used in American Sign Language. It will also analyze conversational settings of various Deaf and hearing signers. Detailed aspects of ASL grammar and ASL culture will be taught. A major emphasis is placed on expressive signing by students. Practical issues in Deaf culture and in Deaf education will be discussed.

**GEDU 550 Student Teaching**
6 credits
Prerequisite: Permission of Education Department
This experience in the field encompasses one full semester of directed observation and supervised student teaching, with gradual assumption of total teaching responsibilities. This course is taken in conjunction with a professional seminar course, GEDU 690.

**GEDU 591 Seminar: Selected Topics in Education**
1 credit

**GEDU 592 Seminar: Selected Topics in Education**
2 credits

**GEDU 593 Seminar: Selected Topics in Education**
3 credits

**GEDU 600 Introduction to Graduate Statistics**
3 credits
Prerequisite: EDCR 330 or other beginning course in descriptive statistics.
An intermediate to advanced course in statistics applicable to educational research settings. The general emphasis is on commonly used inferential and parametric techniques with a brief review of descriptive statistics. Topics covered include correlation, linear and multiple regression, sampling and sampling distributions, t-test, chi-square, one and two factor Analysis of Variance, and parametric statistics.

**GEDU 601 Action Research**
3 credits
This course provides students with the opportunity to examine standard methods of conducting and reporting educational research. It is designed to provide the knowledge and practice needed to apply literature reviews and collection of data to problem solving and making informed decisions.

**GEDU 602 Portfolio Project Degree Requirement**
The final development, presentation and evaluation of the portfolio project.

**GEDU 604 Educational Tests and Measurements**
3 credits
This course explores the various statistics and assessments that teachers utilize in their classrooms.

**GEDU 609 Inclusive Classroom Practices**
3 credits
This course will explore the essential questions needed to develop a productive learning environment for diverse learners.

**GEDU 612 Leadership, Current Issues and the Teacher as Agent of Change**
3 credits
A major theme in the master's program is 'teacher as agent of change.' The concept of teacher as agent of change is very important in this course because the graduate student will have the dual opportunity of examining leadership concepts and applying those concepts to successfully addressing current issues as they affect the school setting. Finally the graduate student will have an in depth opportunity to examine and build on their own leadership capacity and that of their students.

**GEDU 616 School and Community Relations**
3 credits
This seminar will view the school as a dynamic cultural entity. The graduate student will assess the school's interdependence on the community and its many publics, the importance of a sound public relations program for the school, and the need to communicate with and understand the community.

**GEDU 617 Administration of School Personnel**
3 credits
This seminar studies dimensions in school personnel administration and includes the principles of recruitment, selection, and practices essential to a functional integration of the individual into the school system.

**GEDU 619 Methods and Materials of Instruction/Practicum**
3 credits
This course is designed for secondary and K-12 majors. It emphasizes instructional planning, teaching methodologies, and classroom management. Emphasis is given to the preparation of effective lessons in the content area, selection of instructional methods and materials, and organization of classroom procedures. This course provides a 15 hour integrated practicum with an opportunity for students to work with content experts in their field.

**GEDU 620 Meeting the Needs of Students with Exceptionalities: Middle and High School**
3 credits
This course examines intervention strategies appropriate for the instruction and classroom management of students with exceptionalities at the middle school and secondary levels. Focus is given to planning, implementing, and evaluating strategies for maintaining an effective inclusive, learning environment, as well as developing and practicing authentic collaboration techniques.

**GEDU 621 School Curriculum**
3 credits
Through this course, the participants will look at curriculum as a

body of knowledge and a process by exploring the theory, history, purposes, and evolution in curriculum. Factors which shape curriculum will be thoroughly discussed, and current trends will be examined. A strong effort will be made to provide practical information with specific relevancy to each participant.

**GEDU 623 Technology: Literacy and Integration**
3 credits
Technology: Literacy and Integration will focus on researching, identifying, designing, evaluating and implementing appropriate technology based applications and tools through assigned project activities and use of online learning applications.

**GEDU 624 Writing Project Summer Institute**
3 credits
This course emphasizes improving student writing skills by using various methods of practicing writing across the curriculum.

**GEDU 626 Foundations of Literacy in Elementary Programs**
3 credits
This course explores components of the elementary reading program: emergent literacy, phonemic awareness, phonics, fluency, vocabulary, and text comprehension, as well as literacy programs and procedures in the elementary school. State and national standards are also addressed.

**GEDU 627 Foundations of Literacy in Secondary Programs**
3 credits
This course focuses on the examination of the reading process as it pertains to the secondary school level. Specifically, this course examines current theory and best practices in integrating the language systems, thinking strategies, and instructional methods that support the curricula from middle school through high school. Practical strategies and materials to promote literacy, assessment, integration of technology, and literacy competencies in content areas, will be the focal points of this course.

**GEDU 628 Secondary/K-12 Education Graduate Practicum 1**
1 credit
This 10 week/60 hour equivalent experiential learning practicum takes place in an educational setting assigned by the Director of Practicum Placements. This practicum focuses on classroom interaction and student observation.

**GEDU 629 Secondary/K-12 Education Graduate Practicum 2**
1 credit
This 10 week/60 hour equivalent experiential learning practicum takes place in an educational setting assigned by the Director of Practicum Placements. In addition to observation, this practicum offers teacher candidates the opportunity to teach all or part of several lessons. Students also complete tasks at the direction of the cooperating teacher.

**GEDU 631 Diagnosis and Remediation of Reading Difficulties**
3 credits
Diagnosis and Remediation of Reading Difficulties prepares the candidate to evaluate the variances in reading strengths and weaknesses through the use of formal and informal diagnostic tools. This course is designed to provide an examination of traditional, as well as newly developed perspectives and insights necessary to provide for effective assessment and instruction for students with reading difficulties.

**GEDU 632 Secondary/K-12 Education Graduate Practicum 3**
1 credit
This 10 week/60 hour equivalent experiential learning practicum takes place in an educational setting assigned by the Director of Practicum Placements. The requirements of this practicum include teaching at least 3 lessons and completing tasks at the direction of the cooperating teacher.

**GEDU 633 Diverse Learner Competencies for Reading Specialists**
3 credits
This course develops the knowledge and skills required by Reading Specialists to be collaborative partners in providing support for all children in inclusive settings and to provide specialized leadership for the development of programs for diverse learners. The course will focus on issues such as over representation of diverse students in special education, prevention and early intervention, and effective instructional strategies for students with disabilities in inclusive settings.

**GEDU 637 Learning Theory**
3 credits
This course examines human learning processes, the nature and kinds of learning, factors that influence learning, and major learning theories.

**GEDU 640 Young Adult Literature**
3 credits
This comprehensive course reviews young adult literature genres, authors, and selection of books for young adults.

**GEDU 641 Children's Literature**
3 credits
This comprehensive course consists of the critical examination of children's books and outstanding writers and illustrators in the field of children's literature.

**GEDU 643 Overview of Curriculum Design**
3 credits
This course is a study of styles and processes for implementing school curriculum, with a focus on the integration of literacy including reading, writing, listening, and speaking. The course addresses issues dealing with perceptions, professionalism, and change, and examines various school curriculum models including

the Pennsylvania Department of Education Standards Aligned System for standards based curriculum design.

**GEDU 644 Student Centered Action Research**
3 credits
The Student Centered Action Resource Course is aligned with the Standards for Reading Professionals developed by the International Reading Association. Teachers will be introduced to the techniques involved in conducting action research. Action research allows teachers to investigate an evidence based problem, collect data, and analyze the data to improve instructional decision making at the practitioner level that leads to improvements in curricular and instructional design.

**GEDU 645 Literacy and Leadership/Practicum and Seminar**
3 credits
This course is designed to focus upon current issues in literacy and leadership. Students complete a 25-hour literacy and leadership practicum.

**GEDU 647 Assessment of Literacy Development/Clinical Application**
6 credits
This course provides experience in formal and informal assessment and data interpretation. Students are responsible for implementation of instructional programs based upon assessment data. A 75-hour clinical practicum is required.

**GEDU 679 Curriculum Design and Instructional Technique in Environmental Education**
3 credits
Students will explore various educational processes that deal with people's relationship with their total environments, including the interaction of population, pollution, resource allocations and depletions, conservation, transportation, and technology with a focus on urban and rural planning as it relates to the total human environment. Students will also review current programs and materials in environmental education as well as current research projects.

**GEDU 690 Graduate Education Seminar**
3 credits
This seminar will focus on a current issue or topic in education, and is taken with student teaching, GEDU 550.

**GEDU 696 Directed Research and Special Topics**
2-4 credits
Prerequisite: GEDU 601, Educational Research Methods
In this course, students refine their research from the prerequisite courses and complete chapter 4 and 5 of their research paper.

**GEDU 713 Curriculum Supervisor Internship**
3 credits
This course is designed to be the capstone experience of the Curriculum Supervisor Certification program. The course will provide experiences designed to develop and enhance the overall effectiveness of the supervisor candidate's competencies. The internship is designed as an integrating experience and an opportunity for the student to practice those skills and competencies learned in the classroom setting and to learn certain skills best taught in a school environment. It consists of planned experiences and emphasizes direct involvement in Curriculum, Instruction and Assessment Program administration at sites mutually acceptable to the student and the program director.

**GEDU 714 Contemporary Issues in Special Education**
3 credits
This course examines contemporary trends and issues in special education and the impact of those issues upon schools, teachers, students, and parents. Current research in the field of special education is reviewed through discussion of topics. Content also includes an overview of the various legal issues in special education, including the rights of students, parents, and educators.

**GEDU 715 Curriculum Development, Instructional Strategies, and Assessment in Special education/Practicum**
3 credits
This course examines the purposes and kinds of assessment procedures used to identify, evaluate, place, and plan instruction for special needs children and adolescents. Specifically, this course addresses the following: (a) the assessment process, (b) formal and informal assessment procedures, (c) assessment of general performance areas, (d) assessment of academic areas, and (e) using assessment to plan instruction. This course has a fifteen hour integrated practicum.

**GEDU 716 Special Education Budgeting and Finance Seminar/ Practicum**
1 credit
The Special Education Budgeting and Finance course is an overview of the development and content of mandated special education plans for school districts and intermediate units and to link those plans to the development of a comprehensive special education budget. This course has a fifteen hour integrated practicum.

**GEDU 717 Special Education Law Seminar**
1 credit
The Special Education Law Seminar is an overview of the relevant legislation, regulations, and case law concerning the education of students with disabilities in pre-k through secondary school.

**GEDU 718 Development and Administration of Special Education Programs and Partnerships**
3 credits
This course explores the research and practice of an effective special education program. Emphasis is on program development, field-based research, and data based decision-making program design and evaluation, community collaboration, and the relationship of the special education program to community programs, pupil services program, and the regular curriculum.

**GEDU 719 Special Education Supervisor Internship**
3 credits
This course is designed to be the capstone experience of the Special Education Supervisor Certification program. The course will provide experiences designed to develop and enhance the overall effectiveness of the supervisor candidate's competencies. The internship is designed as an integrating experience and an opportunity for the student to practice those skills and competencies learned in the classroom setting and to learn certain skills best taught in a school environment. It consists of planned experiences and emphasizes direct involvement in Special Education Program administration at sites mutually acceptable to the student and the program director. This is a 300 hour supervised internship.

**GEDU 720 Quality Teaching, Continuous Improvement, and Professional Accountability**
3 credits
This course will focus on the role of the principal as the instructional leader, along with collaborative efforts by the instructional staff, in bringing about quality teaching, continuous learning, and professional accountability. Candidates will understand the school personnel policies and procedures that provide the organizational boundaries for accountability, and the importance of school and community relations in an effective instructional program.

**GEDU 721 The Principal as Agent of School Reform**
3 credits
This course prepares instructional leaders whose leadership skills and knowledge are grounded in standards based theory and design, who can create a culture of teaching and learning in a school through effective leadership and operational management, effective communication, ethical behavior, and advocacy for children.

**GEDU 722 School Financial Management**
3 credits
This course examines the legal and other factors governing financial policies and practices in public schools, sources of revenue, budgeting, disbursement of funds, school plant, records, and insurance. It emphasizes knowledge and understanding of the major tasks and methods involved in meeting financial responsibilities in the school and the educational system.

**GEDU 723 Legal Aspects of Educational Administration**
3 credits
This course examines the major areas of school law with particular emphasis on the school code of Pennsylvania. Topics include tort liability of school officials and teachers, the legal structure of public education, control of pupil conduct, desegregation, church-school relations, teachers' rights and responsibilities, pupils' rights, professional negotiations, the courts' impact on curriculum, the use of school property, the Individuals with Disabilities Education Act, and the Family Educational Rights and Privacy Act, in addition to issues in the area of special education.

**GEDU 725 Principal Introductory Internship**
1 credit

**GEDU 726 School Finance Developmental Internship**
1 credit

**GEDU 727 Legal Aspects Developmental Internship**
1 credit

**GEDU 728 Principal Mastery Internship**
3 credits
This course is the capstone leadership course in the principal preparation program. The internship is a 235 - hour mastery level internship. The internship requires candidates to work in their districts to initiate specific activities that will provide leadership the role of the principal as an instructional leader and agent of school reform.

**GEDU 729 Independent Study - Principal**
1-3 credits
This course is designed to provide students with the opportunity to organize and conduct research in the area of educational administration under the supervision of a faculty member, but independent of scheduled meetings and regular assignments.

**GEDU 730 Diverse Learner Competencies for School Leaders**
3 credits
This course develops the knowledge and skills required to provide leadership for the development of programs for diverse learners. The course will focus on issues such as over representation of diverse students in special education, prevention and early intervention, and effective instructional strategies for students with disabilities in inclusive settings.

**GEDU 731Diverse Learner Competencies Internship**
1 credit
This course is taken together with GEDU 730 Diverse Learner Competencies for School Leaders. The internship is a 20-hour developmental internship experience. The internship provides the opportunity to put into practice the concepts and skills learned in this course and to bring back the insights and knowledge gained into the classroom discourse.

**GEDU 732 Principal Leadership Mentor/Portfolio Advisor**
1 credit
The Leadership Cohort Mentor/Portfolio Advisor serves as the consistent point of contact and mentor throughout the candidate's progression through the preparation program. The mentor also provides an orientation to the portfolio process.

**GEDU 740 The Superintendent as Architect of Standards Based Reform**
3 credits
The course begins with establishing the urgency for school reform. From a historical perspective we re-examine the assumptions that

reinforce the status quo. There is a review of No Child Left Behind and Race to the Top and their implications to our current systems. After examining school reform models the course moves to the practical aspects of moving systems through the reform process.

**GEDU 741 Superintendent as Strategic System Leader**
3 credits
This course is grounded in the continuum of "systems thinking" and operating principles needed for strategic planning that leads to improved student achievement. It provides a broad based view of the current research built around strategic planning and moves to the practical application of these theories and concepts.

**GEDU 742 Educational Facilities and School Plant**
3 credits
This course is designed to familiarize the prospective educational leadership administrator with the issues and problems of new plant construction, renovation, and rehabilitation of existing buildings and facility maintenance. The utilization of demographic, curriculum, resource, and energy data, as well as state building construction guidelines will be presented and studied.

**GEDU 743 Collective Bargaining and Labor Relations**
3 credits
This course enhances leadership through study of negotiations and labor relations in public education. Topics and issues explored include an in-depth analysis of contract negotiations, grievance procedures, mediation, and arbitration for all school employees. Theories and practices in staff recruitment, selection, assignment, orientation, evaluation, professional development, and retrenchment are studied.

**GEDU 744 Business Administration and Finance in Public Education**
3 credits
This course identifies and assesses methods of financing public education. Included are the processes of educational planning and financing for staff, instructional processes, and physical plant; the study of federal and state funding sources; the nature of taxing authorities; the subsidy system; grants and entitlements to public education; and future trends and options in creative financial planning. The business operation of the public school is examined. There is an in-depth investigation of budget preparation, long and short-term investing, bonding, under-writing, tax collecting, and construction planning.

**GEDU 745 Educational Facilities Developmental Internship**
1 credit

**GEDU 746 Collective Bargaining Developmental Internship**
1 credit

**GEDU 747 Business Administration Developmental Internship**
1 credit

**GEDU 748 Superintendent Introductory Internship**
1 credit

**GEDU 749 Independent Study in Educational Leadership—Superintendent**
1-3 credits
This course is designed to provide students with the opportunity to organize and conduct research in the area of educational administration under the supervision of a faculty member, but independent of scheduled meetings and regular assignments.

**GEDU 750 Superintendent Mastery Internship**
3 credits
This course is the capstone leadership course in the superintendent preparation program. The internship is a 235- hour mastery level internship. The internship requires candidates to work in their districts to initiate specific activities that will provide leadership opportunities in the role of the superintendent as a strategic system leader.

**GEDU 751 Superintendent Leadership Mentor/Portfolio Advisor**
1 credit
The Leadership Cohort Mentor/Portfolio Advisor serves as the consistent point of contact and mentor throughout the candidate's progression through the preparation program. The mentor also provides an orientation to the portfolio process.

**GUAP 520-597 Special Topics**
3 credits

**GUEC 550-599 Special Topics**
3 credits

**GUSD 530-562 Special Topics**
3 credits

# Electrical and Computer Engineering

***Director: Fong K. Mak, Ph.D., P.E.***

## INTRODUCTION

The world of electrical and computer engineering is an ever-changing one. The advances over a new graduate's working career of approximately 40 years will be phenomenal with applied undergraduate engineering courses slowly becoming obsolete. The most useful knowledge obtained from the undergraduate courses is the mathematics, engineering science, and humanities courses plus the acquired ability to attack and solve new problems in a forthright manner. Graduate school is the next step in a lifetime of learning for both new graduates and for those who have been out a few years and recognize the need for more education.

The graduate program in ECE is designed to provide advanced studies for the graduate engineer who wishes to continue preparation for effective participation in the professions of electrical, software, and systems engineering. The program also provides continuing education in advanced subjects for the working engineer who acknowledges the need to stay abreast of the rapidly changing technological world. Emphasis is placed on the development of the engineer's capacity for independent study and continued professional growth.

## PROGRAM OBJECTIVES:

The program is designed to guide students to build technical competency, and effective communication and leadership skills.

1. Demonstrate professional ethics and personal values in daily and professional life that exercise informed literary and aesthetic judgments by leveraging diverse cultures and societies
2. Demonstrate teamwork and leadership qualities and/or attainment of leadership roles in a global work environment
3. Demonstrate technical competency in applying comprehensive engineering knowledge throughout their chosen profession

## DEGREES OFFERED

The program offers both a Master of Science in Electrical Engineering (MSEE) degree and a Master of Science in Embedded Software Engineering (MSES) degree.

## ADMISSION REQUIREMENTS

1. Applicants must have earned a Bachelor's degree in Electrical or Computer Engineering from an ABET accredited program or its equivalent with a QPA of 2.5 or better.
2. Applicants with non-electrical or computer engineering degrees may be admitted, but required to take additional course work as determined by the program director.
3. Applicants must submit the following:
   - Completed application
   - Transcripts for all prior college course work
   - Three recommendation letters
   - TOEFL scores if English is not a first language

## CURRICULUM

Upon commencement of graduate studies, the student will choose to study for an Electrical Engineering or Embedded Software degree. The student will be assigned an initial advisor by the program director. The advisor and student will select appropriate courses for the objectives of the student and obtain approval of this course-of-study through the academic approval sequence. All students must take the following two courses during the first 12 credits:

Course Requirements:

GECE 502 Embedded C Programming
GECE 704 Advanced Engineering Analysis

All students must complete at least one systems development course prior to graduation. Systems development courses include:

GENG 580 Requirements Engineering
GENG 570 Introduction to Systems Engineering
GECE 501 Engineering Project & Management

After the student has completed 12 credits of study, the student will be assessed relative to their preparedness to begin thesis or project work. The candidate must have a 3.0 QPA to continue for the degree. The candidate must then choose one of the three project/thesis plans below for completion of their degree and an advisor will be assigned to guide the candidate for the completion of the degree work. Students cannot register for project/thesis credits until after 12 credits of graduate work are completed (see plans A, B, and C below). The degrees require a total of 30 credit hours of graduate work. Up to 6 credits of approved graduate work can be transferred from another graduate program.

**Plan A (Thesis):**

The candidate will be required to submit a 6 credit thesis as part of the 30 credits of graduate course work and pass a final oral examination on the thesis material and related subjects. The thesis work must be approved by the academic approval sequence prior to the commencement of the research work. The thesis advisor will direct the student's work and determine when to recommend the manuscript for review by a faculty committee. The review committee will be appointed by the usual academic approval sequence and will consist of at least three full-time Gannon engineering faculty

members familiar with the subject material and one member from outside the ECE department. The outside member can be from industry. The advisor will be the chair of the review committee.

**Plan B (Project):**
The student will be required to complete a design project and to pass a final examination covering the student's project and related subject areas. The project can be worth 3 or 6 graduate credits as part of the 30 credits of graduate course work depending on the difficulty of the project. The project must be approved by the usual academic approval sequence prior to the commencement of the project work. The project advisor will direct the student's work and determine when to recommend the manuscript for review by a faculty committee. The review committee will be appointed by the usual academic approval sequence and will consist of at least three full-time Gannon engineering faculty members familiar with the subject material and one will be the chair of the review committee.

**Plan C (Project Course):**
The student will be required to complete a 3 credit course designated as a project course. The project course will be approved by the usual academic approval sequence prior to the commencement of the project work and must include a significant project for its completion. The course instructor will inform the student of the complete requirements for the project course and will be responsible for seeing that the student satisfies these requirements. Students are required to prepare a manuscript in thesis format for the project.

# DEGREE PROGRAMS

**Electrical Engineering Degree**
The goal of the program is to give an Electrical and Computer Engineering graduate the necessary education to be an effective design or systems engineer. The student shall devise a curriculum with his/her advisor to pursue knowledge in advanced control theory, system modeling, electronics, communication, systems engineering, and embedded software. The student must complete at least 9 credits of Electrical Engineering program courses and satisfy the project/thesis requirement in Electrical Engineering.

**Embedded Software Engineering Degree**
The goal of the program is to give an Electrical and Computer Engineering graduate the necessary education to be an effective embedded software/systems engineer. The student shall devise a curriculum with his/her advisor to pursue knowledge in computer hardware and software implementation strategies, software development, software quality measures, software design and testing techniques, microprocessors, digital system design and/or hardware description languages. The student must complete at least 9 credits of Embedded Software Engineering program courses in system, software, hardware categories, and satisfy the project/thesis requirement in a topic related to Embedded Software Engineering.

**Co-op Track**
The objective of the co-op track is to present an academic program combined with application training on actual industrial problems in engineering environments. This is to give students a targeted education on real-world problems. Students may join this program after completing sufficient coursework to be successful in an industrial environment, and receiving approved industrial sponsorship. International students must meet USCIS eligibility requirements.

Students accepted to the co-op track are assigned a Gannon professor as a mentor, and must take the Graduate Professional Experience (GENG 700-series) course each semester they are enrolled in the program.

Students must complete 30 credits of graduate course work in addition to their Graduate Professional Experience courses. Students must maintain a cumulative grade point average of at least 3.0 for the duration of their master's degree program, and fulfill all other requirements for their degree.

**Professional Track**
Gannon runs a two year work-study program with local industry in Erie. The objective of the track is to present an academic program combined with application training on actual industrial problems to give students a targeted education, complemented by hands-on, real-world development exposure. Students are selected for this track based on academic background, leadership skills, and communication skills. The student is assigned a Gannon professor as a mentor while working at the industrial site. The mentor advises the student on his academic work and guides the student on industrial engineering projects. The projects are carefully chosen to reinforce classroom work and to develop the students into outstanding engineers. In addition to the mentorship in technical areas, the professor also mentors the student in leadership skills, work and personal ethics, and communication skills that are needed in the industrial workplace. This track requires that the student work on these projects half time during the school year and full time during the summer. The students receive full tuition and a yearly stipend for their work. Students need to apply and be accepted separately for this program. The number of students in this track is dependent on availability of industrial sponsorship.

The students earn either an Electrical Engineering degree or an Embedded Software Engineering degree. There are two tracks for the program:

Embedded Software track (leads to Embedded Software degree) and the Systems and Modeling track (leads to Electrical Engineering degree). All students in the professional track must have equivalent background (academic or professional) in Automatic Control. Furthermore, all students in the Embedded software track must have equivalent background in C++ and Data Structures.
The recommended curriculum is as follows:

| Embedded Software | Systems and Modeling |
|---|---|
| **Summer second Session** | |
| Intro to Embedded Systems | Intro to Embedded Systems |
| Orientation and Curricular | Orientation and Curricular |
| Practical Training (CPT) | Practical Training (CPT) |
| **Fall First Semester** | |
| Engineering Analysis I#* | Engineering Analysis I#* |
| Requirements Engineering* | Requirements Engineering* |
| Adv Digital Design | System Modeling* |
| CPT | CPT |
| **Spring Second Semester** | |
| Engineering Analysis II* | Engineering Analysis II* |
| Embedded Kernel* | Adv Programming in C/C++ |
| Embedded Systems Design* | Electric Machine Modeling* |
| CPT | CPT |
| **Summer** | |
| CPT | CPT |
| **Fall Third Semester** | |
| RTOS Applications+ | Control of Electric Drives |
| Hw/Sw Co-design | Power Electronics |
| Personal Software Process* | Elective |
| CPT | CPT |
| **Spring Fourth Semester** | |
| Project/thesis | Project/thesis |
| Elective | Digital Control |
| Elective | Elective |
| CPT | CPT |

# Substitutions for this course may be approved by advisor and Department Chair.
* Required courses for professional track
+special topic electives

# COURSE DESCRIPTIONS

## Courses of Interest for All Options

**GECE 501 Engineering Project & Management**
3 credits
This is one of the core courses for the electrical and computer engineering graduate students. Engineering development process from inception to product will be covered. The function of systems engineering is to guide the engineering of complex systems that is the collection of components, people, facilities, and procedures organized to accomplish some common objectives. This course will focus on the skills required to manage the development of effective system architectures from concept through engineering design and production. Topics include, but are not limited to, the structure of complex systems, project management, system development process, requirement specifications, functional decomposition, system modeling techniques and modern toolsets, hardware-in-the-loop simulation and control, system testing, and oral and written communication issues.

**GECE 502 Embedded C Programming**
3 credits
This course is designed for students to build a solid foundation in embedded programming using the C language. Intermediate C programming techniques and embedded environment considerations will be discussed. Contents of the course include: C and embedded systems, program structure, variables and memory implication, flow control, arrays, pointers, structure and union, functions, I/O's, preprocessor directives, GNU development tools, and basic UNIX/LINUX operations.

**GECE 507 Web Programming**
3 credits
Prerequisite: GCIS 501 or equivalent
This course provides the knowledge of theory and techniques of data communications and advanced web programming. The course introduces students to a wide range of topics in computer networking and web programming, including data transmission, packet transmission, internetworking, TCP/IP, network applications, Java, CGI languages, and other various script languages.

**GECE 509 Software Tools**
3 credits
Prerequisite: GENG 585 or equivalent
Focus on the Unix programming environment and the various tools for software development, application environments and techniques. Topics include operating systems, standards, real-time programming, concurrency, software testing, metrics, IPC techniques, scripting, compilers, interactive debugging.

**GECE 704 Advanced Engineering Analysis**
3 credits
This course focuses on theory and application of linear algebra, ordinary differential equations, Laplace transform, Fourier analysis, partial differential equation, probability and statistics for solving engineering problems. Application of Matlab.

**GENG 570 Introduction to Systems Engineering**
3 credits
The function of systems engineering is to guide the engineering of complex systems, that is the collection of components, people, facilities and procedures organized to accomplish some common objectives. This course explores the life cycle of systems, and the skills required to manage the development effective system architectures from concepts through engineering design and production. Topics include, but are not limited to the structure of complex systems, system development processes, systems engineering management, needs analysis, systems requirements management, program risk, functional analysis and design, integration and system evaluation.

**GENG 580 Requirements Engineering**
3 credits
Requirements engineering process from initial requirements elicitation through to requirements validation for systems engineering. The course includes specific techniques for the analysis, modeling, validation, and management of requirements for engineering projects, and is applicable to software, mechanical, electrical, process and other types of engineering projects. Topics include requirements processes, documents, elicitation, analysis, management, modeling, viewpoint analysis, non-functional requirements, advanced topics.

**GENG 582 Fuzzy Control**
3 credits
This course provides a fundamental understanding of fuzzy logic with application to control theory. The methodology provides a method for constructing nonlinear controllers via the use of heuristic information for real-world problems. The fuzzy controller emulates the decision making process of the human. Engineering evaluations of performance and comparative analysis with conventional control methods are used.

**GENG 585 Advanced Programming In C/C++**
3 credits
Problem analysis. Translation path from pseudo-code to implementation. Comparison of C and C++ implementations. Critical evaluation of time, memory, and program structure. Programming style.

**GENG 586 Object-Oriented Modeling**
3 credits
Prerequisite: GENG 580 or GCIS 504 or 566 or 567 or permission of instructor
An advanced treatment of methods for producing an object-oriented design, including structural, behavioral, and architectural design. Focus is on Object-Oriented analysis and design methods and design processes they support. Includes treatment of the Unified Modeling Language (UML) techniques and their application to systems/ software development

**GENG 588 Modern Control Theory**
3 credits
Linear spaces and operators, mathematical descriptions of systems. Linear dynamical systems and impulse response, matrices. Controllability and observability of linear dynamical systems. Irreducible realizations of rational transfer function matrices. Canonical forms, state feedback and state estimators. Stability of linear systems. Composite systems; linear optimal control and linear distributed systems

**GENG 589 Digital Control**
3 credits
This course deals with the control of dynamic systems by employing classical and model control tools incorporating a digital computer in the control loop. It provides the background needed for those practicing engineers, who have studied the concepts of continuous-time control, to enhance their knowledge in the area of digital control system. Topics include the Z-transform, digital control system design, filters design, and the state-space approach to control system design. Modern software tools such as Matlab/Simulink will be used.

**GENG 590-599 Special Topics in Engineering**
3 credits
Special courses developed from study interest in all areas of Engineering. Brief description of current content to be announced in schedule of classes.

**GENG 603 Engineering Analysis I**
3 credits
The theory and application to engineering problems of Laplace transforms, generalized Fourier transforms and Linear Algebra.

**GENG 609 Nonlinear Analysis**
3 credits
Introduction to the understanding of nonlinear characteristic of mechanical and electrical components and systems. Basic analytical, graphical and numerical methods are presented. Introduction to chaotic dynamics and nonlinear control.

**GENG 648 Modeling and Simulation of Dynamic Systems**
3 credits
This interdisciplinary course presents mathematical modeling methods for physical dynamic systems containing electrical, mechanical, and control components. Included are the application of physical principles, energy approaches, non-dimensional techniques, and discretization of continuous systems. Numerical simulation of linear and nonlinear models will be studied and compared to experimental results. Problems of current interest will be used as examples.

**GENG 678 System Testing**
3 credits
Prerequisite: GENG 586
This course covers the fundamentals of testing engineering systems and their models. Includes coverage of types of testing, fundamental problems in testing, purposes for testing, testcase design, quality assurance and test planning. Topics include prototype testing, validation testing, acceptance testing, and other topics.

**GENG 685 Advanced Control Systems**
3 credits
This course treats the analysis and design of linear control systems from the point view of state space representations. Topics will include system modeling, coordinate transformation, controllability, observability, output feedback, state feedback, linear quadratic regulators, and linear estimators. Additionally, an introduction to nonlinear control is presented with the topics of feedback linearization and adaptive control. Applications from interdisciplinary current state-of-art systems will be presented.

**GENG 689 Stability Analysis of Multidimensional Dynamic Systems**
3 credits
Fundamental concepts of stability for carious classes of dynamic systems are examined and discussed. The systems considered include multidimensional lumped-parameter systems that can be described by linear differential equations. The systems under consideration are divided into certain well-defined classes, and various phenomena related to vibrations and stability of these systems are exposed systematically. Although the course examples are drawn from mechanical systems, the general nature of formulation can be applied to systems of similar nature in other disciplines, such as electrical circuits.

**GENG 690-699 Special Topics in Engineering**
3 credits
Special courses developed from study interest in all areas of Engineering. Brief description of current content to be announced in schedule of classes. Graduate courses in the 600 series are open to graduate students only.

**GENG 700-702 Graduate Professional Experience**
1 credit
Prerequisite: Discipline-specific industrial sponsorship
This course complements regular academic training with hands-on, real-world development exposure. Students are required to be engaged in practical training during the course. International students require Curricular Practical Training (CPT) approval. Topics include issues facing engineering and computing professionals, trends in the fields, job prospects, team and workplace behavior, project leadership as well as reviews of speaking, listening, reading and writing skills.

**GENG 703 Engineering Analysis II**
3 credits
Solving engineering problems using ordinary differential equations, partial differential equations, series solutions to differential equations. Complex analysis applied to engineering problems.

**GENG 796 Directed Project**
3 credits
Those students choosing their research project option will complete a directed research project. The student must submit a project proposal to the department for approval. Upon approval of the topic, the department Chair will appoint a three member committee to oversee the project. The student will perform the literature search, complete the project, and submit a project report that conforms to department thesis guidelines, and pass an oral defense.

**GENG 797 Thesis**
6 credits
Those students choosing the thesis option must select a directed project with a research component. The student must submit a thesis proposal to the department for approval. Upon approval of the topic, the department Chair will appoint a three member committee to oversee the project. The student will perform the literature search, complete the project, submit a thesis report that conforms to department thesis guidelines, and pass an oral defense. Additionally, thesis students are expected to submit a paper on their work suitable for publication.

## Courses of Interest for Embedded Software Option

**GECE 500 Introduction to Embedded Systems**
3 credits*
This course orients students to embedded system concepts and gives different embedded system applications. The course is structured as a series of lectures and training sessions at General Electric Transportation System work site. Topics include but not restricted to the following: Software QSP/QSW, DC locomotive overview, ISO9000 overview, CSE overview, Toll Gate overview, OTC overview, DFSS training, Software Process, Traction System overview, RMD overview, OHV overview, System Integration overview, IFC overview, Formal Technical overview, DC Simulator overview, FTR recording, Simulink training.
*3 credit hours – does not apply toward the degree requirement.

**GECE 506 Personal Software Process**
3 credits
Prerequisite: GENG 585 or equivalent.
The Personal Software Process (PSP) is a process-based method that software engineers use in the development of large-scale projects. It uses quality management principles and the Capability Maturity Model (CMM) framework to demonstrate the benefits of using sound engineering principles in software development and maintenance work. Defect management, design and code reviews, design templates, and process analysis will be used. Here, the students progresses through a sequence of software processes that provide a sound foundation for large scale software development.

**GECE 508 Embedded Software Paradigms**
3 credits
Prerequisites: GENG 585
Course focuses on the design and development of embedded and real-time systems. Embedded software design techniques and considerations. Overview of embedded systems & software design processes. Systems and software quality considerations. Hardware tools and trends.

**GECE 510 Software Engineering Processes**
3 credits
Prerequisite: GENG 585 or equivalent
Fundamental embedded software design techniques and considerations. Fundamental Method Goals of quantity, repeatability, measurability. Design and Analysis Methodologies focusing on object-oriented design and testing. Design processes of waterfall, spiral, and knowledge based. Risk analysis, software project management, including knowledge strategies plus economics and metrics of a software project.

**GECE 511 Embedded Kernel**
3 credits
Real-time embedded kernel development and implementation. Begins with the implementation of a non-preemptive kernel, add features, and transform into a preemptive kernel. Topics include interrupt management, time management, task management, inter-task communication and synchronization, and memory management.

**GECE 515 Software Testing & Quality Assurance**
3 credits
This course is concerned with understanding the role of quality assurance in the software development cycle, and applying these techniques to software products. Course topics include test design methods, test planning, automated test support, quality measurement and quality tracking techniques.

**GECE 539 Real-time System Implementation**
3 credits
This is a project oriented course. It is designed for students to get familiarity and hands-on experiences with the real-time system implementation process using Matlab Real-time Workshop and Real-time Workshop Embedded Coder tools.

**GECE 545 Advanced Digital Design**
2 credits
Advanced topics in top-down digital design and bottom-up verification are introduced. Combinatorial and sequential logic design, circuit aspects of logic devices, families, and interfaces are reviewed. CAD tools using schematic and hardware description language based design entry for simulation, synthesis, post-synthesis analysis and implementation on a programmable target device are exposed. Industry standard integrated design and development environments will be used throughout the course.

**GECE 546 Advanced Digital Design Lab**
1 credit
Laboratory to accompany GECE 545 Advanced Digital Logic. Must be taken concurrently with GECE 545.

**GECE 547 Embedded Systems Design**
3 credits
This is a project oriented course. It is designed to deliver the concepts of microprocessor-based design flow and hardware/software design integration. Discussions include CPU architectures, instruction sets, interrupts, peripheral configurations, software development, real-time operating system, as well as hardware-in-the-loop debugging and testing.

**GECE 549 VHDL**
3 credits
This is an introductory course for the VHDL hardware description language that targets the programmable logic and ASIC design. The usage of the language in representation, simulation, verification and synthesis areas is studied with extensive lab assignments. Essential syntax and semantics of the VHDL language including design entity, architectural bodies, concurrent and sequential statements, processes, data types, packages, configurations, register transfer level design are among the covered topics.

**GECE 550 Hw/Sw Co-Design**
3 credits
Top-down system level embedded design for large-scale systems containing hardware and software components are considered. Development flow shall include a) requirements to design specifications b) hardware and software partitioning c) trade off analysis between self development and reuse for intellectual property and real-time OS d) HDL-based hardware design, simulation and testing, e) OO software design, simulation and verification.

**GECE 551 Rapid Prototyping with FPGA**
3 credits
Field Programmable Gate Arrays (FPGAs) has become an essential part of the digital system design flow for many applications. They provide inexpensive solutions for hardware prototypes and fastest time-to-market. The novelty and programmability also allow design explorations towards optimal architecture. This course will cover the FPGA features and architectures, rapid prototyping aspect of FPGA use, FPGA configuration techniques, hardware simulation and debugging, as well as the modern digital synthesis and hardware analysis skills and tools. Other commercial programmable logic devices (PLD) will also be discussed.

**GENG 580 Requirements Engineering**
3 credits**

**GENG 586 Object-Oriented Modeling**
3 credits**

**Please see course description in the Course of Interest for All Options

## Courses of Primary Interest for Electrical Engineering Option

**GECE 520 Advanced Instrumentation and Measurement**
3 credits
This course emphasizes the use of National Instruments (NI) tools to perform data acquisition, measurement techniques and instrument control. Data acquisition will include analog and digital I/O, signal conditioning and sensors. Measurement techniques will include time-frequency analysis, data filtering, and distortion measurements. Instrument control will include serial port, GPIB communications and instrument drivers.

**GECE 521 VLSI Design**
3 credits
Focuses on the theory, design, implementation, and testing of Very Large Scale Integrated (VLSI) Circuits and associated technologies. Primarily focuses on CMOS technologies and their implementation. Includes a review of CMOS circuits & theory, overview of MOS fabrication technology, circuit characterizations and performance estimation, electrical & physical design of logic gates, clocking strategies, I/O structures, system design and test methods, design synthesis, and advanced topics.

**GECE 527 Intro to Electric Drives**
3 credits
This course uses an integrative approach to allow examination of all subsystems that make up an electric drive system. The approach requires minimum prerequisites in circuit and system and electromagnetic field theory to understand the essentials of the topics covered. The topics covered include electric machines, power-electronics-based converters, understanding mechanical system requirements, feedback controller design, and interaction of drives with the utility grid.

**GECE 530 Sensors and Actuators**
3 credits
This is an introductory course on the subject of control system instrumentation, with an emphasis on sensors, transducer, and actuators. Specifically, this course deals with "instrumentation" a control system through the incorporation of suitable sensors, actuators, and associated interface hardware. The control system architectures are reviewed first prior to detailed discussion of the component interconnection and signal conditioning, and performance specification and analysis. Then the operation principles and characteristics of a series of analog sensors and digital transducers are studied. Finally, the stepper motors as well as continuous-drive actuators (DC and AC motors) are covered.

**GECE 537 Advanced Computer Architecture**
3 credits
Focuses on the design and implementation of the instruction-set architecture. Performance measures, ALU design, data and control path design, evolving into custom high performance processor design using VHDL, pipelining, memory hierarchy design, cache memory and advanced topics.

**GECE 545 Advanced Digital Design**
2 credits*

**GECE 546 Advanced Digital Design Lab**
1 credit*

**GECE 547 Embedded Systems Design**
2 credits*

**GECE 548 Embedded Systems Design Laboratory**
1 credit*

**GECE 549 VHDL**
3 credits*

**GECE 556 RF Circuit Integration**
3 credits
Application of concepts from Circuits, Electronics and Fields to radio frequency design techniques as applied to state-of-the-art electronic devices.

**GECE 565 Power Electronics**
3 credits
This course introduces the basic concepts of various topologies (ac-dc, dc-dc, dc-ac, ac-ac, etc) of power converters. The fundamental principles of switching components are discussed first prior to introduction of the design and application of the converters. Emphases are on the design issues associated with the converters and the computer techniques (PSpice) used for the performance evaluation and analysis. Experiments are part of the course.

**GECE 566 Modeling and Analysis of Electric Drives**
3 credits
This course introduces the issues on modeling and analysis of electrical drives. Basic concepts of electromechanical energy conversion will be presented prior to the detailed modeling of the dynamical aspects of both the DC and AC machines. Dynamic behavior of the machines and their computer simulation will be examined. Numerical schemes for simulation, singular perturbation technique, linearization technique, etc. are parts of the analysis tools. In addition, modeling of switching power conversion will be studied as it pertains to drive application. If time permits, some other practical aspects of drives will be examined, too.

**GECE 572 Digital Signal Processing**
3 credits
This course emphasizes the fundamental principles of signal and systems, sampling theorem, discrete-time Fourier transform, power spectrum, z-transform, discrete Fourier transform (DFT) and the FFT algorithm, digital filter design and implementation.

**GECE 573 Introduction to Neural Networks**
3 credits
Data management, pattern recognition and classification, neural networks models, learning schemes, genetic algorithms, applications of neural networks.

**GECE 574 Artificial Neural Networks**
3 credits
This course will present artificial neural network (ANN) architectures and computational algorithms suited for practical engineering applications. Topics will include an overview of artificial neural networks and neural computing, elementary ANN building blocks and models. Concepts of learning and training rules,

the back-propagation algorithm as well as examples and discussion of several classes of ANN such as feed-forward networks, multilayer networks, recurrent networks, and self-organizing networks will be presented.

**GECE 575 DSP System-level Design & Integration**
3 credits
This is a hands-on laboratory-based course with emphasis on design and integration of digital signal processing (DSP) systems. Industry-standard tools such as NI-LabVIEW, Matlab/Simulink, and TI-DSK processor boards will provide the platform to build and test systems such as analog-to-digital converters (ADC), sampling rate converters, digital FIR and IIR filters, spectrum analyzers. DSP implementation and system integration will be emphasized through laboratory projects such as dual-tone multi-frequency analysis, adaptive noise cancellation, and software-defined radio.
Pre-requisite: GECE 572

**GECE 583 Introduction to Communication Systems**
3 credits
This course emphasizes Fourier Series/ Transform, frequency shifting concepts ideally and in reality. Analog modulation techniques and technology including enhancement techniques (AM, SSB and FM), sampling theory and digital modulation (PAM, PWM, PPM, PCM). Noise considerations in determining best SNR technique. Multiplexing and practical examples included.

**GECE 584 Power System Analysis and Control**
3 credits
Basic principles in power system analysis; models for elements of power system components, the per unit system, Load flow analysis; optimal dispatch of generation; synchronous machine transient analysis; balanced faults; symmetrical Components and unbalanced faults; stability; power system control.

**GECE 585 Wireless System Applications**
3 credits
This course will cover topics in wireless and mobile communications and their application to the design of systems and networks. These topics will include cellular concepts, beam formation, path loss, fading, and multi-path in radio propagation, digital modulation formats, equalization, diversity, coding, and multiple access techniques. Wireless local area networks (WLAN), global system for mobile (GSM), and wideband CDMA (W-CDMA) will be discussed.

**GECE 586 Computer Communication Networks**
3 credits
This course introduces fundamental concepts and theories in data and computer communications and networking. Topics include data transmission techniques and encoding for data communication, networking techniques, circuit and packet switching, and network access protocols.
Prerequisites: Graduate standing or instructor consent

**GECE 587 Wireless Data Communications**
3 credits
This course introduces a comprehensive list of topics in the emerging field of wireless data communications. Focused on upper layer (above the physical layer) protocols and operations for wireless data transmission. Topics include wireless cellular system infrastructures, wireless circuit data, wireless packet data, mobile IP, and packet data in third generation wireless networks. Various existing and soon-to-be available wireless data systems and technologies are also discussed.
Prerequisites: Graduate standing or instructor consent

**GECE 588 Simulation of Communication Systems**
3 credits
Comprehensive course for simulation-based design and analysis of communication systems; Focused on the physical layer in the context of the OSI-layer model of communication systems, topics include modeling of communication systems, performance measures and statistical methods for interpretation of simulation results, simulation techniques and technology, and case studies.
Prerequisites: Graduate standing or instructor consent (desired: GECE 583 or equivalent)

**GECE 590-599 Special Topics in Electrical Engineering**
3 credits
Special courses developed from study interest in all areas of Electrical Engineering and Embedded Software. Brief description of current content to be announced in schedule of classes.

**GECE 671 Design of Electrical Machinery**
3 credits
A design-oriented course which emphasizes realistic characteristics and specifications applicable to AC and DC motors and generators leading to an individual design project.

**GECE 672 Digital Image Processing**
3 credits
Prerequisite: GECE 572
This course presents strategies to process digital image data. Topics covered will include the representation and perception of images, the use of operations in the spatial and spatial-frequency domains to segment, enhance, filter, and restore digital images as well as transformations of images for multi-resolution analysis. Algorithms will be implemented and evaluated in Matlab/Simulink.

**GECE 673 Control of AC Drives**
3 credits
This course introduces the concept of AC drives. Various types of converters and inverters suitable for AC drives and the related control issues are presented and studied. The modeling and dynamical aspects of AC machines will be examined prior to the detailed discussion of the control issues and techniques such as vector control and field orientation, etc.

**GECE 680 Digital Communication**
3 credits
This is a graduate course in the analysis of digital communication systems. Methods to understand and analyze digitally modulated signals are presented. Optimum receiver designs, synchronization issues, and coding strategies for different channel models are developed. Communications over fading, multipath and band-limited channels is studied using Code Division Multiple Access (CDMA) schemes and Spread Spectrum (SS) approaches.

**GECE 681 Optical Devices and Systems**
3 credits
This course is an introduction to electroptics. This includes wave propagation, interaction with both iso and anisotropic materials, modulation techniques, lenses and lens systems and optical sources and detectors. Subsystems are considered initially but typical optical systems and applications are considered.

**GECE 690-699 Special Topics in Electrical Engineering**
3 credits
Special courses developed from study interest in all areas of Electrical Engineering or Embedded Software. Brief description of current content to be announced in schedule of classes. Graduate courses in the 600 series are open to graduate students only.

* Please see course description in the Embedded Software Engineering Option

# Engineering Management

***Director: Mahesh Aggarwal, Ph.D.***

## INTRODUCTION

The graduate program in Engineering Management is designed to provide advanced studies for the graduate engineer who wishes to continue preparation in the profession of engineering manager or project director/leader.

The program provides continuing education in advanced engineering and business/management subjects for the working engineer who acknowledges the need to stay abreast of the rapidly changing technological and business world. Emphasis is placed on the development of the engineer's capacity for independent study and continued professional growth.

## DEGREE OFFERED

The program offers a Master of Science in Engineering Management degree.

## ADMISSION REQUIREMENTS

1. Applicants must have earned a Bachelor's degree in Engineering from an ABET-accredited program or its equivalent, with a GPA of 2.5 or better.
2. Applicants without the appropriate Engineering degree may be admitted and required to take additional course work as determined by the program director.
3. Applicants must submit the following:
   - Completed application
   - Transcripts for all prior college course work
   - Three recommendation letters
   - TOEFL scores if English is not a first language.

## CURRICULUM

The student will be assigned an initial advisor through the academic approval sequence. The advisor and the student will select appropriate courses for the objectives of the student and obtain approval of this curriculum through the academic approval sequence. The candidate must have a 3.0 GPA to continue for the degree.

A total of 36 credits will be required: Students will be required to take four core courses (12 credits) from business, four core courses (12 credits) from engineering, and four courses (12 credits) of electives that will include a maximum of two courses (6 credits) from Business. Students are expected to be able to waive Statistical Analysis, GMBA 525. If not, this course would be an additional requirement.

**Required Courses – Business: Select 4 courses (12 credits)**
Note: prerequisites may apply to some courses

| | |
|---|---|
| GMBA 501 | Financial Accounting |
| GMBA 531 | Management Concepts |
| GMBA 561 | Fundamentals of Financial Management |
| GMBA 571 | Economic Environment of the Firm |
| GMBA 631 | Organizational Behavior, Theory, and Practice |
| GMBA 601 | Management Accounting |
| GMBA 641 | Operations and Supply Chain Management |
| GMBA 651 | Marketing Management |
| GMBA 661 | Financial Management |
| GMBA 671 | Managerial Economics |

**Required Courses – Engineering: Select 4 courses (12 credits)**

| | |
|---|---|
| GENG 621 | Reliability Engineering |
| GENG 622 | Risk Management |
| GENG 623 | Decision Making Under Uncertainty or GME 565– Computer Assisted Engr. |
| GENG 624 | Project Management |

**Elective Courses: Select 4 courses (12 credits) but no more 2 courses** (6 credits) from Business

**Engineering** – All GENG, GCIS, GECE, GENV, and GME courses are acceptable. However, they should be focused towards the student's interests and objectives.

**Business** – All GMBA 700 series electives courses are acceptable provided the appropriate prerequisites are satisfied for each course.

# Mechanical Engineering

***Chairperson: Mahesh Aggarwal, Ph.D***

## INTRODUCTION

The graduate program in Mechanical Engineering is designed to provide advanced studies for the graduate engineer who wishes to continue preparation for effective participation in the professions of mechanical engineering. The program also provides continuing education in advanced subjects for the working engineer who acknowledges the need to stay abreast of the rapidly changing technological world. Emphasis is placed on the development of the engineer's capacity for independent study and continued professional growth.

## DEGREE OFFERED

The program offers a Master of Science in Mechanical Engineering degree.

## ADMISSION REQUIREMENTS

1. Applicants must have earned a Bachelor's degree in Mechanical Engineering from an ABET accredited program or its equivalent with a QPA of 2.5 or better.
2. Applicants without the appropriate Mechanical Engineering degree may be admitted and required to take additional course work as determined by the program director.
3. Applicants must submit the following:
   - Completed application
   - Transcripts for all prior college course work
   - Three recommendation letters
   - TOEFL scores if English is not a first language.

## CURRICULUM

The student will be assigned an initial advisor through the academic approval sequence. The advisor and the student will select appropriate courses for the objectives of the student and obtain approval of this curriculum through the academic approval sequence. Within the first 9 credits, students must take the following course:

GENG 603 Engineering Analysis 1

Note: A student may replace GENG 603 Engineering Analysis 1 with another approved GME or GENG course by passing an exam conducted during the first week of class. The exam time will be announced at the first GENG 603 class.

After the student has completed 12 credits of study, the student will be assessed relative to their preparedness to begin thesis or project work. The candidate must have a 3.0 QPA to continue for the degree. The candidate must then choose one of the three project/thesis plans below for completion of their degree; an advisor will be assigned to guide the candidate for the completion of the degree work.

The advisor (thesis or project) will recommend a program of study and advise the student regarding the thesis/project subject, act as the academic advisor, and determine when to recommend the student for final examination, at which time this recommendation will be transmitted for approval through the academic approval sequence.

**Plan A (Thesis)**
The student will be required to submit a six credit thesis as part of the 30 credits of graduate course work and pass a final oral examination on the thesis material and related subjects. The thesis work must be approved by the academic approval sequence prior to the commencement of the research work. The thesis advisor will direct the student's work and determine when to recommend the manuscript for review by a faculty committee. The review committee will be appointed by the usual academic approval sequence and will consist of three full-time Gannon Mechanical Engineering faculty members familiar with the subject material. In some cases, one committee member may be from outside the Mechanical Engineering Department. The advisor will be the chair of the review committee.

**Plan B (Project)**
The student will be required to complete a design project and to pass a final oral examination covering the student's project and related subject areas. The project will be worth three graduate credits as part of the 30 credits of graduate work. The project must be approved by the usual academic approval sequence prior to the commencement of the project work. The project advisor will direct the student's work and determine when to recommend the manuscript for review by a faculty committee. The review committee will be appointed by the usual academic approval sequence and will consist of three full-time Gannon Mechanical Engineering faculty members familiar with the subject material. In some cases, one committee member may be from outside of the Mechanical Engineering Department. The advisor will be the chair of the review committee.

**Plan C (Project Course)**
The student will be required to complete a three credit course designated as a project course as part of the 30 credits of graduate work. The project course will be approved by the usual academic approval sequence prior to the commencement of the course and must include a significant project for its completion. The course instructor will inform the student of the complete requirements for the project course and will be responsible for seeing that the student satisfies these requirements.

## Professional Track (Work-Study Program)

The objective of the professional track is to present an academic program combined with application training on actual industrial problems to give students a targeted education, complemented by hands-on, real-world development exposure. Students are selected for this track based on academic background, leadership skills, and communications skills. The student is assigned a Gannon professor as a mentor while working at the industrial site. The mentor advises the student on his academic work and guides the student on industrial engineering projects. The projects are carefully chosen to reinforce classroom work and to develop students into outstanding engineers. In addition to the mentorship in technical areas, the professor also mentors the student in leadership skills, work and personal ethics, and communication skills that are needed in the industrial workplace. The student is also assigned an engineering mentor from the industrial sponsor. This track requires that the student work on these projects half-time during the school year and full-time during the summer. The number of students in this track is dependent on availability of industrial sponsorship.

## Mechanical Engineering Curriculum with Professional Track

The curriculum and internship training for Mechanical Engineering with professional track is as follows:

**Fall First Semester**
Engineering Analysis 1
Two Mechanical Engineering Graduate Courses
CPT

**Spring Second Semester**
Engineering Analysis 2
Three Mechanical Engineering Graduate Courses
CPT

**Summer**
Curricular Practical Training

**Fall Third Semester**
Three Mechanical Engineering Graduate Courses
CPT

**Spring Fourth Semester**
Two Mechanical Engineering Graduate Courses
One Free Elective with Advisor's Approval
CPT

## Co-op Track

The objective of the co-op track is to present an academic program combined with application training on actual industrial problems in engineering environments. This is to give students a targeted education on real-world problems. Students may join this program after completing sufficient coursework to be successful

in an industrial environment, and receiving approved industrial sponsorship. International students must meet USCIS eligibility requirements.

Students accepted to the co-op track are assigned a Gannon professor as a mentor, and must take the Graduate Professional Experience (GENG700-series) course each semester they are enrolled in the program.

Students must complete 30 credits of graduate course work in addition to their Graduate Professional Experience courses. Students must maintain a cumulative grade point average of at least 3.0 for the duration of their master's degree program, and fulfill all other requirements for their degree.

# COURSE DESCRIPTIONS

**GENG 588 Modern Control Theory**
3 credits
Linear spaces and operators, mathematical descriptions of systems. Linear dynamical systems and impulse response; matrices. Controllability and observability of linear dynamical systems. Irreducible realizations of rational transfer function matrices. Canonical forms, state feedback and state estimators. Stability of linear systems. Composite systems; linear optimal control and linear distributed systems.

**GENG 589 Digital Control**
3 credits
This course deals with the control of dynamic systems by employing classical and model control tools incorporating a digital computer in the control loop. It provides the background needed for those practicing engineers who have studied the concepts of continuous-time control to enhance their knowledge in the area of digital control system. Topics of discussion are z-transform, digital control system design, filters design, state-space approach to control system design, etc

**GENG 603 Engineering Analysis 1**
3 credits
The theory and application to engineering problems of matrix-vector methods and Matlab software. Transition from discrete to distributed parameter systems with introduction to finite elements and partial differential equations.

**GENG 609 Nonlinear Analysis**
3 credits
Introduction to the understanding of nonlinear characteristics of mechanical and electrical components and systems. Basic analytical, graphical, and numerical methods are presented. Introduction to chaotic dynamics and nonlinear control.

**GENG 621 Reliability Engineering**
3 credits
Reliability modeling, prediction, testing, physics to failure, and reliability design techniques are studied. Hardware and software systems. Identification of weak link for reliability improvement. Quality system reliability using advanced testing methods.

**GENG 622 Risk Management**
3 credits
Introduction to project risks management and engineering ethics for engineering decision making. Integrated models for technical, schedule, and cost risks. Management of cost-risk contributions. Identification and control of critical paths for project schedule. Implementation of integrated risk management with computer simulation methods.

**GENG 623 Decision Making under Uncertainty**
3 credits
Introduction of general techniques for dealing systematically with uncertainty in engineering decision problems. Computer simulation models, sensitivity analysis, and subjective probability assessment for engineering judgment. Probabilistic design criteria, value of information, utility analysis with risk aversion, and trade-off under uncertainty are studied.

**GENG 624 Project Management**
3 credits
The course will cover the skills necessary to manage large and small projects in terms of planning and controlling techniques, coordinating and directing techniques, and negotiating techniques. Roles and responsibilities of the project manager and tools and techniques used in managing projects will be discussed along with preparing project records and reports.

**GENG 685 Advanced Control Systems**
3 credits
This course treats the analysis and design of linear control systems from the point of view of state space representation. Topics include system modeling, coordinate transformation, controllability, observability, output feedback, state feedback, linear quadratic regulators, and linear estimators. Additionally, an introduction to nonlinear control is presented with the topics of feedback linearization and adaptive control. Applications from interdisciplinary current state-of-of-the-art systems will be presented.

**GENG 689 Stability Analysis of Multidimensional Dynamic System**
3 credits
Fundamental concepts of stability for various classes of dynamic systems are examined and discussed. The systems considered include multidimensional lumped-parameter systems that can be described by linear differential equations. The systems under consideration are divided into certain well-defined classes, and various phenomena related to vibrations and stability of these systems are exposed systematically. Although the course

examples are drawn from mechanical systems, the general nature of formulation can be applied to systems of similar nature in other disciplines, such as electrical circuits.

**GENG 700-702 Graduate Professional Experience**
1 credit
Prerequisite: Discipline-specific industrial sponsorship
This course complements regular academic education with hands-on, real-world development exposure. Students are required to be engaged in practical training during the course. International students require Curricular Practical Training (CPT) approval. Topics include issues facing engineering and computing professionals, trends in the fields, job prospects, team and workplace behavior, project leadership as well as reviews of speaking, listening, reading and writing skills.

**GENG 703 Engineering Analysis 2**
3 credits
Solving engineering problems using ordinary differential equations, partial differential equation, series solutions to differential equations. Complex analysis applied to engineering problems.

**GENG 796 Directed Research Project**
3 credits
Those students choosing their research project option will complete a directed research project. The topic will be approved by a three-member board consisting of the candidate's major professor, the department chairperson, and the Director of the Graduate Engineering Program. The student will perform the literature search, complete the project, and submit a final report.

**GENG 797 Thesis**
3-6 credits
Those students choosing the thesis option will have their topic approved by a three-member board consisting of the candidate's major professor, the department chairperson, and the Director of the Graduate Engineering Program. The student will perform the literature search, complete the thesis, and submit a final report. Under this option, students must complete a total of 6 Thesis credits.

**GME 505 Finite Element Method 1**
3 credits
Fundamentals of matrix algebra; basic approach to finite element analysis; definitions and basic concepts; system analysis fundamentals of elasticity; element formation by direct displacement method; element formulation by Galerkin Criterion (weight residuals method); finite element workshop using finite element program, such as ANSYS, for design and analysis of some structures.

**GME 507 Optimization in Engineering**
3 credits
Basic theory, concepts and methods of engineering optimization. Primary techniques from both classical and modern optimizations applied to engineering decision-making.

**GME 510 Thermal Systems Design**
3 credits
This course reviews the fundamentals of thermal systems design and optimization. Basic consideration in thermal systems design will be discussed. General approach to system analysis, modeling, simulation and optimization will be introduced. Various optimization techniques and methods will also be presented and discussed.

**GME 511 Alternative Energy Systems**
3 credits
Various alternative energy systems are introduced, their operation discussed and their performance evaluated.

**GME 524 Turbomachinery Design**
3 credits
Application of general principles of fluid mechanics to fluid machinery design. Design principles of centrifugal and axial compressors, degree of reaction estimates, blade design, state performance calculations, axial flow turbines. Design calculations of blade stress, disc stresses, and thermal stresses.

**GME 525 Advanced Fluid Mechanics**
3 credits
Velocity distributions in laminar and turbulent flow. Equations of state and interphase transports in isothermal systems. Compressible flow. Isentropic flow. Shock and expansion waves. Frictional effects. Flow with heat consideration. Numerical analysis.

**GME 526 Advanced Thermodynamics**
3 credits
Recapitulations of first and second laws of thermodynamics and their application to more generalized engineering systems. Chemical engineering thermodynamics; partial molar properties, chemical potential and its application to multiphase and multispecies systems. Statistical thermodynamics. Introduction to irreversible thermodynamics.

**GME 527 Internal Combustion Engines**
3 credits
This course introduces and reviews the fundamentals of internal combustion engines, including spark-ignition and compression-ignition engines. General engine systems and working cycles are described. Engine thermodynamics, gas exchange and combustion processes, engine fluid flow and heat transfer, and fuel injection systems are analyzed. The course also reviews the formation of engine exhaust emissions and methods for controlling the emissions of the internal combustion engines. Engine design and consideration of the effects of design and operating factors are introduced.

**GME 528 Heat Exchanger Design**
3 credits
Application of general principles of heat transfer in design of heat exchanges. Different types of heat exchangers will be studied in design-oriented projects.

**GME 530 Advanced Strength of Materials**
3 credits
Special topics on the strength and stiffness of members subjected to static loads; beams on elastic foundations; thin plates and shell contact stress; curved flexural members, energy methods; instability-buckling loads; plasticity; ultimate load analysis.

**GME 555 Computer Aided Manufacturing**
3 credits
Introduction of basis concepts of automation in manufacturing with principles of NC systems and computer-managed manufacturing.

**GME 561 Vibrations**
3 credits
Dynamics Systems Analysis-Analogies between various engineering systems, including mechanical (linear and torsional), fluid, electrical and acoustical systems. Study of free vibration. Solution of systems with two or more degrees of freedom. Properties and response of dynamical systems. Methods of solution for analogous and mixed systems.

**GME 563 Machine Dynamics**
3 credits
Introduction to basic machine dynamics. Analysis of forces in translating rotating and reciprocating systems. Flywheel analysis, regulators, balancing, gyroscopic forces in machines.

**GME 564 Thermal Environmental Design**
3 credits
The relevant principles of engineering thermodynamics, heat transfer and fluid mechanics will be reviewed. Refrigeration and cryogenics will be covered. Thermodynamic properties of moist air will be reviewed along with various applications in heating, ventilating and air conditioning. Human thermal comfort and indoor air quality will be covered and various methods of heating and cooling load calculations for buildings will be presented.

**GME 565 Computer Assisted Engineering**
3 credits
Topics include the application of Matlab software to multi component mechanical and thermal/fluid system design, analysis and synthesis, static and transient systems. Mathematical techniques include nonlinear equation solution, nondimensional analysis, lumped vs. distributed models, optimization and design sensitivity analysis, probability and statistics, and Monte Carlo simulation. Examples are taken from industrial mechanical engineering problems of current interest.

**GME 567 Lubrication System Design**
3 credits
Analytical and experimental results in lubrications of journal bearings and utilization of this information in design projects.

**GME 590-599 Special Topics in Engineering**
3 credits
Special courses developed from study interest in all areas of Engineering. Brief description of current content to be announced in schedule of classes.

**GME 605 Finite Element Method 2**
3 credits
Prerequisite: GME 505 or equivalent course/experience
Variational methods of element formulation (virtual work, potential energy, complementary energy, discretion, and hybrid approach); variational principles in global analysis, representation of element behavior functions and geometry (requirements, polynomials, shape functions different elements including higher order elements); finite element programming ideas and simple routings.

**GME 612 Distributed Parameter Systems**
3 credits
Modeling and analysis of bounded engineering systems distributed over space and time. Application of partial differential equation models and transition to infinite dimension representations. Analytical exact and approximate solutions are combined with numerical results. Examples are taken from areas of current interest in the fields of acoustics, mechanics, structural dynamics, heat transfer, fluid flow, kinematic waves, and nano systems.

**GME 615 Acoustics and Noise Control**
3 credits
Introduction to acoustics with a focus on noise control. The course provides the fundamentals of noise radiation, transmission, measurement, and control. Additionally, the course covers the fundamental principles and application of noise control materials and systems. Examples from actual noise control problems will be used throughout the course.

**GME 625 Convection Heat Transfer**
3 credits
Review of equations of change, equations of state, and constitutive and governing equations; forced convection heat transfer in laminar internal flows; forced convection heat transfer in turbulent internal flows; forced convection heat transfer in turbulent external flows; condensation; boiling.

**GME 628: Fundamentals and Applications of Combustion**
3 credits
This course studies the fundamentals of combustion and their applications to combustion systems such as combustion engines. Review of fundamentals of combustion thermochemistry and chemical kinetics, mass transfer and reacting flow, laminar premixed and diffusion flames, droplet burning, turbulent premixed and non-premixed flames, detonations, and formation of combustion emissions. The combustion engines analyzed for combustion and emissions formation and control include general internal combustion and gas turbine engines.

**GME 629 Continuum Mechanics**
3 credits
Study of continuum media. Tensor analysis, kinematics of deformation, elastic response, isotropic and anisotropic elasticity, finite deformations, viscoelasticity.

**GME 630 Computational Fluid Dynamics**
3 credits
This is an introductory course in computational fluid dynamics (CFD). The course reviews the fundamental conservation principles and governing equations of fluid mechanics. Numerical methods and computational techniques and skills required for analyzing and solving the fluid mechanics governing equations are introduced. Application of the methods to practical fluid dynamics problems is presented and discussed. Available CFD application codes are also introduced. In addition, the fundamentals of computational heat transfer are presented.

**GME 635 Structural Dynamics**
3 credits
Dynamics of structures including beams, plates, and mixed systems of beams, plates, and lumped masses/springs. Energy methods. Exact and approximate solutions for system natural frequencies and mode shapes. Effect of damping. Response to applied forces.

**GME 641 Elasticity**
3 credits
Equations of linear elasticity; techniques for solution: Airy's stress function; polar coordinates; numerical methods; thermal stress.

**GME 643 Plasticity**
3 credits
Plasticity as applied to engineering. Stress-strain relation both in elastic and plastic medium. Yielding, deformation energy and creep. Limit analysis and its application in design.

**GME 645 Plates and Shells**
3 credits
Properties, theory, and method of analysis of plates and shells. Problems related to rectangular, circular and annular plates, buckling; energy methods, thin shells, dynamic analysis vibration.

**GME 646 Advanced Machine Design**
3 credits
A design-project based course. This course enhances student's machine design experience. The course demonstrates to the student how knowledge from other engineering disciplines can be integrated in the accomplishment of a design objective. At the same time, the student will get acquainted with design methodology and developing the design strategy.

**GME 648 Modeling and Simulation of Dynamic Systems**
3 credits
This course presents mathematical modeling methods for multi-physics physical systems containing mechanical, electrical, thermal-fluid, actuators, and control components. Included are the application of physical principles, energy approaches, non-dimensional techniques, and discretization of continuous systems. Numerical simulation of linear and nonlinear models will be studied and compared to experimental results.

**GME 650 Robotics**
3 credits
Introduction of basic concepts and robotic systems with principles of kinematics, dynamics control and economics, to familiarize the student with the basics and industrial applications.

**GME 655 Advanced Dynamic Systems**
3 credits
Energy considerations and development of Lagrange's method for multi-element dynamic systems. Applications for deriving system differential equations. Dynamics of electromechanical and electro-hydraulic systems. Examples of current interest will be studied.

**GME 657 Active Suspension Systems**
3 credits
Modeling and analysis of suspension systems for ground vehicles and aircraft. Response to various types of inputs. Applications of control theory. Analysis and design of active and semi-active components and systems.

**GME 661 Advanced Mechanical Vibrations**
3 credits
Advanced topics related to vibration of multi-dimensional and continuous parameter systems are examined and discussed. The course includes vibration analysis of various types of continuous parameter homogeneous and forced systems. It further includes methods of converting continuous parameter systems to discrete multi-dimensional systems. Additionally, concepts of vibration design including active suppression are investigated. Finally, vibration testing methods are discussed.

**GME 670 Mechanics of Composites**
3 credits
An introduction to the mechanics composite materials, specifically fiber-reinforced plastics (FRP). The course will focus on the macroscopic properties of laminated structures formed from FRP, including strength, stiffness, thermal and hygrothermal properties, and theories of failure. The course will present the classical lamination theory, with extensions to the theory as time permits.

**GME 680 Design of Experiments**
3 credits
Review of Visual Basic and MINITAB; application of Monte Carlo software for Six Sigma Design: simple comparative experiments; experiments with single factor; the analysis of variance; randomized blocks, Latin squares, and related designs; factorial design; two and higher level fractional factorial designs.

**GME 690-699 Special Topics in Engineering**
3 credits
Special courses developed from study interest in all areas of Engineering. Brief description of current content to be announced in schedule of classes. Open to graduate students only.

# English

***Director: Penelope Smith, Ph.D.***

## INTRODUCTION

The Department of English offers the Master of Arts degree. Its inception in 1964 makes it the oldest Master's program at Gannon. The program is characterized by its range of offerings and flexibility of requirements.

The Department has five graduate teaching assistantships. Competition for these positions is intense, and applications must be completed by mid-February. Contact the Office of Graduate Admissions or the Director of the Graduate English Program for more information.

## OBJECTIVES

The Graduate Program in English is designed for the professional student of letters seeking preparation for doctoral study in the discipline, for teachers of English who desire increased general competency, and for those in business and industry seeking professional growth or personal enrichment. The program is intended to expand the student's knowledge of linguistic and critical theory, composition and rhetoric, literary history, the development of literary genres, and major and minor writers of all periods. Additionally, the program is designed to refine students' responses to literature and language in use, sharpen their critical judgment, and develop their extended knowledge and expanded abilities into more effective writing, speaking, and teaching.

## ADMISSION REQUIREMENTS

Satisfactory completion of an undergraduate degree in English is the normal prerequisite. However, students who do not meet this norm may be admitted to the program, dependent on their background (e.g. literature and writing courses, job experience, independent study, etc.). The Program Director, based on a conference with the applicant, may determine that some additional coursework is necessary. All students must arrange an interview with the Program Director before registering.

## CURRICULUM

**Master of Arts Program**
Thirty graduate hours are required. Candidates may elect to take all thirty graduate hours within the English department, or they may elect to take six hours of other graduate level courses approved by the Graduate English Program Director. Students are required to take nine graduate hours in English and American literature and nine graduate hours in language studies courses. Of the graduate hours required in English and American literature, three must be in British literature before 1700 (excluding Shakespeare), three

in British literature between 1700 and the present, and three in American literature. Of the graduate hours required in language studies, three must be in theory, three in writing, and three in linguistics. If students have not taken Shakespeare and literary criticism as undergraduates, they must take them as part of their graduate curriculum.
The candidate must take GENGL 796 as part of the required 30 hours and after completion of 27 hours.

## COURSE DESCRIPTIONS

Graduate courses may be taken by select senior undergraduates with the consent of the Chair of the Department of English

**GENGL 501 The Structure of English**
3 credits
A descriptive study of the structure of modern American English. Emphasis is placed on the special characteristics of the English language.

**GENGL 504 Sociolinguistics**
3 credits
An introduction to the general theory and concepts which define the field of sociolinguistics. Students explore the dynamic interaction between language and socio-cultural influences, including the relation of language variation to such social factors as gender, ethnicity, social class, and geographic region.

**GENGL 512 Chaucer**
3 credits
A detailed study of The Canterbury Tales to develop an understanding of the work within its social, philosophical, and literary frames of reference along with a brief look at other major works of the author.

**GENGL 513 Non-Chaucerian English Medieval Literature**
3 credits
An examination of the variety of genres in the Middle English period, both prose and verse, including Arthurian romance, lyrics and mystery plays.

**GENGL 516 Literature and Film**
3 credits
Designed to give students skills in critical anaysis if literary works (fiction and drama) and films adapted from or inspired by them. We'll explore the process involved in adapting a narrative from a print and/or stage medium to the film medium. We'll study works from a variety of genres and from a variety of critical perspectives. Students interestedin pedagogy may also study methods of teaching literature/film parings.

**GENGL 520 Methods and Materials for Teaching ESL**
3 credits
A study of various theories and research in Second Language Acquisition and practice of the various methods and approaches to teaching ESL.

**GENGL 521 Shakespeare: Comedies and Histories**
3 credits
A study of the dramatist's handling of the two forms, with a detailed analysis of major representative works.

**GENGL 522 Shakespeare: Tragedies**
3 credits
A study of the dramatist's handling of the form, with close analysis of all the tragedies.

**GENGL 580 Mythology and Literature**
3 credits
A study of the principal mythologies of the Western world at the root of much of Western literary traditions. The study is based on the principal mythic literature in Greek and Roman cultures; it also includes principal theoretical interpretations of myth.

**GENGL 601 Explorations in Rhetorical Theory**
3 credits
Examination of theories of communication and persuasion. Topics may include the historical evolution of rhetoric as a discipline, methods of rhetorical criticism, material and /or visual rhetoric, rhetoric and gender, cross-cultural rhetorics, and the application of rhetorical principles to teaching or other professions.

**GENGL 602 Creative Writing**
3 credits
A writing workshop in fiction, poetry, and creative non-fiction. Students may compose in the creative genre(s) of their choice, but will critique the submitted works of their peers in all genres. Selected readings in contemporary literature will also provide opportunity for analysis and discussion.

**GENGL 603 Research on Composing**
3 credits
A detailed examination of current theory and research in composition studies with a dual emphasis on applying the results of such studies to teaching at all educational levels and on designing and conducting classroom-centered research.

**GENGL 611 Writing Project Summer Institute**
3-6 credits
An intensive five-week workshop, with emphasis on improving writing skills and methods of using writing in the classroom.

**GENGL 613 A Literacy Framework: Reading, Writing and Talking Across the Curriculum**
3 credits
Designed to help develop teaching competencies through a regular pattern of activities that embody learning and language linkages.

**GENGL 621 The English Renaissance**
3 credits
A study of the important literature of the English Renaissance, including prose and poetical works of More, Sidney, Shakespeare, Lyly, with special stress on Spenser.

**GENGL 623 Tudor and Stuart Drama**
3 credits
A survey of Shakespeare's earlier and later contemporaries in the finest dramatic era England has ever experienced: Marlowe, Jonson, Webster, Beaumont and Fletcher, Ford, and other tragic and comic playwrights are studied.

**GENGL 631 Seventeenth Century English Literature: Donne to Milton**
3 credits
A study of significant figures and movements in English poetry from the beginning of the seventeenth century through the final poems of John Milton; emphasis is on the Metaphysicals, the Cavaliers, and the neo-classical influence of Ben Jonson.

**GENGL 642 Topics in the Eighteenth Century**
3 credits
Example topics include: The Eighteenth Century Marketplace; The Rise of the Gothic; The Trans-Atlantic Eighteenth Century; Fielding and Richardson; Restoration Drama; Literary Coteries of the Eighteenth Century.

**GENGL 651 The British Romantics**
3 credits
A study of the characteristics of Romanticism and why it has been such a significant movement, The course involves reading selected works by writers from the period 1790-1830.

**GENGL 661 Studies in Victorian Literature**
3 credits
A course focused on two or more of the following key issues of the period: Cultural Imperialism, Industrialization, The Woman Question, and Religion and the Rise of Science.

**GENGL 671 The American Renaissance**
3 credits
A study of the most important figures and trends in American literature in the mid-nineteenth century. Emphasis is placed on the works of Whitman, Thoreau, Emerson, Hawthorne, and Melville.

**GENGL 672 The American Realist Movement**
3 credits
A study of the most important trends encompassing the notion of realism in American literature. Emphasis is placed on the work of Crane, Twain, Howells, and James.

**GENGL 675 The American Novel Post WWII**
3 credits
A survey of significant authors and movements in the American novel from the 1940's through the 1990's.

**GENGL 678 Minority Literature**
3 credits
A study of the literature written by and about selected minorities, such as groups distinguished by race, ethnicity, gender and/or sexual orientation. Emphasis is on literary and cultural analyses, including application of relevant critical theories.

**GENGL 681 Literary Criticism: Contemporary Critical Problems**
3 credits
A study of the main trends of contemporary literary criticism. Beginning with the New Criticism, course content at various times might include the approaches of such theories as structuralism, deconstruction, reader response, new historicism, Marxism, or book history. The course explores the intersections of these theories with culture, education, and literary history.

**GENGL 682 Studies in Twentieth Century British and American Poetry**
3 credits
A study of the founding fathers of modern poetry (Hopkins, Yeats, Eliot, Stevens) and contemporary practitioners of the art (Wilbur, Lowell, Sexton, Merwin, Dickey).

**GENGL 683 Joyce and Yeats**
3 credits
A detailed analysis of the work of two dominant figures in modern English literature, James Joyce and William Butler Yeats, focusing on the prose works of James Joyce, primarily Dubliners and A Portrait of the Artist as a Young Man (or alternately, Ulysses), and the poetry and three one-act plays of William Butler Yeats.

**GENGL 685 Major Continental Writers**
3 credits
A selection of major continental writers, with emphasis on the fiction of Voltaire, Flaubert, Balzac, Dostoyevsky, Turgenev, Tolstoy, Kafka, Mann, and Camus.

**GENGL 686 Modern/Contemporary Drama**
3 credits
An examination of the modern dramatists from Ibsen to the present.

**GENGL 690 - 694 Special Topics**
3 credits
An intensive study of the works of one or more authors, a type of literature, an area of criticism, or an area of language studies.

**GENGL 796 Directed Research**
3 credits
In this course, students complete a major written project that involves conducting primary and/or secondary research, or writing original prose or poetry along with a research component. In consultation with the department chairperson, each student will choose a faculty member to chair the project; this person will give the student direction and feedback throughout the project, including selection of two other faculty members to serve on the committee. When the written project is completed, the student will present an oral discussion of the project to his or her committee. Both the written and oral requirements of the project are to be successfully completed within one academic year of registering for GENGL 796.

# Environmental Science and Engineering

***Program Director: Harry R. Diz, Ph.D., P.E.***

The environmental program at Gannon University is a rigorous program which builds on the basic sciences to emphasize the application of science and technology to environmental problem solving in industry and society. The program builds strong analytical skills and a broad understanding of environmental problems.

## Master of Science in Environmental Health and Engineering

The program in Environmental Health and Engineering is diverse and dynamic, focusing on challenges in research as well as site-specific problem solving. The Department of Environmental Science & Engineering draws upon the resources of the School of Business to contribute to this program, making Gannon University a regional leader in environmental quality, environmental health, and environmental management. Students whose career plans are more management and administrative in nature may pursue the Environmental Management option. In all cases, students benefit from Gannon's location in the city of Erie on the shores of Presque Isle Bay and Lake Erie, with access to the Environaut, Gannon's research vessel, and utilizing the University's relationships with various local industries and environmental agencies. Through this program, Gannon University has become the center of environmental research, exploration, education, and protection in the region.

### PROGRAM OBJECTIVES AND LEARNING OUTCOMES

The following Program Educational Objectives have been established.

- Students will acquire the knowledge and skills in environmental quality management, environmental protection, remediation, modeling, and/or natural resource conservation such that they are prepared to begin a career in the field of environmental protection.
- Students will be able to use scientific research methods to define problems, gather relevant information, and analyze research results.
- Students will be able to use state-of-the-art computer applications that assist in managing information and solving problems in the area of environmental science.

**Program Learning Outcomes**

To accomplish these objectives, the department has set forth the following learning outcomes, along with an assessment process to provide feedback for continuous improvement in the program. Graduates of the Environmental Health and Engineering program should demonstrate:

1. Proficiency in the fundamentals of biology, chemistry, and physics as applied to natural and engineered environmental systems;
2. Knowledge of environmental health, science, and engineering fundamentals relevant to the areas of air, water, land, and environmental health;
3. Capability to design and conduct experiments for aqueous systems and to collect and analyze data in the environmental health setting;
4. Understanding of environmental regulations and the roles of public and private organizations in environmental regulatory compliance;
5. Ability to communicate effectively and function as a member on multi-disciplinary teams;
6. Advanced knowledge and competency in at least one of the following specializations: water and wastewater treatment, soil and groundwater pollution, environmental modeling, environmental health and safety, or environmental management.
7. A knowledge of contemporary environmental issues on a local and global scale.

### EMPLOYMENT OUTLOOK

The application of environmental science is felt in essentially every walk of life today, including agriculture, manufacturing, mining, water and wastewater treatment, land reclamation, and recreation. Opportunities for employment include not only government and non-profit agencies, but also environmental consulting firms and private corporations needing professionals to manage their in-house programs.

### ADMISSIONS CRITERIA

Students are expected to have a Bachelor's degree in science or engineering from an accredited college or university, with courses in math (calculus preferred), biology (preferably including ecology and microbiology), chemistry, physics, and earth sciences. If an applicant's undergraduate science and math preparation are not adequate, appropriate undergraduate courses may be required in addition to the graduate program. If the applicant's undergraduate grade point average is less than 3.0 (4 point scale), the Graduate Record Exam (GRE) is required as part of the application package. All international applicants must submit GRE scores to be considered.

# MASTER OF SCIENCE CURRICULUM

A minimum of 36 credits are required for the M.S. degree; number of credits per course are indicated. Each student's program is crafted by the student and advisor to meet the student's individual career needs.

**Core Requirements** for all students except for those in the Management option:

| | | |
|---|---|---|
| GENV 500 | Environmental Research Methods | 3 |
| GENV 536 | Environmental Chemistry | 3 |
| GENV 537 | Environmental Chemistry Lab | 1 |
| GENV 542 | Environmental Toxicology | 3 |
| GENV 544 | Environmental Law & Reg | 3 |
| GENV 643 | Principles of Environmental Science & Engineering | 3 |
| GENV 694 | Thesis | 6-9 |
| | or | |
| GENV 695 | Research Paper or Project | 3 |

Additional electives approved by the program director to satisfy the program requirements of 36 credits.

**Environmental Management**

The role of the environmental manager has evolved rapidly over the past forty years, since the enactment of sweeping environmental legislation of the early 1970s. The creation of the US EPA, and the passage of the Clean Air Act, the Clean Water Act, the Resource Conservation and Recovery Act, the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), better known as "Superfund", and the Toxic Substance Control Act, to name just a few, have created a highly regulated structure in which every business must operate. Each commercial entity must have a sophisticated understanding of its legal, moral, and ethical obligations to bring products and services to the market with minimal environmental harm. While this responsibility has initially been viewed simply as a burden and additional cost of operation, it has more recently been realized that pollution prevention along with resource recovery and/or recycling contributes to higher quality, higher productivity, and reduced costs of operation. Thus, proper environmental stewardship can lead to greater competitiveness and profitability. The need for individuals who understand business and management principles, and who also have a thorough understanding of environmental science and technology has thus grown. These individuals are in short supply, and thus command high salaries.

**Objectives**

- To gain an understanding of current concepts in the science and technology of pollution management and the remediation of contaminated sites, and of the role of pollution prevention and minimization in the manufacturing and service sectors;
- To develop an understanding of the health effects of pollution, and the strategies employed to promote a safe and healthy workplace;
- To develop an understanding of business and management issues and strategies;
- To use scientific methods to define problems, gather relevant information, and analyze research results.

**Requirements for the option in Environmental Management** (36 credits)

**Environmental Science Courses (21 credits):**

| | | |
|---|---|---|
| GENV 643 | Principles of Environmental Science & Engineering | 3 |
| GENV 542 | Environmental Toxicology | 3 |
| GENV 544 | Environmental Law & Regulations | 3 |
| GENV 549 | Industrial Safety or GENV 540 Industrial Health I | 3 |
| GENV 695 | Research Paper or Project | 3 |
| Plus, Environmental Department Electives | | 6 |

**Management Courses (15 credits)**

(see the Business Administration section of the graduate catalog):

| | | |
|---|---|---|
| GMBA 501 | Financial Accounting | 3 |
| GMBA 531 | Management and Marketing Concepts | 3 |
| GMBA 561 | Fundamentals of Financial Management | 3 |
| GMBA 571 | Economic Environment of the Firm | 3 |
| Plus one 3 credit business elective | | 3 |

# COURSE DESCRIPTIONS

(Senior undergraduate students may be admitted to 500-level courses with the consent of the Program Director; unless formally enrolled in the Combined 5 Year BS/MS program, undergraduate students taking 500-level courses get credit only toward their BS degree.)

**GENV 500 Environmental Research Methods**

3 credits

The student will become familiar with the scientific method and the scientific literature, and will be prepared to plan a scientific research study, including a statement of experimental goals, a discussion of the previously published knowledge on the topic, and a presentation of methods. Offered: Spring Semester

**GENV 517 Limnology of the Great Lakes with Lab**

4 credits

Prerequisite: a course in Hydrology is preferred but not required

A study of the physical, chemical and biological aspects of the Great Lakes. Advanced modern limnological concepts will be incorporated into understanding the past, present and future condition of the Lakes. Field and laboratory experiences will include the analysis of Lake Erie water samples for chemical, biological and physical interpretation using standard procedures. Field experiences will include trips on the R/V Environaut, Gannon's research vessel. Offered: Summer

**GENV 520 Environmental Site Assessment**
2 credits
The course covers the background and techniques required of an environmental professional in performing Phase I and Phase II environmental site assessments. These assessments are commonly required when there is a transfer of ownership of commercial or industrial property. Topics include site characterization, fate and transport, and application of the three attainment standards associated with Act II, Pennsylvania Land Recycling Program. Hands-on field experience included in the course activities. Offered: alternates annually with GENV 522

**GENV 522 Wetlands Science and Engineering**
2 credits
Wetlands Science and Engineering is a comprehensive course in wetland identification, function & value assessments, and management. The course will cover the fundamentals of identifying and delineating jurisdictional wetlands utilizing the current methods described in the 1987 US Army Corps of Engineers Manual. Comparative reference will be made to the 1989 EPA Joint Manual. Wetland design and construction methods will be presented as applicable to water quality enhancement, wildlife habitat improvement, storm water management, and riparian environments. Offered: alternates annually with GENV 520

**GENV 535 Water Quality Modeling**
4 credits
Pre/Corequisites: GENV 536 and GENV 643, or permission of the Instructor.
An overview of fundamental processes and models developed to simulate and predict changes in water quality in natural settings. This course will be restricted to freshwater surface waters, particularly streams and rivers, but there will be some discussion of lakes and reservoirs. Students will become familiar with USEPA's BASINS (a GIS software for the presentation and analysis of water quality data) and the models associated with it.

**GENV 536 Environmental Chemistry**
3 credits
Prerequisite: two semesters of undergraduate chemistry
A study of the principles and methods of quantitative chemical analysis. Emphasis is placed upon both classical wet methods and modern instrumental methods of analysis. Course will discuss gas and liquid chromatography, mass spectrometry, and atomic absorption spectroscopy, focusing on analysis of complex environmental samples. Practical techniques and applications are emphasized, but sufficient theory is introduced to provide students with an understanding of the principles involved. Offered: Fall semester

**GENV 537 Environmental Chemistry Lab**
1 credit
Pre/Corequisite: GENV 536
Laboratory to accompany Environmental Chemistry. Lab exercises in applied, environmental aspects of physical, organic, and inorganic chemistry, including instrumental analysis. Offered: Fall semester

**GENV 540 Industrial Health I**
3 credits
Prerequisites: Organic Chemistry.
This course will review the basic principles and knowledge required to recognize, evaluate and control hazardous agents within the workplace environment. The topics to be covered include: an overview of occupational health and safety regulations, workplace exposure limits and standards, air sampling principles and techniques, chemical hazard identification and control, ventilation and biohazards. Offered: Spring semester

**GENV 541 Industrial Health II**
3 credits
Principles and control of the industrial environment as related to protection and health of occupationally employed persons, specifically related to industrial noise, personal protective equipment, and physical design factors (ergonomics). Offered: varies

**GENV 542 Environmental Toxicology**
3 credits
Prerequisites: Organic Chemistry
Principles of toxicology, with emphasis on the fate, distribution and mechanisms of action in humans of chemicals encountered in the work place and environment. Offered: Fall Semester

**GENV 544 Environmental Law and Regulations**
3 credits
The course introduces students to the major concepts of environmental law. Because environmental law is grounded in both federal and state statutes, the course will expose students to major components of statutory law at both levels, and will also explore the federal/state relationship using Pennsylvania as a model. Although a basic understanding of the American legal system and administrative law would be of great benefit, it is not a prerequisite to the course. Offered: Spring semester

**GENV 546 Industrial Hygiene Sampling Techniques**
2 credits
Pre/Co-requisite: GENV 540
Develop an understanding of practices and procedures of environmental/occupational sampling and interpretation of collected data. Emphasis is applied to air sampling techniques and methods, and industrial hygiene sampling. Offered: varies

**GENV 547 Epidemiology**
3 credits
This course will review the basic principles related to the design and implementation of epidemiologic studies. The topics to be covered include: application of epidemiologic studies, study designs, statistical issues, exposure and health outcome measurements, measurement error and data interpretation. Examples from and application to occupational and environmental epidemiology will be emphasized, where appropriate.
Offered: varies

**GENV 548 Aquatic EcoToxicology**
3 credits
Prerequisites: Molecular & Cellular Biology, Organic Chemistry
Topics covered include basic principles that govern the behavior and effects of toxic chemicals in the aquatic environment; determination of aquatic toxicity using bioassays; ecological effects of pollutants; and aquatic ecosystem modeling. Offered: varies

**GENV 549 Industrial Safety**
3 credits
This course will provide students with practical knowledge and tools necessary to identify, evaluate and control safety hazards within the industrial workplace. Topics to be covered will include: OSHA regulations, injury surveillance, system safety analysis, electrical hazards, fire protection, machine hazards and chemical safety. Offered: varies

**GENV 551 Water and Wastewater Treatment Design Engineering**
3 credits
Prerequisites: ENV 493 or GENV 643; Co-requisite: GENV 553
The course covers the fundamental processes and operations commonly used at typical drinking water treatment plants and municipal wastewater treatment plants. The student will learn how to specify the sequence of operations and size the important elements in treatment plant operations. Offered: Fall semester

**GENV 553 Water-Wastewater Treatment Lab**
1 credit
Co/Prerequisite: GENV 551
This course will support GENV 551, Water/Wastewater Treatment Engineering, by providing laboratory experiences which complement the principles and engineering practices presented in the lecture sessions. Topics covered will include those operations typically found at water and wastewater treatment plants, and used by consulting engineers to conduct bench-scale and pilot-scale studies for treatment plants. (3 hours lab). Offered: Fall semester

**GENV 555 Air Pollution Control Engineering**
3 credits
Prerequisites: ENV 493 or GENV 643
This course focuses on the technology and methodologies used to reduce concentration levels of pollutants being released to the atmosphere. The statues, regulations, and permitting protocol will be introduced since they constitute an important requirement for obtaining legal authority to build a facility that will emit pollutants to the atmosphere. Integrated knowledge of fluid mechanics, thermodynamics, chemistry and mathematics will be applied. Topics covered will include nature and dynamic behavior of particulate matters, collection methods and analytical techniques, air pollution control/reduction methods, treatment technologies and air pollution control devices, and control of NOx, SOx, and volatile organic compounds (VOCs). Offered: Alternate years

**GENV 565 Soil and Groundwater Pollution**
3 credits
Prerequisites: ENV 493 or GENV 643
Soil serves as a multifunctional and crucial natural system for the reception, storage, and transport of water and pollutants to aquifer media. In this course, fundamental understanding of physics, geology and hydrogeology, and chemistry, along with engineering principles, will be used to understand the dynamic nature of fluid flow and contaminant fate and transport in porous media. Topics covered include the hydrologic cycle, sources and types of contaminants, remediation technologies, and well hydraulics theory and field examples. Offered: Spring semester

**GENV 574 Environmental Microbiology**
2 credits
Prerequisite: a college course in microbiology; Co-requisite: GENV 578
The course will cover the applied effects of microorganisms on both the environment and human health/activities. The topics to be covered during this course include: biogeochemical cycling; municipal water and wastewater treatment; bioremediation; detection and quantification techniques; and the control of human pathogens. Offered: varies

**GENV 577 Industrial and Hazardous Waste Management**
3 credits
Prerequisites: permission of the Instructor.
The objective of this course is to apply multidisciplinary approaches to managing industrial and hazardous wastes. Topics include familiarization with sources, classification, storage, transportation, various physicochemical and biological remediation technologies, and pertinent federal and state regulations. Knowledge of physicochemical and/or biological characteristics of a waste will be used to design appropriate disposal options. Lectures are supplemented with a field trip to a local industry and written and oral presentation of term-papers that survey integrated remediation technologies. Offered: Alternate years

**GENV 578 Environmental Microbiology Laboratory**
2 credits
Pre/Corequisite: GENV 574
This lab accompanies GENV 574 and includes field and lab work which aid in understanding environmental microbiological principles. Offered: varies

## 600 level courses (for graduate students only)

**GENV 630 Ecological Change**
3 credits
This course relates to changes in the global ecosystem as a result of natural and human-induced change. Topics covered include extinction as a result of habitat destruction and excessive harvesting, ecological impacts of changing land use, and the effects of global climate change. The implications of energy policy and economics on the environment will be studied. Offered: varies

**GENV 643 Principles of Environmental Science and Engineering**
3 credits
Prerequisites: graduate standing.
This course applies the basic principles of physics, chemistry, and biology as tools to understand and describe environmental systems and to solve environmental problems using quantitative methods. The course focuses on intra- and intersystem transport processes and transformation phenomena within and/or among hydrosphere (lakes and streams), lithosphere (soil), atmosphere, and biosphere. Topics covered will include basic concepts and mechanisms of the behavior of natural particles, transport in porous media, mass balance models, reactor models, interfacial mass transfer (gas/liquid), biological principles governing ecosystems, chemical thermodynamics, kinetics of chemical reactions, and redox reactions
Offered: Spring semester

**GENV 645 Human Health Risk Assessment**
3 credits
This course will cover the principles and application of risk assessment to determine the risk of human health effects from environmental hazards. Methods for evaluating potential environmental exposures will be examined coupled with the principles and concepts of toxicology as covered in GENV 542. Specific topics to be covered include the application of various risk assessment paradigms; the EPA risk assessment guidelines; and the use of risk assessment in environmental/occupational standard setting. Offered: varies

**GENV 656 Air Quality Modeling and Measurement**
3 credits
Prerequisites: GENV 643
Air quality modeling and measurement of point, line and area sources. Considerations of micro-meteorological and transport mechanisms in order to assess impact of proposed air pollution sources. Use of the computer simulation models for pollution impact prediction. Use of model calibration and validation procedures with measured ambient air quality levels and stack emissions. Offered: varies

**GENV 680 Graduate Environmental Internship**
1-4 credits

**GENV 692-693 Special Topics**
1-3 credits

**GENV 694 Graduate Thesis**
6-9 credits

**GENV 695 Research Paper or Project**
3 credits

# Nursing

***Director: Kathleen T. Patterson, Ph.D., R.N.***

## INTRODUCTION

Upon completion of program requirements, students are awarded the Master of Science in Nursing (MSN) degree. The program integrates nursing education, research, and clinical practice. Graduates are able to respond to challenges facing nursing and the health care system through advanced clinical practice and scientific inquiry.

The MSN degree is awarded to graduates who complete requirements for a specific advanced practice option in an identified area of nursing practice. Currently, students may select from Family Nurse Practitioner, Nurse Anesthesia, or Nursing Administration.

Registered nurses who graduated with an Associate Degree in Nursing (ADN) or with a Diploma in Nursing from a National League of Nursing (NLN) accredited nursing program and who demonstrate leadership potential are eligible for RN to MSN study. Students in the RN to MSN option complete undergraduate nursing requirements prior to selecting a concentration of study in the graduate nursing program.

## OUTCOMES

At the conclusion of the program of study leading to the degree of Master of Science in Nursing, the graduate:

1. Synthesizes theory and research from nursing, the biopsychosocial sciences, and the humanities in their advanced practice role to care for members of diverse populations.
2. Is able to conduct research, collaborate with other researchers from various disciplines, and implement research findings in practice or educational settings.
3. Is able to assume the advanced practice role of administrator, researcher, or practitioner.
4. Is prepared to assume a leadership role to influence change in health care practice at local, regional, and national levels.
5. Articulates and differentiates the various advanced practice roles within nursing.
6. Has developed an understanding of the importance of maintaining professional development in their advanced practice role.
7. Actively engages in collaborative relationships as an advanced practice nurse with professionals from various disciplines and members of diverse populations to improve health care.
8. Has acquired an educational foundation for doctoral study.

## PART-TIME OPPORTUNITIES IN THE GRADUATE NURSING PROGRAM

Opportunities for part-time study are available to students in two of the three program options. Courses are scheduled three semesters per year (fall, spring, and summer) and are offered in the evening to accommodate students who are working full-time.

NOTE: Course offerings in any graduate nursing option are contingent on sufficient enrollment.

## ADMISSION REQUIREMENTS

Registered nurses who have a Bachelor of Science degree with a major in Nursing from an accredited program are eligible to apply for admission to graduate study. Applicants must:

- Submit an application for admission.
- Provide transcripts of all academic work.
- Complete an introductory statistics course and an undergraduate research course with a grade of at least a B in both courses.
- Submit competitive scores from the Graduate Record Examination (GRE scores are not required for the Nurse Administrator track).
- Provide three letters of recommendation from individuals who can speak to the candidate's academic and professional expertise.
- Give evidence of the fulfillment of legal requirements for the practice of nursing in the United States.
- Interview with an admissions committee for the Nurse Practitioner and Nurse Anesthesia program.

NOTE: Specific MSN program options may require additional admission criteria.

## RESEARCH REQUIREMENT

Each graduate student in nursing is required to conduct a research study or evidence based practice project and submit a formal research report prior to graduation. This requirement includes nine credits of study - three credits of GNURS 650 Research Methods, three credits of GNURS 651 Research Seminar, and three credits of GNURS 721 Thesis/Project Guidance. Students are guided through the process by a doctorally-prepared nursing faculty member. A student may need more than the 3 credits required for Thesis Guidance to complete their thesis. If additional credits are needed, the student will be directed to take GNURS 684 or GNURS 685 Independent Study credits—one credit at a time until thesis is completed.

## THE CURRICULUM PLAN

The graduate nursing program requires students to complete from 42 to 48 credits. Credit requirements are specific to the advanced practice nursing option selected by the student. Regardless of the area of concentration, all students are required to complete six credits of core nursing knowledge courses—three credits of GNURS 525 Theoretical Foundations of Nursing and three credits of GNURS 526 Role Theory and Professional Issues in Nursing.

# Master of Science in Nursing Options

## COURSE OF STUDY FOR FAMILY NURSE PRACTITIONER

The Family Nurse Practitioner option offers students a focus on development and implementation of the nurse practitioner role with families and individuals across the lifespan. Ethical dilemmas and legal issues resulting from the advanced practice role are addressed. Primary care provider and leadership roles in community practice are learned from a theoretical knowledge base in the classroom and a clinical practice base in a variety of settings. Students learn needs assessment approaches for a community-wide system of health care services.

## CURRICULUM REQUIREMENTS

The planned course sequence that follows is for part-time study.

**FIRST YEAR**

**Fall Semester**

| | | |
|---|---|---|
| GNURS 525 | Theoretical Foundations of Nursing | 3 |
| GNURS 587 | Advanced Pathophysiology 1* | 3 |

6 credits

**Spring Semester**

| | | |
|---|---|---|
| GNURS 526 | Role Theory and Professional Issues in Nursing | 3 |
| GNURS 588 | Advanced Pathophysiology 2 * | 3 |

6 credits

**SECOND YEAR**

**Fall Semester**

| | | |
|---|---|---|
| GNURS 650 | Research Methods | 3 |
| GNURS 590 | Advanced Physical Assessment* | 3 |

6 credits

**Spring Semester**

| | | |
|---|---|---|
| GNURS 651 | Research Seminar | 3 |
| GNURS 589 | Pharmacotherapeutics * | 3 |

6 credits

**Summer Session**

| | | |
|---|---|---|
| GNURS 660 | Family Nurse Practitioner Theory 1 * | 3 |
| GNURS 663 | Family Nurse Practitioner Practicum 1 * | 3 |
| GNURS 721 | Thesis Guidance | 1 |

7 credits

**THIRD YEAR**
**Fall Semester**

| | | |
|---|---|---|
| GNURS 661 | Family Nurse Practitioner Theory 2 * | 3 |
| GNURS 664 | Family Nurse Practitioner Practicum 2 * | 4 |
| GNURS 721 | Thesis Guidance | 1 |

8 credits

**Spring Semester**

| | | |
|---|---|---|
| GNURS 662 | Family Nurse Practitioner Theory 3 * | 3 |
| GNURS 665 | Family Nurse Practitioner Practicum 3 * | 5 |
| GNURS 721 | Thesis Guidance | 1 |

9 credits

48 Total Credits

NOTE: * indicates courses required for a Family Nurse Practitioner Certificate.

**Family Nurse Practitioner Certificate**
For students with an earned MSN, a Family Nurse Practitioner Certificate may be earned by taking the 33 didactic and clinical course credits indicated with an asterisk. If the student has not completed a thesis, the research component will be required. Certificate students are admitted on a space-available basis.

## COURSE OF STUDY FOR NURSE ANESTHESIA

The Nurse Anesthesia option is designed to provide the professional nurse with an in-depth concentration in clinical anesthesia and prepare graduates of the program to assume the specialized role of nurse anesthetist. Students have the opportunity to use research, collaborate, and contribute effectively to the health care team's efforts to provide optimal patient care. Upon completion of the program, students will be eligible to take the National Certification Exam of the National Board of Certification & Recertification for Nurse Anesthetists Council on Certification of Nurse Anesthetists. This graduate nursing option is a cooperative program between Gannon University and UPMC-Hamot Medical Center.
Krista Yoder, MSN, CRNA is the co-director of this program.
NOTE: Students must attend full-time in this option.

## ADMISSION REQUIREMENTS

Professional nurses who have a Bachelor of Science degree with a major in Nursing from an accredited program are eligible to apply for admission. NOTE: **The Nurse Anesthesia program of study begins only in January. The application deadline is May 1 of each calendar year.** Applicants seeking admission to the Nurse Anesthesia option must:

- Submit an application for admission—deadline for submission is May 1 for classes beginning the following January.
- Provide transcripts of all academic work.
- Give evidence of the fulfillment of legal requirements for the practice of nursing in the United States.
- Provide evidence of having completed an introductory statistics course and an undergraduate research course with a grade of at least a B in both courses.
- Provide evidence of a cumulative GPA of 3.0 for undergraduate math and science courses.
- Provide evidence of a cumulative GPA of 3.0 for the last 60 hours of undergraduate nursing studies.
- Submit competitive scores from the Graduate Record Examination.
- Provide four letters of recommendation from former professors and employers who are in a position to comment on the applicant's ability to successfully pursue graduate study in the nurse anesthesia option.
- Have at least two years of clinical experience in which critical judgments are made, i.e., critical care, emergency room, etc., prior to the May 1 deadline.
- Be interviewed and selected for admission by the Gannon University Villa Maria School of Nursing and UPMC-Hamot Medical Center School of Anesthesia Admission Committee.

## CURRICULUM REQUIREMENTS

This program of study can only be completed on a full-time basis.

**FIRST YEAR**
**Spring Semester**

| | | |
|---|---|---|
| GNURS 525 | Theoretical Foundations of Nursing | 3 |
| GNURS 561 | Chemistry and Physics of Anesthesia * | 3 |
| GNURS 627 | Physiology for Anesthesia 1 * | 4 |
| GNURS 630 | Advanced Physical Assessment & Foundations of Anesthesia Nursing 1 * | 3 |
| GNURS 625 | Pharmacology for Anesthesia 1 * | 3 |

16 credits

**Summer Session**

| | | |
|---|---|---|
| GNURS 617 | Anesthesia Clinical Practicum 1 * | 0 |
| GNURS 626 | Pharmacology for Anesthesia 2* | 3 |
| GNURS 628 | Physiology for Anesthesia 2 * | 3 |
| GNURS 632 | Advanced Physical Assessment & Foundations of Anesthesia Nursing 2 * | 3 |

9 credits

**Fall Semester**

| | | |
|---|---|---|
| GNURS 618 | Anesthesia Clinical Practicum 2 * | 0 |
| GNURS 629 | Physiology for Anesthesia 3 * | 2 |
| GNURS 650 | Research Methods | 3 |
| GNURS 725 | Advanced Anesthesia Nursing 1 * | 3 |

8 credits

**SECOND YEAR**
**Spring Semester**

| | | |
|---|---|---|
| GNURS 526 | Role Theory and Professional Issues in Nursing | 3 |
| GNURS 619 | Anesthesia Clinical Practicum 3 * | 0 |
| GNURS 651 | Research Seminar | 3 |
| GNURS 726 | Advanced Anesthesia Nursing 2 * | 3 |

9 credits

**Summer Session**

| | | |
|---|---|---|
| GNURS 717 | Anesthesia Clinical Practicum 4 * | 0 |
| GNURS 721 | Thesis Guidance | 1 |

1 credit

**Fall Semester**

| | | |
|---|---|---|
| GNURS 718 | Anesthesia Clinical Practicum 5 * | 0 |
| GNURS 731 | Integrated Role Seminar * | 3 |
| GNURS 721 | Thesis Guidance | 1 |

4 credits

**THIRD YEAR**
**Spring Semester**

| | | |
|---|---|---|
| GNURS 719 | Anesthesia Clinical Practicum 6 * | 0 |
| GNURS 721 | Thesis Guidance | 1 |

1 credit

48 Total Credits
NOTE: * indicates courses required for a Nurse Anesthesia Certificate.

The Nurse Anesthesia program and Certificate options are accredited by the Council on Accreditation of Nurse Anesthesia Educational Programs (COA).

## NURSE ANESTHESIA CERTIFICATE

For students with an earned MSN, a Nurse Anesthesia Certificate may be earned by taking the didactic and clinical courses indicated with an asterisk. If the student has not previously completed a thesis, the research component will be required. Certificate students must meet all admission eligibility requirements and are admitted on a space-available basis only.

NOTE: Gannon RN to MSN students may be admitted into the Nurse Anesthesia option after completing all undergraduate requirements and fulfilling all admission requirements for the Nurse Anesthesia option. Availability of RN to MSN placement in this program option is limited.

## COURSE OF STUDY FOR NURSING ADMINISTRATION

Specialization in Nursing Administration focuses on the responsibilities the nurse executive must assume in order to administer resources for the provision of nursing care delivery. Emphasis is placed on the analysis and synthesis of advanced concepts from both nursing and business—as well as the systematic investigation of the concepts underlying nursing and leadership roles in changing environments and complex health care organizations. The curriculum provides up-to-date orientation of today's health care environment and explores the implications of that environment for health care organizations, individual nursing departments, and patient populations. The program of study prepares nurse executives to work effectively in leadership roles within today's highly specialized and extremely complex health care practice arena.

## CURRICULUM REQUIREMENTS

The planned course sequence that follows is for full-time study, but part-time study is available.

**FIRST YEAR**
**Fall Semester**

| | | |
|---|---|---|
| GMBA XXX | Business Administration Course* | 3 |
| GNURS 510 | Financial Dimensions of Health Care | 3 |
| GNURS 525 | Theoretical Foundations of Nursing | 3 |

9 credits

NOTE: * Graduate-level Business Administration course is required. Specific course taken to be determined with advisor.

**Spring Semester**

| | | |
|---|---|---|
| GNURS 526 | Role Theory and Professional Issues in Nursing | 3 |
| GNURS 675 | Nursing Administration Theory 1 | 3 |
| GNURS 677 | Nursing Administration Practicum 1 | 3 |

9 credits

**Summer Session**

| | | |
|---|---|---|
| ** Elective | | 3 |

3 credits

NOTE: * Students are to identify a course within the University that will help them develop expertise in a specific area. Elective credits can be from the School of Nursing, but may also be taken from other Graduate Programs within the University.

**SECOND YEAR**
**Fall Semester**

| | | |
|---|---|---|
| GNURS 676 | Nursing Administration Theory 2 | 3 |
| GNURS 678 | Nursing Administration Practicum 2 | 3 |
| GNURS 650 | Research Methods | 3 |

9 credits

**Spring Semester**

| | | |
|---|---|---|
| GNURS 651 | Research Seminar | 3 |
| GNURS 512 | Legal/Ethical Concerns in Health Care | 3 |
| GNURS 513 | Organizational Analysis of Health Care Administration | 3 |

9 credits

**Summer Session**

| | | |
|---|---|---|
| GNURS 721 | Thesis Guidance | 1 |

1 credit

**THIRD YEAR**
**Fall Semester**

| | | |
|---|---|---|
| GNURS 721 | Thesis Guidance | 1 |

1 credit

**Spring Semester**
GNURS 721 Thesis Guidance 1
1 credit

Total Credits 42

# COURSE DESCRIPTIONS

**GNURS 510 Financial Dimensions of Health Care**
3 credits
Prerequisites: Graduate standing or permission of the program director.
This course is open to all graduate students.
This course examines the financial implications of health care. Content provides an overview of health care business practices—including accounting, finance, marketing, health policy, and reimbursement. This course prepares advanced practice nurse managers and administrators to operate effectively in the fiscally responsible environment required in the current health care practice arena.

**GNURS 512 Legal/Ethical Concerns in Health Care**
3 credits
Prerequisites: Graduate standing or permission of the program director.
Health care practitioners—including nurses—are facing increased legal, moral, and ethical dilemmas in daily professional practice. This course provides a systematic examination of the legal basis for professional practice and examines the practical application of the principles of law and ethics to health care situations.

**GNURS 513 Organizational Analysis of Health Care Administration**
3 credits
Prerequisites: Graduate standing or permission of the program director.
This course provides a systematic examination of a specific conceptual model of organizational management that is applicable to any organization in which health care administrators function. This model was identified for examination because it fosters analytic thinking, is applicable to any organization, and facilitates integration of knowledge from many disciplines.

**GNURS 515 Native American Peoples: State of the Nation's Health**
3 credits
Elective: Graduate standing or permission of the program director.
This course is open to all graduate students.
This course provides an opportunity to explore the state of Native American health. Students explore historical, legal, socioeconomic, and cultural factors that impact the current status of Native Americans. Students also explore their own attitudes and beliefs regarding the Native American culture. Students are guided to an understanding of these concepts through exposure to Native American art, music, and literature—as well as through interactions with Native Americans. The issue of sovereignty and Native healing practices are key themes presented across course content.

**GNURS 525 Theoretical Foundations of Nursing**
3 credits
NOTE: This is a Core course.
Prerequisites: Graduate standing or permission of the program director.
This course provides an overview of nursing theories and models. Course work provides the student an opportunity to examine the development of concepts applicable to nursing, as well as the explication and utilization of concepts nursing theories. Emphasis is on theory construction and the role that theory plays in providing the scientific basis for the practice of nursing. Offered fall and spring semesters.

**GNURS 526 Role Theory and Professional Issues in Nursing**
3 credits
Core course.
Prerequisite or Corequisite: GNURS 525 or permission of the program director.
This course deals with the examination of theories underlying the construction and definition of roles in society, with emphasis on the acquisition and meaning of advanced practice nursing roles. Professional issues and advanced practice roles are examined for their interrelatedness within the health care system. Emphasis is on role development, leadership, and research, and how these provide the basis for planned change within the health care system and the nursing profession. Offered spring semester.

**GNURS 535 Fundamentals of Forensic Nursing**
3 credits
Elective: Graduate standing or permission of the program director.
NOTE: This course is open to all graduate students.
This course provides introductory knowledge and nursing strategies to better meet the needs of individuals affected by forensic-related health care situations. The ultimate goal is to improve patient outcomes. Course content explores the history and development of forensic nursing as a scientific subspecialty of nursing, the forensic nursing process, and application of the forensic nursing role. Forensic topics covered include sexual assault management; death investigation; child death review; abuse and neglect recognition and investigation; emergency department procedures; violence and victimology; and injury identification and interpretation. The recognition, collection, preservation, and documentation of forensic evidence is presented in depth. How forensic nursing interfaces with the law and legal issues are addressed.

**GNURS 543 Palliative Care**
3 credits
Elective: Graduate standing or permission of the program director.
NOTE: This course is open to all graduate students.
This course provides an examination of the theory of palliative care in the United States, focusing on the complexities of caring for terminally ill and dying patients and their families. The course is designed for students from a variety of disciplines. Aspects of the interdisciplinary team in providing a comprehensive approach to palliative care are emphasized. The physical, psychosocial, cultural and spiritual needs of patients and families at life's end, as well as ethical and legal issues concerning end-of-life care are explored.

**GNURS 561 Chemistry and Physics of Anesthesia**
3 credits
Prerequisite: Graduate standing in the Nurse Anesthesia option.
Corequisites: GNURS 627 & GNURS 630
This course investigates the basic principles of chemistry and physics as they relate to the clinical practice of anesthesia. Course content includes mechanics, fluids, gases, electricity, electronics, and instruments as they relate to the practice of anesthesia.

**GNURS 583 Special Topics in Nursing**
1 to 3 credits
The designation of a course as a "Special Topic" enables faculty in the School of Nursing to offer seminars, courses, or workshops in a specialized area of nursing. Requests for special topic courses can be initiated by graduate nursing students to complete program requirements.

**GNURS 587 Advanced Pathophysiology 1**
**GNURS 588 Advanced Pathophysiology 2**
3 credits each
Prerequisite: Graduate standing or permission of the program director. NOTE: GNURS 587 is prerequisite to GNURS 588.
This two-course series is designed to provide didactic learning experiences that enable students to incorporate advanced knowledge specific to normal aging processes, physiology, and pathology of all major body systems into their advanced practice nursing role across the lifespan.

**GNURS 589 Pharmacotherapeutics**
3 credits
Prerequisite: GNURS 587 or permission of the program director.
This course provides an in-depth analysis of the principles of pharmacology for registered nurses in an advanced practice role. Course content identifies the clinical judgment necessary for identifying the appropriate drug, dose, route, frequency, duration of treatment and nursing interventions necessary when presented with patients experiencing particular symptoms or disease states. In this decision-making process, patient factors—such as age, renal function, hepatic function, concurrent disease states, and current medications—as well as pharmacologic factors—such as pharmacokinetics, efficacy, and toxicity—are identified.

**GNURS 590 Advanced Physical Assessment**
3 credits
Prerequisite: Graduate standing or permission of the program director.
This course expands nursing physical assessment skills to the level of advanced practice. Skills addressed include taking a health history, and physical, psychological, cognitive, and social assessments. Physical assessment skills span all age groups, but the focus in this course is on the adult. Advanced inspection, auscultation, percussion, and palpation skills are taught and practiced. Emphasis is on the application of knowledge specific to human anatomy, physiology, and pathophysiology to physical assessment.

**GNURS 617 Anesthesia Clinical Practicum 1**
0 credits
Prerequisite: GNURS 630 and graduate standing in the Nurse Anesthesia option.
The clinical Nurse Anesthesia curriculum is designed to allow the nurse anesthetist student integrate didactic learning into the clinical practice of anesthesia. Clinical Practicum 1 provides the foundation for clinical practice. Basic anesthesia skills are learned and practiced during an appropriate orientation to clinical practice that precedes this initial clinical experience.

**GNURS 618 Anesthesia Clinical Practicum 2**
0 credits
Prerequisite: GNURS 617 and graduate standing in the Nurse Anesthesia option.
Clinical Practicum 2 builds on the basic skills learned and practiced in Clinical Practicum 1. It provides the nurse anesthetist student the opportunity to improve their basic anesthesia skills. Clinical Practicum 2 builds on the student's basic anesthesia knowledge and comprehension. The student demonstrates the use of didactic knowledge learned in the classroom and skills learned in the clinical setting to meet the perioperative needs of patients.

**GNURS 619 Anesthesia Clinical Practicum 3**
0 credits
Prerequisite: GNURS 618 and graduate standing in the Nurse Anesthesia option.
Clinical Practicum 3 builds on the advanced skills learned in Clinical Practicum 2. It provides the nurse anesthetist student the opportunity to improve their basic anesthesia skills, and to demonstrate advanced skills. Clinical Practicum 3 builds on the student's anesthesia knowledge and comprehension. The student demonstrates the use of didactic knowledge learned in the classroom and skills learned in the clinical setting to meet the perioperative needs of a variety of patients. Students begin to take a more active role in the decision-making process specific to the anesthesia needs of their patients.

**GNURS 625 Pharmacology for Anesthesia 1**
3 credits
Prerequisite: GNURS 561 and graduate standing in the Nurse Anesthesia option.
This course is the first in a two-course series presenting requisite knowledge for the effective clinical practice of anesthesia. It provides in-depth knowledge specific to anesthesia pharmacology to nurse anesthetist students. Course content includes the pharmacokinetics and pharmacodynamics of anesthetic agents, muscle relaxants, and local agents. Emphasis is on knowledge specific to the uptake and distribution of anesthetics, as well as the metabolism, excretion, and elimination of anesthetic drugs.

**GNURS 626 Pharmacology for Anesthesia 2**
3 credits
Prerequisite: GNURS 625 and graduate standing in the Nurse Anesthesia option.
This course is the second in a two-course series for nurse anesthetist students presenting requisite knowledge for the effective clinical practice of anesthesia. Course content includes the pharmacokinetics and pharmacodynamics of the accessory drugs used in anesthesia practice. Emphasis is on drugs affecting the autonomic system, the central nervous system, and the cardiovascular system.

**GNURS 627 Physiology for Anesthesia 1**
4 credits
Prerequisite: Graduate standing in the Nurse Anesthesia option.
Corequisites: GNURS 561 & GNURS 630
This course is the first in a three-course series for nurse anesthetist students. Course content presents a detailed, systematic investigation of the anatomy, physiology, and pathophysiology of the cardiopulmonary system. Emphasis is on the integration of this knowledge into planning, implementation, and evaluation of care strategies for patients requiring anesthesia.

**GNURS 628 Physiology for Anesthesia 2**
3 credits
Prerequisite: GNURS 627 and graduate standing in the Nurse Anesthesia option.
This course is the second in a three-course series for nurse anesthetist students. Course content presents a detailed, systematic investigation of the anatomy, physiology, and pathophysiology of the endocrine and renal systems, including fluid, electrolyte, and acid-base physiology. Emphasis is on the integration of this knowledge into planning, implementation, and evaluation of care strategies for patients requiring anesthesia.

**GNURS 629 Physiology for Anesthesia 3**
2 credits
Prerequisite: GNURS 628 and graduate standing in the Nurse Anesthesia option.
This course is the third in a three-course series for nurse anesthetist students. Course content presents a detailed, systematic investigation of the anatomy, physiology, and pathophysiology of the neuromuscular system. Emphasis is on the integration of this knowledge into planning, implementation, and evaluation of care strategies for patients requiring anesthesia.

**GNURS 630 Advanced Physical Assessment & Foundations of Anesthesia Nursing 1**
3 credits
Prerequisite: Graduate standing in the Nurse Anesthesia option.
Corequisites: GNURS 561 & GNURS 627
This course is the first in a two-course series. It provides nurse anesthesia students with an introduction to the art and science of anesthesia. Course content identifies basic concepts of anesthesia and introduces the student to techniques and procedures specific to the practice of anesthesia. Reinforcement of didactic principles is accomplished by practice sessions in a structured laboratory setting.

**GNURS 632 Advanced Physical Assessment & Foundations of Anesthesia Nursing 2**
3 credits
Prerequisite: GNURS 630 and graduate standing in the Nurse Anesthesia option.
This course is the second in a two-course series for nurse anesthesia students. Course content includes progressive, guided instruction in the clinical anesthesia management of patients undergoing obstetrical, pediatric, orthopedic, and urologic surgery. Inpatient, outpatient, and trauma settings are included. Legal aspects of the practice of anesthesia are addressed. Reinforcement of didactic principles continues.

**GNURS 650 Research Methods**
3 credits
Prerequisite: GNURS 525 or permission of the program director.
This course involves the systematic examination of the research process and the various quantitative and qualitative methods available to researchers—including nurse researchers. Focus is on the methods and processes of systematic investigation, including critical analysis of studies, and analysis of the dynamic relationships among the various design, implementation, and evaluation components of research. This course provides graduate nursing students with the fundamental knowledge necessary to design and conduct a research study. Offered fall semester.

**GNURS 651 Research Seminar**
3 credits
Prerequisites: GNURS 650 or permission of the program director.
This seminar provides peer and faculty support to students developing their graduate research proposals. The major emphasis includes refining an area of research, identifying a researchable question, exploring the literature, critiquing literature relevant to the research area, determining the appropriate method to answer the question under investigation, and identifying a thesis chairperson. The majority of seminar sessions are devoted to student presentations of their research plans with peer and faculty feedback to strengthen the proposal. Offered spring semester.

**GNURS 660 Family Nurse Practitioner Theory 1**
3 credits
Prerequisites: GNURS 587, GNURS 588, GNURS 589, GNURS 590 and graduate standing in the Family Nurse Practitioner option.
Corequisite: GNURS 663
This course presents theoretical knowledge and skills necessary for the nurse practitioner student to develop effective strategies to analyze, manage, and prevent episodic problems common to a specific female population—women from adolescence through post-menopause. The focus is on providing care to women who live in rural areas.

**GNURS 661 Family Nurse Practitioner Theory 2**
3 credits
Prerequisites: GNURS 660, GNURS 663 and graduate standing in the Family Nurse Practitioner option.
Corequisite: GNURS 664
This course presents theoretical knowledge and skills necessary for the nurse practitioner student to develop nursing competency in rural pediatric primary care practice. Course content identifies strategies and interventions to assist individuals and families who are coping with health problems affecting an age-specific population—infants through adolescents. The focus is on providing care to infants, children, adolescents, and families who live in rural areas. Emphasis is on providing health promotion and disease prevention nursing strategies to meet the health needs of this patient population.

**GNURS 662 Family Nurse Practitioner Theory 3**
3 credits
Prerequisites: GNURS 661, GNURS 664 and graduate standing in the Family Nurse Practitioner option.
Corequisite: GNURS 665
This course focuses on being a Family Nurse Practitioner in rural settings—settings that meet the health care needs of an adult and aging population. This focus includes health promotion, episodic illness care, stable chronic illness care, and awareness of dealing with emergency situations that can present at rural health care sites. Ethical dilemmas and legal issues resulting from expectations of nurses in this advanced practice role will be addressed. Leadership roles in community practice will be discussed from a theoretical knowledge base. Content will be presented specific to conducting a needs assessment in rural communities to ensure organization of health services that provide for stabilization and continuity of health care.

**GNURS 663 Family Nurse Practitioner Practicum 1**
3 credits
Corequisite: GNURS 660 and graduate standing in the Family Nurse Practitioner option.
This practicum focuses on the clinical application of theoretical knowledge and skills in the development of nurse practitioner strategies for health promotion and management of problems common to women and their families. The focus is on providing care to women and families who live in rural communities.

**GNURS 664 Family Nurse Practitioner Practicum 2**
4 credits
Corequisite: GNURS 661 and graduate standing in the Family Nurse Practitioner option.
This practicum focuses on the clinical application of theoretical knowledge and skills in the development of nurse practitioner strategies for health promotion and management of problems common to pediatric and adolescent populations. The focus is on providing care to pediatric and adolescent populations in rural communities.

**GNURS 665 Family Nurse Practitioner Practicum 3**
5 credits
Corequisite: GNURS 662
This practicum focuses on synthesis and evaluation of nurse practitioner clinical experiences. The development and implementation of the role of family nurse practitioner in providing for the health care needs of individuals and families in rural communities is evaluated. Emphasis is on the ability of the student to integrate theoretical and clinical components in an ambulatory care setting within a rural, community-wide system.

**GNURS 675 Nursing Administration Theory 1**
**GNURS 676 Nursing Administration Theory 2**
3 credits each
Prerequisites: GNURS 510, GNURS 512, GNURS 513, GNURS 525, and GNURS 650 or permission of the program director.
These two courses provide knowledge specific to being effective in nursing administration. Course content focuses on the management process—including planning, organizing, staffing, directing, and controlling. The process is viewed as a series of actions or operations leading toward a goal. The first course looks at a beginning-level management position. The second course explores the role of a nurse executive.

**GNURS 677 Nursing Administration Practicum 1**
**GNURS 678 Nursing Administration Practicum 2**
3 credits each
Prerequisites: GNURS 675 &, GNURS 676 or permission of the program director.
Each of these clinical practicum experiences provide the nursing administration student an opportunity to develop in their advanced practice role in an appropriate agency with selected preceptors. Practicum experiences are individualized to meet student needs. With input from the faculty facilitator, the student self-identifies all components of the experience—including setting, outcomes, and specific strategies to meet outcomes.

**GNURS 684 or GNURS 685 Independent Study**
1 to 3 credits
This course is designed to provide graduate students with learning experiences that enable them to independently explore a specific area of nursing. Exploration can focus on issues related to education,

administration, practice, legislation, or scientific inquiry. With input from the faculty facilitator, the student self-identifies all components of the experience—including outcomes and specific strategies to meet outcomes.

**GNURS 717 Anesthesia Clinical Practicum 4**
0 credits
Prerequisite: GNURS 619 and graduate standing in the Nurse Anesthesia option.
Clinical Practicum 4 builds on the advanced skills learned in Clinical Practicum 3. The nurse anesthesia student will be given the opportunity to experience more difficult cases and apply new learning. The student will be required to demonstrate higher levels of application and comprehension in clinical practice.

**GNURS 718 Anesthesia Clinical Practicum 5**
0 credits
Prerequisite: GNURS 717 and graduate standing in the Nurse Anesthesia option.
Clinical Practicum 5 builds on the advanced skills learned in Clinical Practicum 4. It provides the nurse anesthetist student the opportunity to be more independent in meeting the anesthesia needs of their patients.

**GNURS 719 Anesthesia Clinical Practicum 6**
0 credits
Prerequisite: GNURS 718 and graduate standing in the Nurse Anesthesia option.
Clinical Practicum 6 builds on the advanced skills learned across the anesthesia curriculum. Nurse anesthesia students are now expected to be as independent as possible in the practice of anesthesia.

**GNURS 721 Thesis Guidance**
1 to 3 credits
NOTE: A total of 3 credits required.
Prerequisites: GNURS 650, GNURS 651 and graduate standing, or permission of the program director.
This course is designed to provide graduate nursing students individualized guidance as they complete the research requirement of their program of study. The focus is on enabling the student to effectively use the research process in systematic inquiry aimed at discovery. The student may use either quantitative or qualitative methods in answering identified researchable questions within their optional course of study. Offered each fall and spring semester, and each summer session.

**GNURS 725 Advanced Anesthesia Nursing 1**
3 credits
Prerequisites: GNURS 632 and graduate standing in the Nurse Anesthesia option.
This course provides content specific to the application of didactic information to clinical situations. Nurse anesthesia students are introduced to anesthesia specialties in a seminar format. Specialties include: pediatric, cardiovascular, otolaryngolic, and anesthesia for uncommon disease.

**GNURS 726 Advanced Anesthesia Nursing 2**
3 credits
Prerequisites: GNURS 725 and graduate standing in the Nurse Anesthesia option.
This course provides detailed instruction specific to the art and science of regional anesthesia and pain management. Reinforcement of didactic principles will be gained throughout the course by video, computer, and mannequin simulation.

**GNURS 731 Integrated Role Seminar**
3 credits
Prerequisite: Graduate standing in the Nurse Anesthesia option.
This course introduces the nurse anesthetist student to areas of professional responsibility. A wide range of topics are discussed. This course is designed to assist the student in analysis and evaluation of their advanced practice role. Offered in the fall semester.

# DOCTOR OF NURSING PRACTICE (DNP)

*Director: Kathleen T. Patterson, Ph.D., RN*

## INTRODUCTION

Upon completion of the program requirements, students are awarded the Doctor of Nursing Practice (DNP) degree. To comply with required educational changes, as outlined by the *American Association of Colleges of Nursing* (AACN) and the *Council on Accreditation of Nurse Anesthesia Programs* (COA) the Villa Maria School of Nursing is offering the addition of courses that will meet identified core content and core competencies outlined by the AACN specific to the practice doctorate.

It will initially be offered as a "bridge program" or Master's add-on from the MSN to the DNP that is 26 credits in length. It can be completed in three full-time semesters or four to six part-time semesters. It will be offered to advanced practice RNs who hold active certification in their respective field. Future plans include the offering of a BSN to DNP program.

Graduates will be prepared as leaders in their practice area. Course content will direct the DNP student at Gannon University to prepare, deliver and evaluate an evidence-based practice project in the clinical arena. This project will be an immersion experience and will not be a research dissertation. Students may use their previous MSN level thesis work as a pilot study or starting point to develop the project.

## OUTCOMES

At the conclusion of the course of study leading to the Doctor of Nursing Practice at Gannon University, the graduate will:

- be prepared as advanced practice nurses who are culturally sensitive, competent and safe practitioners and who deliver care and act as advocates for individuals, aggregates, and communities of varying diversity and socioeconomic levels;
- effectively use technology, large aggregate data bases, and information systems to identify, use, and create therapeutic nursing interventions that promote health and prevent disease;
- identify, analyze, and create evidence-based solutions to individual practice and organizational health care dilemmas;
- synthesize and utilize ethical, legal, political, and advocacy methodologies to positively impact health care practice and health care delivery systems;
- promote collaborative and multidisciplinary delivery of health care as members of teams and organizations across the health care practice arena;
- provide quality nursing leadership and serve as mentors to other nurses, from novice nurses to nurses in advanced practice roles.

## PART-TIME OPPORTUNITIES IN THE DOCTORAL PROGRAM

Although the full-time course of study can be completed in three semesters, students may choose to take the courses on a part-time schedule over four to five semesters. Students must complete the course of study within three years part-time.

NOTE: Course offerings in any graduate program nursing option are contingent on sufficient enrollment.

## ADMISSION REQUIREMENTS

Advanced practice registered nurses who hold a Master of Science in Nursing (MSN) and are certified as a Nurse Practitioner, Nurse Midwife or a Nurse Anesthetist are eligible to apply for admission to the Doctor of Nursing Practice program of study. Applicants with a Clinical Nurse Specialist who are currently certified will be considered. Applicants must:

- Submit an application for admission with the Gannon University Graduate Admissions office by January 15 for the following Fall. Applicants will:
  - Provide official transcripts of all previous academic work
  - Have a 3.5 out of 4.0 overall GPA in their Master's work
  - Submit three letters of recommendation; one from an academic professional (faculty who knows the student's ability to do independent academic work), one from an employer, and one from a professional who can address the candidate's advanced practice ability
- Submit a portfolio (either e-attach or hard copy) to the nursing admissions committee by January 15 to include:
  - A professional resume
  - A copy of a current license and advanced practice license
  - Evidence of active certification and current CEUs
  - Course description of a Graduate level statistics course (if completed)
  - A synopsis or evidence of a thesis or evidence-based practice project completed at the Master's level
  - an essay (limited to 500 words) about the direction or intent of A capstone project of study
- Present the portfolio at an interview with graduate faculty. Final decisions regarding admission will be made by April 15.

## RESEARCH REQUIREMENT

Applicants must present evidence of a research thesis or evidence-based project based on research to be considered for admission to the DNP program. If not completed at the MSN level, students will be required to complete the research core at Gannon University to include GNURS 650 Nursing Research (3 cr), GNURS 651 Research Seminar (3 cr), GNURS 721 Thesis Guidance (3 cr). This will increase the credit program from 26 to 35 credits post-masters.

## THE CURRICULUM PLAN

A three-credit graduate level statistics course must be completed as a pre-requisite to the program at Gannon (GEDU 600) or transferred in prior to beginning the courses of study. A course description should be presented in the portfolio and must include the content covered in GEDU 600.

**Full-time Program of Study**

| | | |
|---|---|---|
| Pre-requisite Graduate Statistics (GEDU 600 level and content) | | 3 |

**Fall Semester (Semester #1)**

| | | |
|---|---|---|
| DNURS 801 | Evidence-Based Practice/Theory | 3 |
| DNURS 802 | Transcultural Influences on Health Care * | 3 |
| DNURS 803 | Leadership and Health Policy * | 3 |

**Spring Semester (Semester #2)**

| | | |
|---|---|---|
| DNURS 804 | Scientific Underpinnings of Advanced Practice Nursing (online) | 3 |
| DNURS 805 | Epidemiology and the Role of the Clinical Nurse Doctorate | 3 |
| DNURS 806 | Health Care Informatics | 3 |

**Summer Session (Semester #3)**

| | | |
|---|---|---|
| DNURS 807 | Evidence-Based Practice/Specialty Practice Capstone* | 5 |

* 224 + 40 + 40= 304 hours of clinical practice minimum

**all post-BSN and Post-MSN clinical certification hours will be evaluated for a total of 1000 post-BSN clinical hours

**Suggested Part-time Program of Study**

| | | |
|---|---|---|
| Pre-requisite Graduate Statistics (GEDU 600 level and content) | | 3 |

**Fall Semester**

| | | |
|---|---|---|
| DNURS 801 | Evidence-Based Practice/Theory | 3 |
| DNURS 802 | Transcultural Influences on Health Care (40 hours clinical) | 3 |

**Spring Semester**

| | | |
|---|---|---|
| DNURS 804 | Scientific Underpinnings Of APN (online) | 3 |
| DNURS 805 | Epidemiology and the Role of the Clinical Nurse Doctorate | 3 |

**Summer Session**

| | | |
|---|---|---|
| DNURS 806 | Health Care Informatics | 3 |
| DNURS 807 | Evidence Based Practice Capstone | 2 |

**Fall Semester**

| | | |
|---|---|---|
| DNURS 803 | Leadership & Health Policy (40 hour project) | 3 |
| DNURS 807 | Evidence Based Practice/ Capstone (with Summer practice hours= 224)** | 3 |

## COURSE DESCRIPTIONS

**GEDU 600 BA Graduate Statistics (pre-requisite)**
3 credits
This course is a survey of the elements of probability theory and methods of statistical inference which are useful for decision making. Correlation, regression, and significance testing are also covered. This course is an introduction to the fundamentals of applied statistics. Throughout the course you will be using a hand-calculator and statistical software to generate exploratory, univariate, bivariate, and basic multivariate analyses. The main emphasis in applied statistics is practical application of statistical methods. Critical evaluation of each application is an important element of this process.

**DNURS 801 Evidence- Based Practice/Theory**
3 credits
Emphasis is on the impact of the advanced practice nurse's use of evidence on the delivery of health care and in the measurement of outcomes. Methods to improve practice, identify and test interventions and care delivery models, and evaluate health care outcomes will be explored. Content provides a synthesis of concepts across the program of study. Students will choose a population question and an evidence-based practice model that will drive a change project throughout the program of study that will culminate in their capstone semester.

**DNURS 802 Transcultural Influences on Health Care**
3 credits
This course emphasizes the impact of culture, belief systems, and societal norms on the delivery of health care for diverse populations. Diversity is studied in relation to roles, expectations and social organization. Emphasized are the tools necessary to acquire the knowledge and skills to demonstrate culturally aware communication and cultural assessment which will identify strategies for enhancing health outcomes of ill and well patients, families and communities. Transcultural nursing concepts, theories and models will be applied to the analysis of health disparities and health care trends and issues across the lifespan.

**DNURS 803 Leadership and Health Policy**
3 credits
The emphasis of this course is the impact of leadership on organizational, professional, and governmental policies in nursing practice. It includes an overview of how health care changes affect the structure and cost of care in the United States at the local, state, and national levels. Leadership is fundamental to DNP practice. This course will prepare students to analyze and develop practice processes and outcomes that improve quality outcomes, patient safety and their implications. Teams and interprofessional collaboration will be examined to effect quality outcomes. Students will synthesize the impact of budget and finance on strategic planning and influence health policy makers to evaluate and improve health care delivery systems at a local, state or national level.

**DNURS 804 Scientific Underpinnings of Advanced Practice Nursing**
3 credits
Advanced practice nurses will explore the evolution and application of knowledge in nursing. This course will emphasize the acquisition of knowledge, the theoretical underpinnings of nursing and the transference of knowledge to the practice of nursing. To affect changes in nursing and health care of the individual, family and community, the joining of theory and practice are explored within the context of other scientific disciplines and clinical nursing practice.

**DNURS 805 Epidemiology and the Role of the Advanced Practice Nurse**
3 credits
Prerequisite: DNURS 801
This course emphasizes the distribution and determinants of health-related states and events in populations, and the application of findings to the control of health problems. Identifying health care needs and trends based on epidemiological data in a specific population will be used to examine ways to ensure that health care needs are being met—and improved. Clinical doctorate nursing students will be given the knowledge necessary to identify—and effectively use—epidemiologic database systems and trends in health care data.

**DNURS 806 Health Care Informatics**
3 credits
This course emphasizes the role that information technology has as a support of patient-centered care—from individual to population-focused care. Topics covered include: electronic medical records [EMRs]; patient safety systems, tele-health modalities, from remote monitoring in hospital settings—such as intensive care units [ICUs]—to remote monitoring in patient homes; and web-based patient and professional education opportunities. Clinical doctorate nursing students will select, design, use, and evaluate a health information modality at the system level. Students will identify ethical issues in information management and the use of technology used to evaluate and research evidence-based issues.

**DNURS 807 Evidence – Based Practice/Specialty Practicum Capstone**
2-5 credits
Prerequisites: DNURS 801, 802, 803, 805, 806
This clinical practicum requires the student to be precepted by a DNP prepared practitioner/adjunct faculty in a practice specialty area of their choice for a total of 224 hours over the course of the 14 week semester. Concepts across the program of study, from all didactic and clinical experiences, will culminate in an evidence-based change project. Practice settings can be varied, and can include clinical, governmental, or educational settings. Students will disseminate their project in a poster presentation in the clinical and the educational arena.

**DNURS 810 Special Topics**
1-6 credits
The designation of a course as a "Special Topic" enables faculty in the Villa Maria School of Nursing to offer seminars, courses or additional clinical experiences. Requests for special topic courses can be initiated by DNP students or faculty to complete program requirements. The syllabus and course objectives will be negotiated between student and faculty on an individual basis to meet student needs.

# Occupational Therapy

*Interim Program Director: David LeVan, DHSc.,OTR/L*

## INTRODUCTION

The Occupational Therapy Program offers opportunities for in-depth study of, and clinical experiences with, clients of all ages who have limited capacity to perform to their expectations in their everyday lives or are at risk of developing a limiting condition. The goal of occupational therapy is to assist individuals to achieve their maximum level of independent living and quality of life through remediation of, adaptation to, or prevention of physical, cognitive, perceptual or mental health functional limitations. Occupational therapy utilizes the consultative process in addition to direct intervention and works with populations and systems as well as individuals.

## MISSION

The Occupational Therapy program engages students in the teaching/learning process to enable them to demonstrate excellence in the entry-level therapeutic intervention process. This process is grounded in the application of occupational science and the use of clinical reasoning and creative problem solving. The program is designed to foster life-long learners who are able to adapt to an ever-changing health care environment, to contribute to the knowledge base of the profession, and to provide leadership within the profession and society.

The program relies heavily upon a strong foundation in liberal studies and sciences and a value-based systems approach. A holistic, collaborative approach to intervention within environmental and temporal contexts includes application of principles of diversity within an international community.

## GOALS OF THE PROGRAM

The goals of the Occupational Therapy program reflect the missions of the university, college, and program. In essence, these are to educate self-directed students who, upon graduation, will become quality professionals, contribute to the body of knowledge of the profession and provide leadership for the profession and society. This will be accomplished through incorporation of the liberal studies component of the student's bachelor's degree into graduate, professional education in Occupational Therapy. Accordingly, the goals of the program are to:

- Develop quality entry-level occupational therapists whose practice is guided by occupational science and clinical reasoning;
- Create life-long learners who will contribute to the body of knowledge of the profession;
- Foster student attitudes and professional behaviors consistent with the missions of the university, college and program;
- Assist the student to develop the skills necessary to provide leadership roles in the profession and society;
- Provide students with the skills and problem-solving abilities to adapt and respond proactively to a changing health care system and society;
- Provide professional resources, services, leadership and scholarship to the profession and community;
- Foster an academic community in which its members participate actively in the development of self and society.

## PROGRAMS OF STUDY

The post-baccalaureate program of study begins in the summer semester of the entering year with three required and foundational OT courses done in an online distance education format, with the possibility of one required on-campus day. Full-time, on-campus graduate course work starts in the fall semester and continues for 3 years, with the summer between the first and second years off. The summer and fall semesters of the third year are spent in full-time clinical internships, followed by a capstone semester in the spring. (See the Curriculum below.)

Upon completion of the program a Master of Science degree is awarded and graduates are eligible to sit for the national certification examination administered by the National Board of Certification in Occupational Therapy (NBCOT; www.nbcot.org). Individuals with certain types of criminal records (felonies) may be barred from practicing occupational therapy at the national or state level. Individuals with criminal records should contact NBCOT (http://www.nbcot.org) and the occupational therapy licensing board of the state where they would like to practice prior to applying for admission to any OT program. Both of these organizations will do early evaluations of the criminal record as a means of determining if the student would be allowed to practice occupational therapy.

### Clinical Experiences (Fieldwork I and Fieldwork II)

Fieldwork I: Earlier clinical experiences, which include 40 hour weekly or weeklong experiences in the clinic, are provided locally or within a reasonable proximity to the student's permanent residence. Each of three Fieldwork I experiences are a component of professional level course requirements for Psychosocial OT , Pediatric OT, and Physical Disability OT courses in the curriculum.

Fieldwork II: Clinical placements for the two 12-week full-time, clinical field work experiences are available throughout the United States, although most are located in Pennsylvania, New York and Ohio.

### Thesis Requirements

Students are guided in their selection of a thesis topic and in the successful completion of the thesis experience. Students participate in a small group, original research project with a faculty mentor, which culminates in a publishable paper and multiple presentations of their thesis.

## ADMISSION REQUIREMENTS

The program is designed as a full-time course of study, although part-time study may be designed with the student in special circumstances and with the Program Chair's approval.

Students in the final year of completion of a bachelor's degree are accepted into the program with a minimum 3.0 out of a 4.0 scale grade point average in college courses. GRE's are not required. Transfer credit for prerequisite courses will be completed on an individual basis but all transfer courses must fall at a "C" or higher level. Students may be accepted into the program contingent upon satisfactory completion of prerequisites at another university or may be accepted directly into the OT program if completing prerequisites at Gannon.

The following prerequisites must be completed before formal matriculation into the OT program:

- Intro to Psychology
- Psychopathology or Abnormal Psychology
- Intro to Sociology or a course in diversity
- Anatomy & Physiology I & II with lab (total of 8 credits)
- Developmental psychology or equivalent
- Physics (one semester survey or two semester full sequence)
- Statistics

***Additional requirements for all students**

- Prior to matriculation in the program, students must complete their bachelor's degree and a minimum of 40 hours of volunteer experience in an OT setting; two different sites are preferred. Documentation must be submitted from the clinical volunteer site. Students will also collect information for a student journal during their volunteer work.
- Deadline for applications is January 15; applications received after this deadline will be reviewed if space is available in the program
- Interested students must complete the "Student Self-Report Transcript Evaluation" in accordance with the OT program and Graduate Admissions office.

## FINANCIAL AID

The program confers scholarships in the final two semesters of the program. Awards are based upon academic performance, professional behaviors, and leadership/career potential. Graduate and teaching assistant positions may be available in the final two semesters of the program. Graduate students at Gannon may also apply as Resident Advisors in the undergraduate dorms to defray college expenses.

## ACCREDITATION

The Occupational Therapy Program is accredited by the Accreditation Council for Occupational Therapy Education (ACOTE). Its graduates are therefore eligible to sit for the national certification examination for the occupational therapist administered by the National Board for Certification in Occupational Therapy. After successful completion of this exam, the individual will be an Occupational Therapist, Registered (OTR). Most states require licensure in order to practice; however, state licenses are usually based on the results of the certification examination. For further information on accreditation, the address and telephone number for ACOTE are 4720 Montgomery Lane, Suite 200, Bethesda, MD 20814-3449; (301) 652-2682.

## CURRICULUM

**OCCUPATIONAL THERAPY POST BS/BA SEQUENCE**

**First Year Summer**

| | | |
|---|---|---|
| GOCCT 501 | Foundations of OT | 3 |
| GOCCT 513 | Occup Science & Analysis | 3 |
| GOCCT 651 | Theoretical Foundations of OT | 3 |
| Total 9 | | |

**First Year Fall**

| | | |
|---|---|---|
| GOCCT 505 | Clinical Neuroscience | 4 |
| GOCCT 509 | OT Psychosocial I | 4 |
| GOCCT 541 | Analysis of Human Movement | 4 |
| GOCCT 586 | OT Medical Sciences | 3 |
| Total 15 | | |

**First Year Spring**

| | | |
|---|---|---|
| GOCCT 508 | Neurorehab Techniques | 4 |
| GOCCT 510 | OT Interven: Psychosocial II | 5 |
| GOCCT 550 | The Research Process or | 5 |
| GOCCT 552 | Qualitative Research | 3 |
| GOCCT 526 | Structure and Function of the Neuromusculoskeletal and Knowledge: Laboratory | 1 |
| Total 15/13 | (depending on Research course) | |

**Second Year Fall**

| | | |
|---|---|---|
| GOCCT 515 | OT Intervention: Physical Disabilities I | 4 |
| GOCCT 521 | OT Intervention: Pediatrics & Dev Disabilities I | 5 |
| GOCCT 530 | Community Based Intervention | 3 |
| GOCCT 650 | Research Seminar | 3 |
| Total 15 | | |

**Second Year Spring**

| | | |
|---|---|---|
| GOCCT 516 | OT Intervention: Physical Disabilities II | 5 |
| GOCCT 522 | OT Intervention: Pediatrics & Dev Disabilities II | 4 |
| GOCCT 630 | OT Intervention: Gerontology | 3 |
| GOCCT 640 | Clinical Reasoning Seminar I | 3 |
| GOCCT 750 | Thesis I | 1 |
| Total 16 | | |

**Third Year Summer/Fall**

| | |
|---|---|
| GOCCT 660 Field Work Experience II (A) | 8 |
| GOCCT 661 Field Work Experience II (B) | 8 |
| Total 16 | |

**Third Year Spring**

| | |
|---|---|
| GOCCT 620 Entrepreneur Mgmt Practice in OT | 3 |
| GOCCT 710 Emerging Models of Practice | 3 |
| GOCCT 725 Advanced Intervention: Theory & Techniques | 3 |
| GOCCT 730 Professional Issues Seminar | 3 |
| GOCCT 751 Thesis II | 3 |
| Total 15 | |

**Total Credits 101 (or 99 depending on Research course)**

## COURSE DESCRIPTIONS

**GOCCT 501 Foundations of Occupational Therapy**
3 credits
Development of Occupational Therapy as a profession; concepts of occupational role acquisition and role dysfunction; use of human occupation as therapeutic intervention; exploration of domains of practice of OT; scopes of practice of health professionals; health and wellness; health care delivery systems; disability; professional behavior. Development of philosophy and theory in occupational therapy; examination of the conceptual models which have shaped occupational therapy since its inception, analysis of current theories, models and frames of reference which shape practice. In-depth analysis of the concepts underlying occupational behavior, occupational science and clinical reasoning.

**GOCCT 505 Clinical Neuroscience**
4 credits
Prerequisite: GOCCT 526 or Permission of Instructor
An in-depth study of the structure and function of the central nervous system relative to human behavior. Peripheral structures involved in sensorimotor function will be included. Clinical conditions and case studies, including their influence on occupational performance components and areas, will be utilized.

**GOCCT 508 Neurorehabilitation Techniques**
4 credits
Prerequisite: GOCCT 505
Analysis of various theoretical approaches to the treatment of central nervous system dysfunction throughout the life span. Topics will include neurodevelopmental, sensorimotor, kinesiological, and sensory integrative approaches to motor dysfunction. Laboratory will provide guided experiences in techniques, application to human occupations, clinical reasoning, case analysis and selected clinical experiences. Current research regarding the efficacy of the various theoretical approaches will be explored.

**GOCCT 509/510 Occupational Therapy Intervention: Psychosocial Dysfunction I & II**
4/5 credits
Prerequisites: GOCCT 509 for 510
An integrated theory and practice course examining Occupational Therapy models for psychosocial treatment approaches based on the current research body of knowledge. Development of interpersonal skills, group leadership skills, and therapeutic use of self. Areas explored will include techniques for prevention, understanding group process dynamics, remediation of role dysfunction within various cultures. The courses are composed of three sections; lecture, laboratory exercises, and a clinical fieldwork experience.

**GOCCT 513 Occupational Science & Analysis**
3 credits
Analysis of occupation as a life organizer. Development of observational skills, problem solving approaches, the teaching-learning process, therapeutic use of self, and activity analysis. Laboratory will provide experience in and analysis of selected tasks of work, self-care and play/leisure. Lab Fee.

**GOCCT 515/516 Occupational Therapy Intervention: Physical Disabilities I & II**
4/5 credits
Prerequisites: GOCCT 508, 510, 586. Prerequisite for GOCCT 516 is GOCCT 515.
Analysis and adaptation of the human and non-human environments is response to role dysfunction; architectural barriers, orthotics, prosthetics, wheelchair prescription and management, adaptive equipment and assistive technology. Specific adult physical disabilities including orthopedic; neurological and general medical conditions; prevention, assessment, and treatment intervention; psychosocial aspects of physical dysfunction; and application of clinical reasoning through case studies included. Level I fieldwork in an adult Physical Disabilities setting is included. Sessions will consist of lecture and lab hours weekly. One credit is assigned to the fieldwork experience in GOCCT 516. Lab Fee.

**GOCCT 521/522 Occupational Therapy Intervention: Pediatrics and Development Disabilities I and II**
5/4 credits
Prerequisite: GOCCT 508; Corequisite: GOCCT 515 for GOCCT 521; Prerequisite to GOCCT 522 is GOCCT 521
Atypical development resulting in problems in role performance in children is emphasized. Role acquisition, competence, adaptation, and dysfunction from birth through adolescence in the areas of sensory, motor, perceptual, cognitive, and play will be addressed. Providing OT in a variety of settings and models, including educational, early intervention, and medical rehab is included. Analyzing appropriate use of specific assessment and treatment techniques from a range of theoretical frames of reference with guided practice through laboratory experiences along with clinical reasoning through case studies will be included. Use of assistive technology, adaptive seating, Level I fieldwork in a pediatric setting. Lab Fee.

**GOCCT 526 Structure and Function of the Neuromusculoskeletal and Knowledge: Laboratory**
1 credit
The purpose of this course is to provide students with laboratory skills necessary for the understanding of the neuro-musculo-skeletal system sufficient to prepare them for progression to courses in the Occupational Therapy Program. The laboratory portion of the course will focus on functional anatomy of the musculo-skeletal system. It will concentrate on having the student identify the function of the bones, joints, and muscles, within the context of volitional movement.

**GOCCT 530 Community-Based Intervention**
3 credits
Prerequisite: GOCCT 510; Corequisite: GOCCT 515, 521
Therapeutic intervention with concentration on community-based practice and populations; special emphasis on the needs of the elderly; health/wellness programs; community centers; homeless populations; and special considerations in home health.

**GOCCT 541 Analysis of Human Movement**
4 credits
Prerequisite: GOCCT 501 or 526
Analysis of motor, sensory and motor learning components of human movement and their applications in activities of work, self-care and play/leisure. Influence on neurological, biomechanical, human and non-human environments on human performance. Laboratory will provide experience in analysis of activity and selected clinical assessment tools.

**GOCCT 550 The Research Process**
5 credits
Using a comprehensive approach, this course is designed to stimulate student interest in the research process, theory development, and translations of findings to practice in health sciences. Students learn the components, principles and methods of scientific research to become discerning consumers of research.

**GOCCT 552 Qualitative Research**
3 credits
Prerequisite: Permission of Instructor
Using a comprehensive approach, this course is designed to stimulate student interest in the qualitative research process, theory development, and translations of findings to practice in health sciences. Students learn the components, principles, and methods of scientific qualitative research to become discerning consumers of research.

**GOCCT 561 Theoretical Foundations of Occupational Therapy**
3 credits
Development of philosophy and theory in occupational therapy; examination of the conceptual models which have shaped occupational therapy since its inception, analysis of current theories, models and frames of reference which shape practice. In-depth analysis of the concepts underlying occupational behavior, occupational science and clinical reasoning.

**GOCCT 586 Occupational Therapy Medical Sciences**
3 credits
Signs, symptoms, medical management and pharmacological management of general medical, neurological, orthopedic and psychiatric conditions relevant to occupational therapy intervention.

**GOCCT 590 Special Topics**
1-3 credits
Prerequisite: Permission of Instructor
A course designed to provide in-depth study of a specific topic; objectives are determined on a course by course basis relative to the expertise of the faculty, needs of the students or relevance to a changing professional environment.

**GOCCT 599 Independent Study**
1-3 credits, Fall, Spring, Summer
An independent study whose objectives are determined collaboratively between student and instructor; designed to enrich a student's depth of study in a specific area.

**GOCCT 620 Entrepreneurial Management Practices in Occupational Therapy**
3 credits
Supervision and management theory and techniques with research review and application; role delineation; COTA and OTR collaborative intervention; quality assurance; program development; financial management; management methods in current healthcare systems and alternative work settings including funding resources; and developing independent small businesses in alternative settings.

**GOCCT 630 Intervention Techniques for Gerontology**
3 credits
Prerequisites: GOCCT 510, GOCCT 515
This course will explore various evidence-based strategies for improving health and functional independence of older adults. Students will be introduced to the various age related changes that occur in the cardiovascular, pulmonary, musculoskeletal, neuromuscular, and information processing systems. Course content will be delivered primarily through lecture, discussions, and article reviews. Case studies and interactive clinical activities will allow students the opportunity to design and implement an occupational therapy screening, evaluation, plan of care, and treatment for individuals with a variety of diagnoses commonly encountered in the aging populations.

**GOCCT 640 Clinical Reasoning Seminar**
3 credits
Prerequisite: GOCCT 510, 515, 521
Analysis of research of therapeutic intervention as an interpretative process. Application of procedural, interactive, conditional and

narrative reasoning to therapeutic intervention through selected case analysis across disabilities and the life span.

**GOCCT 650 Research Seminar**
3 credits
Prerequisite: GOCCT 550 or GOCCT 552
This course involves the systematic writing of the research proposal and application of the research process and methodologies as they apply to the field of occupational therapy. Focus is on the methods of research design, with critical analysis of its components including collection, analysis, and interpretation of data. Synthesizing the relationships of the problem, methodology, hypothesis, and data analysis will be pivotal in the course. This course will culminate in the production of an approved proposal, which will be the basis of the student's completed thesis.

**GOCCT 660/661 Fieldwork Experience I & II**
8/8 credits
Prerequisite: Satisfactory completion of all prior course requirements, permission of faculty
This course involves six months full-time clinical experience in two different occupational therapy settings and supervised practice of therapeutic assessment and intervention techniques. Students will gain experience in a wide variety of clinical conditions and age ranges.

**GOCCT 710 Emerging Models of Practice**
3 credits
This course will examine emerging models of practice in the field. These will vary, based upon current Occupational Therapy theory, practice and service delivery models. In-depth exploration and understanding of current healthcare policies; social, demographic, and political issues driving the healthcare system; influences in delivery of services in OT. Informatics will be utilized as primary sources. Participants will examine new methods and settings in which to provide OT intervention and apply these in a local agency or organization. Participants will also evaluate the effectiveness of these services and modify them as needed.

**GOCCT 725 Advanced Intervention: Theory and Techniques**
3 credits
Prerequisite: GOCCT 660, GOCCT 661
Emphasis is on advanced therapeutic intervention techniques and theories across age ranges. Analysis and adaptation of the human and non-human environments in response to role dysfunction; advanced modalities, refined handling techniques, advanced hand treatment, assistive technology application, and complementary and alternative therapies. Review of current research in all areas of practice. Clinical reasoning processes are facilitated through the use of case studies.

**GOCCT 730 Professional Issues Seminar**
3 credits
Prerequisite or Corequisite: GOCCT 661
Critical analysis of current professional issues will be examined in this course. Topics will include, but not be limited to: healthcare delivery systems, professional boundaries, regulatory agencies, specialization, validation of theory; analysis of current social, political, cultural and economic change; continuing professional development; contributions to the profession and society.

**GOCCT 750/751 Thesis I and II**
1/3 credits
Prerequisite: GOCCT 650, approval of the thesis director
This sequence builds on GOCCT 650 by further developing and complementing the group research proposal. Discussion leading to systematic investigation of a research problem including gathering and analyzing the data, synthesizing and discussing the information collected, and summarizing the conclusions.

# Organizational Learning and Leadership

***Director: Gail F. Latta, Ph.D.***

## INTRODUCTION

The Doctor of Philosophy in Organizational Learning and Leadership is an interdisciplinary program devoted to theory and research in the areas of leadership and organizational studies. As such, the program prepares students to identify, analyze, and affect myriad issues underlying organizational processes and the dynamics of leadership. Program participants are provided with the conceptual and analytic means necessary to work effectively in a diverse range of social organizations spanning the corporate, non-profit, entrepreneurial, education, higher education, health care, religious and civic communities.

The Ph.D. is an academically rigorous program designed to accommodate the schedules of full-time working professionals. Courses are held on nights and weekends, with students progressing as a cohort through a prescribed sequence of courses that includes summer instruction. The program utilizes a combination of classroom seminar, a minimum number of hybrid courses, and the possibility of independent study to integrate intellectual content with students' professional experiences and individual aspirations. Students and faculty share responsibility for providing contributions that enhance the quality of the learning environment for everyone.

Curricular requirements for the Organizational Learning and Leadership Program includes three components: 1) Multidisciplinary Theory and Research Core, 2) Individualized Foundations and 3) Doctoral Dissertation. The Multidisciplinary Theory and Research Core (42 credits) consists of coursework covering theory, research and practice pertaining to leadership and organizational studies supported by a sequence of courses devoted to social research methods and statistics. The Individualized Foundations (18 credits) component is a combination of transfer credits, elective courses and/or independent study germane to leadership, learning, and social organizations that is tailored to a student's professional orientation and aspirations. The Doctoral Dissertation (6 credits) consists of a supervised research project carried out under a faculty advisor after completing core degree requirements. .

Course work contained in the Multidisciplinary Theory and Research Core is typically completed over a three year period of continuous enrollment, taking two courses in each of the Fall and Spring semesters and either one or two courses during the summer (see typical course sequence outlined below). Core courses must be completed before commencing Doctoral Dissertation credits. Courses satisfying the Individualized Foundations may be completed prior to, or concurrent with, other required coursework, as outlined in each student's Individualized Curriculam Plan. A student's Individualized Curriculum Plan (ICP) is developed within the first year of admission, in consultation with the Program Director, to provide a roadmap for completing the OLL degree program tailored to a student's professional aspirations and personal circumstances. The ICP provides a basis for ongoing communication about a student's evolving professional identity, personal circumstances, and progress toward achieving aspirational goals. Modifications to the ICP may be made as necessary throughout a student's course of study in consultation with the Program Director.

## DEGREE OFFERED

The Organizational Learning and Leadership program offers a Doctor of Philosophy Degree (Ph.D.) The doctor of philosophy (Ph.D.) degree is the most advanced graduate degree offered at Gannon University or any other post-secondary institution. It combines a broad examination of theory and research with mastery of the tools to create new knowledge, engendering competence for application and practice in a wide variety of academic and professional roles and settings. The Ph.D. is the highest educational achievement one can aspire to attain, and represents the most meaningful, versatile, rewarding - and valuable - investment individuals can make in their own educational, personal and professional advancement.

## PHILOSOPHY

The Doctor of Philosophy in Organizational Learning and Leadership is an interdisciplinary program devoted to the academic exploration of theory, research and practice pertaining to social organizations and leadership. The program is designed to prepare graduates who can effectively analyze organizational and leadership processes, conduct research, address challenges and enhance effectiveness in formal and informal organizations, while contributing to scholarship in leadership and organizational studies

Among the goals embraced by the graduate programs of Gannon University is the preparation of students for leadership, scholarship, and service in contexts of an increasingly global environment. These goals provide foundation for the objectives of this program which address the need for academically prepared individuals, serving in multiple capacities as members or leaders of organizations, to negotiate persistent challenges and continuous change. Every student in the Organizational Learning and Leadership Program is challenged to acquire capacity for effecting adaptive change and developing leadership capacity within themselves and the organizations in which they participate.

## OBJECTIVES

- Develop the knowledge and analytic capacity to lead an organization in adapting, evolving, and learning in an ever-changing environment. *(leadership)*
- Provide students with a breadth of knowledge to facilitate examination of issues and opportunities from diverse systemic and social psychological perspectives. *(analytic perspective)*
- Develop capacity to identify creative, innovative responses to issues and opportunities in professional and organizational settings. *(innovation/change)*
- Facilitate development of advanced analytic and problem solving capacities grounded in sound research. *(research and analysis)*

## TECHNOLOGY

Students will be taught primarily in traditional classroom settings supported by the ANGEL Course Management System. Experiential and project-based learning activities are integrated throughout the curriculum. Some courses include an element of independent study involving the integration or application of material learned in the classroom or under individual faculty consultation. Coursework in quantitative analysis includes instruction in the use of SPSS and Stata statistical software.

## ADMISSIONS REQUIREMENTS

Applicants must hold a master's or other post-baccalaureate professional graduate level degree from a regionally-accredited institution of higher education. Applicants should have a minimum graduate GPA of 3.5 on a 4.0 scale, and at least two years of post-baccalaureate work experience. Admission is based on a review of a total profile with careful attention paid to the fit between the needs and aspirations of the student, and the learning objectives of the program.

Each applicant must submit the following information:

- A completed application providing demographic, employment, and academic information
- Copies of the Graduate Record Exam taken within the past three years reflecting quantitative, verbal, and analytical writing scores
- Three letters of recommendation conforming to the format provided in the application package
- Transcripts of all previous college work
- A resume delineating the scope, responsibilities, and functions of all positions held within the past five years
- A Statement of Purpose (limited to 500 words) that summarizes the perceived value of the OLL doctoral program for the applicant's personal and professional growth.

Applicants for whom English is not their first language may be required to submit scores from the Test of English as a Foreign Language and Test of Written English along with a financial declaration and supporting documentation.

Prospective students are encouraged to contact the Program Director early in the application process to discuss alignment of educational aspirations with programmatic goals and to address any questions regarding admissions requirements: Gail F. Latta, Ph.D. (814) 871-5792 email: latta001@gannon.edu

## DISSERTATION

The doctoral dissertation is the capstone element of the Ph.D. The doctoral dissertation is an original piece of research, conducted under the supervision of a faculty advisor, on a topic of intellectual interest to the student that offers a meaningful contribution to the existing literature. Work on the dissertation begins following completion of all coursework in the Multidisciplinary Theory and Research Core. The Core course sequence is designed to prepare students for working with a faculty advisor to identify and articulate a coherent research proposal. Each student will select a member of the OLL faculty to serve as their dissertation advisor and chair of their Dissertation Committee. This faculty member will serve as co-investigator on their dissertation research, providing guidance in the development of a viable research question, an effective plan of inquiry and analysis, thorough articulation of findings, and appropriate interpretation of results. Both the research proposal and final dissertation must be defended before a three member committee of qualified faculty selected in consultation with the faculty advisor, and carried out in compliance with international standards, governed by the Institutional Review Board, concerning the ethical treatment of research participants. Dissertations are to be carried out in conformity with the most recent version of the Dissertation Guidelines for Doctoral Candidates and Style and Form Manual maintained and disseminated by the Program Director. While working on the dissertation, students are required to resigister for at least one (1) GOLL 899 Dissertation credit each semester until the dissertation is completed (see Continuous Enrollment Policy below).

## STATUTE OF LIMITATIONS

Gannon University's policy for doctoral level study is that all students must complete their coursework and dissertation within seven (7) years of matriculation in a program. Students enrolled in the Organizational Learning and Leadership Program will be expected to meet this requirement following commencement of coursework in the multidisciplinary theory and research core. (i.e., when cohort coursework begins).

## CONTINUOUS ENROLLMENT POLICY

A student admitted to the doctoral program must register each fall and spring semester for a minimum of 3 graduate credits from original matriculation until the completion of all course requirements. When these requirements are met, doctoral students must register for a minimum of 1 credit each semester until final copies of the dissertation are submitted and approved by the Program Director. Students receiving funding such as assistantships, fellowships, loans, grants, scholarships or traineeships or needing

to maintain appropriate visa status may be required to register for more than 1 credit to meet full-time status requirements. These students should check with their program advisor regarding such requirements to ensure that they remain qualified for funding and/or in good standing. Doctoral students do not have to register for graduate credits during summer sessions unless they plan to make use of University facilities or faculty time. If they plan to utilize facilities or faculty time they must enroll for 1 graduate credit. If degree requirements are completed during the summer term, the student must be registered for a minimum of 1 graduate credit during that term.

Unless excused by an official Leave of Absence (which in no case may exceed one year throughout the student's degree program), all doctoral students are subject to the Continuous Enrollment Policy and must pay tuition and fees in order to remain in the program. If the student fails to obtain a Leave of Absence or maintain continuous enrollment, he or she will be required to apply for re-admission, to pay the Graduate College application fee, and pay all overdue tuition and fees, including cumulative late penalties. No tuition or registration waivers will be applied retroactively. In accordance with university policy, students may not utilize a Leave of Absence to pursue courses in another graduate program at Gannon University.

## TRANSFER CREDITS

Students who have graduate credits beyond 30 for their Master's or Professional degree are eligible to transfer up to 15 credits from another college/university. Credits for transfer must meet the requirements for the Individualized Foundations portion of the doctoral program. No credits may be transferred for the Core or Dissertation portions of the program. Approval of all transfer credits is at the discretion of the Program Director.

## ACADEMIC STANDARDS

All students in the OLL-Ph.D. program are required to demonstrate good progress toward degree completion, both in their individual assigned coursework and summative performance scores. Respecting performance criteria in individual courses, the faculty instructor of record establishes standards for assessing student performance and monitoring progress toward mastery of curricular content throughout the semester, Summative performance scores awarded by faculty are based on criteria established in each course syllabus. Quality points based on these scores, awarded in accordance with university policy, determine overall grade point average.

In addition to university guidelines governing Graduate Student Academic Action, the following standards are established for students in the OLL-Ph.D. program, respecting cumulative performance in the doctoral program:

- Students earning a score of C+ or lower in any pre-requisite course may be required to repeat the course prior to registering for subsequent courses that build upon that knowledge base.
- Irrespective of overall GPA, students accumulating two or more C+ scores on their core doctoral course work may be dismissed from the program.
- Courses in the doctoral core may only be repeated once in an attempt to raise a score of C+ or lower.

Permission to waive requirements for Academic Performance Standards respecting pre-requisite courses must be obtained from both the Program Director and the faculty of record for any subsequent courses. Doctoral students whose cumulative performance falls below these standards will be dismissed from the program.

## THE CURRICULUM

**I. Multidisciplinary Theory & Research Core.** (42 credits)
Courses in the Multidisciplinary Theory and Research Core are taken in a prescribed order determined by the Program Director for each cohort. Students unable to maintain pace with their cohort due to either academic or personal factors must meet with the Program Director to amend their Individualized Curriculum Plan (ICP) to reflect and an alternate course sequence for fulfilling Core requirements that satisfies established pre-requisites. Students unable to maintain a two-course per semester pace may also approach the Program Director to work out an alternate course sequence for fulfilling Core requirements. Under no circumstances will an amended course sequence extend the 7 year statute of limitations governing the completion of graduate degrees at Gannon University.

- **Multidisciplinary Theory Core (27 credits)**

| | | |
|---|---|---|
| GOLL 801 | Advanced Organizational Theory | 3 |
| GOLL 802 | Advanced Leadership Theory | 3 |
| GOLL 811 | Psychosocial Dimensions of Leadership | 3 |
| GOLL 812 | Organizational Analysis: Structure and Design | 3 |
| GOLL 813 | Case Analysis of a Learning Group | 3 |
| GOLL 814 | Leading Organizational Culture and Change | 3 |
| GOLL 815 | Quality Management and the Learning Organization | 3 |
| GOLL 816 | Developing Leadership Capacity | 3 |
| GOLL 817 | Global Perspectives on Learning and Leadership | 3 |

- **Research Core (15 credits)**

| | | |
|---|---|---|
| GOLL 818 | Doctoral Statistics I | 3 |
| GOLL 819 | Doctoral Statistics II | 3 |
| GOLL 821 | Research Methods I | 2 |
| GOLL 822 | Research Methods II | 2 |
| GOLL 823 | Research Methods III | 2 |
| GOLL 896 | Dissertation Seminar I | 1 |
| GOLL 897 | Dissertation Seminar II | 1 |
| GOLL 898 | Dissertation Seminar III | 1 |

**II. Individualized Foundations: Learning, Leadership, and Cognates** (18 credits)*

Requirements for the Individualized Foundations may be satisfied through a combination of transfer credits and/or courses taken concurrently while completing the Multidisciplinary Core or Doctoral Dissertation components of the program. Courses satisfying the Foundations requirement must be taken at the masters level or above. Qualifying courses are selected to satisfy the following content specifications:

- **Learning** (6 credits) - This set of coursework focuses on learning theory and factors affecting the dynamics of organizational learning, including curriculum and instruction, training and development, needs assessment, human resource management, research and evaluation methodologies, quality management, and processes of learning, and human development.
- **Leadership** (6 credits) - This set of coursework focuses on leadership theory and factors affecting the dynamics of organizational leadership including organizational behavior, context, change, culture and issues of organizational ethics and globalization.
- **Cognates** (6 credits) - This includes post-masters course work relevant to the student's career plans or dissertation, including pre-requisite Graduate Statistics (GEDU600) and Directed Readings (GOLL799) taken with a student's dissertation advisor.

* Transfer courses for the Individual Foundations cannot exceed 15 credits. Foundations courses to be taken after beginning the Multidisciplinary Theory and Research Core, whether at Gannon or another college/university must be selected in consultation with the Program Director.

**III. Doctoral Dissertation. (6 credits)**

After completing all courses in the Multidimensional Theory and Research Core, students must register for a minimum of one (1) credit of dissertation with their selected faculty advisor in each ensuing Fall and Spring semester until satisfying the dissertation requirement. Summer registration is only required if a student is actively working with their faculty advisor during the summer months. A minimum of 6 credits of dissertation credits are required, which may be stretched over a period of 6 years. Additional dissertation credits are required only if a student has not completed the dissertation, or other requirements for graduation, and wishes to maintain their status in the OLL-PhD program until the 7 year limit is reached, in order to satisfy outstanding requirements for graduation. Students wishing to gain more focused attention from their advisor while concentrating on the literature review portion of their dissertation may substitute one section of GOLL799 Directed Readings for up to 3 credits of dissertation, with permission of the Program Director.

| | | |
|---|---|---|
| GOLL 899 | Dissertation | 1-3 |

**IV. Typical Course Sequence**

The exact course sequence for each cohort is determined by the Program Director in consideration of a number of factors including: course prerequisites, content demands and workload, faculty availability, teaching loads, and scheduling conflicts among concurrent cohorts. Students will be advised by the Program Director which courses they should register for each semester as soon as the schedule has been finalized. The general order of courses to be taken, other factors notwithstanding, has been established as follows:

**Year 1**

**Fall Semester**

| | | |
|---|---|---|
| GOLL 812 | Organizational Analysis: Structure and Design | 3 |
| GOLL 821 | Research Methods I | 2 |
| GOLL 896 | Dissertation Seminar I | 1 |
| Total | | 6 |

**Spring Semester**

| | | |
|---|---|---|
| GOLL 801 | Advanced Leadership Theory | 3 |
| GOLL 803 | Case Analysis of a Learning Group | 3 |
| Total | | 6 |

**Summer**

| | | |
|---|---|---|
| GOLL 811 | Psychosocial Dimensions of Leadership | 3 |

**Year 2**

**Fall Semester**

| | | |
|---|---|---|
| GOLL 801 | Advanced Organizational Theory | 3 |
| GOLL 814 | Leading Organizational Culture and Change | 3 |
| Total | | 6 |

**Spring Semester**

| | | |
|---|---|---|
| GOLL 815 | Quality Management and the Learning Organization | 3 |
| GOLL 822 | Research Methods II | 2 |
| GOLL 897 | Dissertation Seminar II | 1 |
| Total | | 6 |

**Summer**

| | | |
|---|---|---|
| GEDU 600 | Graduate Statistics (Cognate) | 3 |
| GOLL 823 | Research Methods III* | 2 |
| GOLL 898 | Dissertation Seminar III* | 1 |
| Total | | 6 |

**Year 3**

**Fall Semester**

| | | |
|---|---|---|
| GOLL 816 | Developing Leadership Capacity | 3 |
| GOLL 818 | Doctoral Statistics I | 3 |
| Total | | 6 |

**Spring Semester**

| | | |
|---|---|---|
| GOLL 817 | Global Perspectives on Learning and Leadership | 3 |
| GOLL 819 | Doctoral Statistics II | 3 |
| Total | | 6 |

**Summer (alternate time)***

| | | |
|---|---|---|
| GOLL 823 | Research Methods III (alternate time) | 3 |
| GOLL 898 | Dissertation Seminar III (alternate time) | 3 |

** students who do not wish to take 6 hours during the summer of year 2 may delay taking GOLL 823/898 until the summer of Year 3*

**Years 4 – 7**

**Fall**

| | | |
|---|---|---|
| GOLL 899 | Dissertation | 1 |
| | 1 credit (minimum) | |

**Spring**

| | | |
|---|---|---|
| GOLL 899 | Dissertation | 1 |
| | 1 credit (minimum) | |

**Summer**

| | | |
|---|---|---|
| GOLL 899 | Dissertation | 1 |
| | (conditional - see Dissertation specifications above) | |

## COURSE DESCRIPTIONS

**GOLL 799 Directed Readings**
3 credits
Prerequisite: Permission
Directed Readings is a review of literature relating to a specified academic domain identified by the student in collaboration with the instructor. It is applicable for Individual Foundations credits only.

**GOLL 801 Advanced Organizational Theory**
3 credits
Prerequisite: GOLL 802 Advanced Leadership Theory, GOLL 812 Organizational Analysis: Structure and Design
This course is designed to enhance understanding of the organization as a vehicle for a group of people to organize and utilize resources in the pursuit of shared goals. The course originates from a view of the organization as a system embedded in an environmental context. Students will investigate how resource dependencies confer power to certain firms and expose others to dependencies. Students will participate in discussions about organizational processes that allow firms to integrate strategy, structure and internal process in an attempt to best adapt to environmental change. The course will focus on major contemporary topics, issues, and contributions from the literature, with emphasis on the effective integration of human capital within the formal structure of the firm. It will also stress the applicability of the theory of organizing to all forms of organizations: public and private, for profit and not-for-profit.

**GOLL 802 Advanced Leadership Theory**
3 credits
Prerequisites: GOLL 821 Research Methods I, GOLL 896 Dissertation Seminar I
This doctoral seminar provides a context for the scholarly analysis, critique and synthesis of foundational theories of leadership, including classical, traditional, contemporary and emergent perspectives. Principles and techniques of comparative theoretical analysis are introduced, demonstrated and applied throughout the course. The fundamental tenets of each theory introduced are considered in relation to tenable propositions, accrued evidence, organizational utility, and unanswered questions. Throughout the course, comparative analysis and critique of leadership theory is fostered with respect to the perennial questions informing research and scholarship in the field of leadership studies, culminating in the formulation of a conceptual framework for advancing the limits of existing knowledge.

**GOLL 811 Psychosocial Dimensions of Leadership**
3 credits
Prerequisite: GOLL 802 Advanced Leadership Theory
This advanced doctoral seminar introduces and explores significant psychological and social constructs that mediate or moderate leadership behavior and effectiveness. Theories of motivation, personality, identity, self-concept, cognition, emotion, psychosocial development, and the dynamics of power and influence are explored, as they relate to the manifestation of leader and follower behavior in organizational settings. Interdisciplinary research illustrating the pervasive role and function of psychosocial factors in the construction and understanding of leadership processes provides a context for developing more nuanced approaches to advancing leadership theory and practice.

**GOLL 812 Organizational Analysis: Structure and Design**
3 credits
This course will provide students with an understanding of the structural framework of organizations, fundamental design decisions, and their implications for organizational performance. Through the course, students will be introduced to approaches to the study of organizations including instruments and techniques for organizational analysis. Students will apply relevant theory and analytical processes to identify the fit between organizational environment, strategy, work and structure. Current issues including the impact of information technology and globalization on structural design will also be explored.

**GOLL 813 Case Analysis of a Learning Group**
3 credits
The purpose of this course is to create a group capable of analyzing its own processes using the self-analytic/training group approaches of Kurt Lewin and Robert F. Bales. In this context each individual examines his/her own interpersonal behavior and self-image that develops over the course of the group experience. Collectively, group members undertake exploration and analysis of member interactions and assess their systemic effect on the development of the group. In essence, group members seek to examine explicitly their individual *actions* and *reactions* to one another, enhance their conscious awareness of interpersonal processes, and explore avenues whereby a group can better understand itself. The course involves

a series of recorded working sessions followed by replay of each. Feedback is provided to group members through their completion of SYMLOG Rating forms – a series of methods developed to document the structural development of groups.

**GOLL 814 Leading Organizational Culture and Change**
3 credits
Prerequisites: GOLL 811 Psychosocial Dimensions of Leadership
This course focuses on the role of leaders in understanding and managing the reciprocal processes of organizational culture and change. Normative and ethnographic approaches to analyzing organizational culture are introduced as core competencies for affecting change. Classical content and process theories of change are explored with respect to individual, social and anthropological implications. Cultural dynamics and processes of acculturation in organizations are examined in the context of evolutionary, teleological, life cycle, political and social cognitive perspectives on leading change. A model of organizational change in cultural context is introduced, along with research tools and strategies for assessing the extent to which leaders influence cultural dynamics and change processes in organizations.

**GOLL 815 Quality Management and the Learning Organization**
3 credits
Prerequisites: GOLL 801 Advanced Organizational Theory, GOLL 812 Organizational Analysis: Structure and Design
Throughout the second half of the twentieth century two paradigms have held prominent positions in organizational development theory and practice: quality management and the learning organization. The former, in many of its applications, has focused on efficiency, control, and standardization with the expectation of cost savings that will positively impact the bottom line. The latter focuses on effectiveness through enabling learning at all levels throughout the organization to promote flexibility and adaptation. Peter Senge proposed a unifying conceptual framework that views quality management as the first wave in building learning organizations. This course will explore these two paradigms, their implications for leadership and organizations and the challenges to implementing them in ways that enable today's organizations to realize the benefits of both.

**GOLL 816 Developing Leadership Capacity**
3 credits
Prerequisites: GOLL 802 Advanced Leadership Theory, GOLL 814 Leading Organizational Culture and Change
This theory-based, experiential capstone course enables students to master state-of-the-art techniques for developing leadership capacity in individuals, organizations and communities. Theories of adult development and models of leadership development provide a foundation for introducing an array of effective strategies proven to enhance leadership potential. Research on the efficacy of intervention strategies guides the application of leadership theories for purposes of assessment, interpretation and construction of targeted developmental plans.

**GOLL 817 Global Perspectives on Learning and Leadership**
3 credits
Prerequisites: GOLL 802 Advanced leadership Theory, GOLL 814 Leading Organizational Culture and Change
The continuing trend towards globalization had resulted in a growing need for leaders who can work effectively in multicultural contexts. In addition, it has prompted new questions about the extent to which current leadership and learning models translate effectively to non-Western cultures. This course will examine what constitutes effective learning and leadership across cultures. It will explore how approaches to learning and leadership can be adapted to align with varying cultural contexts. Students will also identify ways in which leaders can be prepared for expatriate assignments.

**GOLL 818 Doctoral Statistics I**
3 Credits
Prerequisite: GEDU600 Graduate Statistics
Doctoral Statistics I is a second course in applied statistics. It assumes knowledge of fundamental statistical methods including; measures of central tendency and variability, hypothesis testing, basic graphics, analysis of variance and/or regression analysis. This course begins with a brief review of these topics. Statistical methods covered include; data screening (missing data, outliers, normality, linearity, homoscedasticity, and data transformation), multiple regression, analysis of variance, and dummy variable regression. Instruction in the use of statistical software for all calculations is provided.

**GOLL 819 Doctoral Statistics II**
3 Credits
Prerequisite: GOLL 818 Doctoral Statistics I
Statistics II covers a variety of multivariate techniques encountered in dissertation research, evaluation research, and the professional literatures of many academic disciplines. The principal goal for the student is to develop a working knowledge of multivariate techniques in which qualitative and quantitative variables are on either side of the equation (i.e. as independent or dependent variables). Also included are methods for detecting underlying dimensions accounting for patterns of relationships among measured variables.

**GOLL 821 Research Methods I**
2 credits
Co-requisite: GOLL 896 Dissertation Seminar I
Providing an introduction to the fundamentals of social and behavioral research, this course provides a conceptual framework for doctoral students in Organizational Learning and Leadership to understand the conceptual foundations underlying effective research design. Students will begin to understand how research methods are predicated upon the theoretical frameworks and research questions or hypotheses derived from a comprehensive review pertinent literature in relevant disciplines. Students will learn how to evaluate existing research using a variety of theoretical and methodological perspectives. As a result of developing a greater understanding of

research methods, students will demonstrate the ability to critique the efficacy of research methods used in a various types of published research.

**GOLL 822 Research Methods II**
2 credits
Prerequisites: GOLL 821 Research Methods I and GOLL 896 Dissertation Seminar I
Co-requisite: GOLL 897 Dissertation Seminar II
Providing a detailed examination of social science research methods applied to the study of organizational learning and leadership, this course focuses on the conceptual dimensions and pragmatic issues involved in designing and justifying defensible research proposals. Introducing a broad range of quantitative and qualitative research methodologies the course emphasizes decision points and selection criteria to be considered in making effective choices regarding dimensions of investigator control, types of empirical design, means of data collection, population selection, and modes of information extraction during analysis and interpretation of results. Course work is designed to enhance students' mastery of and appreciation for the full range of social and behavioral research paradigms.

**GOLL 823 Research Methods III**
2 credits
Prerequisites: GOLL 822 Research Methods II and GOLL 897 Dissertation Seminar II
Co-requisite: GOLL 898 Dissertation Seminar III
This course covers the social, technical, institutional and ethical dimensions of developing and defending doctoral-level research proposals. Guidance is provided for selecting and working with a committee chair, stating researchable problems and hypotheses, organizing and presenting scholarly arguments, developing a theoretical framework, selecting instrumentation, sampling and gaining access to populations, anticipating and addressing ethical concerns, and obtaining IRB approval. Understanding the structural elements of proposal writing will be emphasized, as well as considerations pertaining to the organization and presentation of ideas, issues relating to motivation and writing, organizing literature reviews, and developing a theoretical framework. The importance of articulating explicit plans for conducting data analysis, protecting human subjects, preserving data integrity, and preparing for an oral defense of design decisions will be stressed.

**GOLL 890 Special Topics**
3 credits

**GOLL 896 Dissertation Seminar I**
1 credit
Co-requisite: GOLL 821 Research Methods I
In this seminar, students assume responsibility for exploring the conceptual and practical foundations of social and behavioral research applied to the study of organizational learning and leadership. Basic concepts and practical skills are explored though group activities designed to foster transformative learning. Students will gain practice reading and searching the research literature, operationalizing variables, redesigning research studies, and considering fundamental epistemological issues underlying empirical approaches to understanding human behavior.

**GOLL 897 Dissertation Seminar II**
1 credit
Prerequisites: GOLL 821 Research Methods I and GOLL 896 Dissertation Seminar I
Co-requisite: GOLL 822 Research Methods II
In this seminar, students assume responsibility for investigating research in their discipline utilizing a specific research methodology. They then share their expertise by planning a facilitated learning exercise designed to illustrate the steps in implementing a study based on the selected method. Students collaboratively compile an annotated bibliography of field guides and exemplary research studies employing the methods investigated during the seminar. The combination of hands-on learning and peer facilitation prepares students to assume responsibility for becoming independent researchers capable of selecting, defending and implementing solid dissertation proposals.

**GOLL 898 Dissertation Seminar III**
1 credit
Prerequisite: GOLL 822 Research Methods II and GOLL 897 Dissertation Seminar II
Co-requisite is GOLL 823 Research Methods III
This course prepares students to deal effectively with the psychosocial, emotional and spiritual dimensions of developing, defending and executing doctoral research. The process of completing a doctoral dissertation presents personal challenges relating to time management, balancing competing priorities, overcoming writing blocks, developing discipline, and maintaining commitment to a goal. Doctoral candidates often face competing demands, negative environmental cues, social or institutional detractors, and internalized messages that foster a fear of success, the threat of failure, and the unknown consequences of achieving a life intension. This course provides students an opportunity to acquire life skills for navigating these common impediments to translating their academic aspirations into reality.

**GOLL 899: Dissertation**
1-3 credits
Prerequisites: GOLL 821, 822, 823 Research Methods I, II, III; GOLL 896, 897, 898 Dissertation Seminar I, II, III; GOLL 818, 819 Doctoral Statistics I, II: Doctoral Candidate Status
The dissertation is the capstone experience in a student's academic career. In addition to supplementing a body of knowledge, it represents an original piece of work that establishes the student as an expert on a specific topic. The dissertation project should make a contribution to professional practice and/or knowledge. It should embrace the skills and knowledge that student has gained from course work, readings, and discussions. The doctoral candidate should have a passion to investigate and analyze an issue or practice aspect that will increase others' understanding of it through his or her research. Dissertations will be individual projects.

# Pastoral Studies

*Director: Fr. Jason A. Glover, S.T.L.*

## INTRODUCTION

The Graduate Program of Pastoral Studies derives its inspiration and *raison d'être* from the words of the Second Vatican Council's *Decree on the Lay Apostolate"*: The apostolate can attain its maximum effectiveness only through a diversified and thorough formation. This is demanded not only by the continuous spiritual and doctrinal progress of the lay person himself but also by the accommodation of his activity to circumstances varying according to the affairs, persons, and duties involved.... In addition to the formation which is common for all Christians, many forms of the apostolate demand also a specific and particular formation because of the variety of persons and circumstances" (§28). To this end, the Graduate Program in Pastoral Studies endeavors to provide sound theological education and professional training in order to adequately form lay ministers who will fulfill the varied and indispensible ministries that comprise the mission of the Church.

There are two graduate offerings in Pastoral Studies: a Graduate Certificate in Theological Studies, and a Master of Arts Degree in Pastoral Studies. The former offers a solid foundation in academic theology and consists of 18 credits of graduate course study. The latter requires an additional 18 credits of graduate study in one of two areas of concentration: Pastoral Ministry and Religious Education.

The Pastoral Ministry concentration focuses on the professional development of the laity, enabling them to engage in a wide range of ministerial endeavors. Several courses in this concentration are housed in the Community Counseling Program. The Religious Education concentration focuses on the professional development of the laity, enabling them to engage in the catechetical and educational mission of the Church. Several of the courses in this concentration are housed in the School of Education.

The Graduate Program of Pastoral Ministry is also engaged in a cooperative effort with the Roman Catholic Diocese of Erie in the intellectual, academic, and theological formation of candidates for the permanent diaconate for service in the Diocese of Erie according to the norms established by the United States Conference of Catholic Bishops' *Directory for the Formation of Permanent Deacons*.

## I. GRADUATE CERTIFICATE IN THEOLOGICAL STUDIES

The Graduate Certificate in Theological Studies is intended to provide students with a solid foundation in academic theology. The curriculum for this Certificate offering is designed to intensify an individual's personal faith development, to enhance an individual's appreciation of the Christian theological tradition, and to deepen an individual's understanding of Christian theology. The Graduate Certificate can serve as a foundation for further graduate and professional education and development.

*Based on Gainful Employment requirements Federal Title IV aid (student loans) is not available for this Graduate Certificate, however, federal aid can be used as a resource by students pursuing a Master's degree.

### Curriculum

Required Courses (18 credits)

| | | |
|---|---|---|
| GPAST 610 | Biblical Studies | 3 |
| GPAST 620 | Theology of Jesus Christ | 3 |
| GPAST 630 | Theology of the Church | 3 |
| GPAST 640 | Theology of Christian Sacraments | 3 |
| GPAST 650 | Foundations of Christian Ethics | 3 |
| GPAST 670 | Theological Foundations of Ministry | 3 |

## II. MASTER OF ARTS IN PASTORAL STUDIES

**(Concentration in Pastoral Ministry)**

The Pastoral Ministry concentration consists primarily of graduate work in Catholic theology along with a professional background in counseling psychology. As such, this concentration is designed to prepare individuals to assume roles as ecclesial ministers in parish youth, young adult, and adult faith-formation groups, and in hospitals, nursing homes, prisons, and other ministerial settings.

### Objectives

- To provide a solid theological foundation for all areas of lay ministry within the Church;
- To foster in students the ability to incorporate theological reflection within ministerial experiences;
- To develop the personal and professional skills necessary for leadership and ministry within the local Church;
- To provide the student opportunities to learn ministerial skills through experience;
- To develop the pursuit of the integration of theology, spirituality, life experiences, and professional training necessary for lay ministry of quality and endurance

## Curriculum

Required Theological Courses (21credits):

| | | |
|---|---|---|
| GPAST 610 | Biblical Studies | 3 |
| GPAST 620 | Theology of Jesus Christ | 3 |
| GPAST 630 | Theology of the Church | 3 |
| GPAST 640 | Theology of the Christian Sacraments | 3 |
| GPAST 650 | The Foundations of Christian Ethics | 3 |
| GPAST 670 | Theological Foundations of Ministry | 3 |
| GPAST 796 | Directed Research and Oral Examination | 3 |

Students are required to take 9 additional graduate-level credits through the Department of Counseling and Psychology. The specific courses in which the student enrolls are individually tailored to meet the individual student's ministerial aspirations and are approved by the Director of the Graduate Program of Pastoral Studies in consultation with the Chair of the Department of Counseling and Psychology.

**Required Concentration Courses (9 credits):**

| | |
|---|---|
| GCOU 6xx | 3 |
| GCOU 6xx | 3 |
| GCOU 6xx | 3 |

An additional 6 credits are required of the student. The specific courses in which the student enrolls can be offered through either the Pastoral Ministries Program or the Department of Counseling and Psychology. Again, the specific courses are selected based on the individual student's ministerial aspirations and are approved by the Director of the Graduate Program of Pastoral Studies.

**Elective Courses (6 credits):**

| | |
|---|---|
| GPAST/GCOU 6xx | 3 |
| GPAST/GCOU 6xx | 3 |

# III. MASTER OF ARTS IN PASTORAL STUDIES

**(Concentration in Religious Education)**

The Religious Education concentration consists primarily of graduate work in Catholic theology along with a professional background in various aspects of teaching and education. As such, this concentration is designed to prepare individuals to assume roles as Directors of Religious Education, RCIA Coordinators, catechists for parish Religious Education programs, and teachers of religion in Catholic schools.

## Objectives

- To provide a solid theological foundation for all areas of catechetical ministry;
- To foster in students the ability to incorporate theological reflection within ministerial experiences;
- To develop and enhance the student's ability to effectively teach children, adolescents, and adults the rich theological tradition of the Church;
- To foster the desire and the ability to pursue ongoing scholarly theological research and study, as well as religious education and catechetical formation;
- To develop the pursuit of the integration of theology, spirituality, life experiences, and professional training necessary for lay ministry of quality and endurance.

## Curriculum

**Required Theological Courses (21 credits):**

| | | |
|---|---|---|
| GPAST 610 | Biblical Studies | 3 |
| GPAST 620 | Theology of Jesus Christ | 3 |
| GPAST 630 | Theology of the Church | 3 |
| GPAST 640 | Theology of the Christian Sacraments | 3 |
| GPAST 650 | The Foundations of Christian Ethics | 3 |
| GPAST 670 | Theological Foundations of Ministry | 3 |
| GPAST 796 | Directed Research and Oral Examination | 3 |

Students are required to take 9 additional graduate-level credits through the School of Education. The specific courses in which the student enrolls are individually tailored to meet the individual student's ministerial aspirations and are approved by the Director of the Graduate Program of Pastoral Studies in consultation with the Chair of the School of Education.

**Required Concentration Courses (9 credits):**

| | |
|---|---|
| GEDU 6xx | 3 |
| GEDU 6xx | 3 |
| GEDU 6xx | 3 |

An additional 6 credits are required of the student. The specific courses in which the student enrolls can be offered through either the Pastoral Ministries Program or the School of Education. Again, the specific courses are selected based on the individual student's ministerial aspirations and are approved by the Director of the Graduate Program of Pastoral Studies.

**Elective Courses (6 credits):**

| | |
|---|---|
| GPAST/GEDU 6xx | 3 |
| GPAST/GEDU 6xx | 3 |

# IV. PERMANENT DEACON FORMATION PROGRAM

Interested individuals must first apply for admittance into the Permanent Deacons Formation Program through the Roman Catholic Diocese of Erie. Upon the individual's acceptance into the Formation Program, candidates and their spouses who have an undergraduate degree from an accredited university or college have the additional option of applying to the Graduate Program of Pastoral Studies. Upon the successful completion of the academic portion of the Diocesan Permanent Deacon Formation Program, candidates and their spouses will be awarded a Graduate Certificate in Theological Studies, detailed above. Candidates who so choose may then enroll in the Graduate Program of Pastoral Studies and pursue a Master of Arts Degree in Pastoral Studies, detailed above.

# COURSE DESCRIPTIONS

**GPAST 610 Biblical Studies**
3 credits
An examination of the concepts of election, promise and covenant in the Hebrew Scriptures and the foundations for Christian discipleship in the New Testament.

**GPAST 620 Theology of Jesus Christ**
3 credits
A study of the mystery of Jesus Christ, his person and his redemptive mission, showing the development of the Church's understanding of Jesus Christ from the witness of the primitive Church in the New Testament to the central christological dogmas of the early councils, through the speculative insight of the Medieval Schoolmen and contemporary theologians.

**GPAST 630 Theology of the Church**
3 credits
A study of the Church as the "People of God" according to its origins, its nature and constitution and its mission, including an investigation of the role of Mary and the Office of Peter in the life of the Church.

**GPAST 632 Patristics**
3 credits
A survey of ancient Christian writers from the author of the Didache to St. John of Damascus, emphasizing the great catechetical treatises of St. Cyril of Jerusalem, St. John Chrysostom, St. Ambrose and St. Augustine.

**GPAST 636 Inspirational Leadership**
3 credits
This course explores the leadership styles of those who so powerfully and passionately inspired their followers and introduces students to the differences between motivation and inspiration. It also leads students in the identification of their destiny, cause, and call.

**GPAST 640 Theology of the Christian Sacraments**
3 credits
A biblical, historical and liturgical study of the Christian sacraments, viewed in a Christological-ecclesial perspective, as well as the sacramental basis of Christian existence and current issues vis-a-vis the sacraments.

**GPAST 650 The Foundations of Christian Ethics**
3 credits
A discussion of morality, conscience, law and freedom, sin and metanoia; the biblical foundations of Christian morality; the life of virtue; the definition of the human person as a moral agent; the role of the magisterium; selected moral questions.

**GPAST 660 Teaching Strategies for Religious Education**
3 credits
The study and practice of various methodologies of religious education and the development of outcomes and assessment tools for religious education curricula.

**GPAST 670 Theological Foundations of Ministry**
3 credits
An introduction to the theology of ministry, including an examination of its biblical and historical development and current issues facing pastoral ministers within the Church, as well as training in the tool of theological reflection.

**GPAST 671 Spiritual Foundations of the Christian Life**
3 credits
The sources, history, methods and special concerns of Christian spirituality. Among the issues addressed will be: a contemporary understanding of spirituality; the significance of theology and psychology for spirituality; the bible within the spiritual tradition; prayer, meditation, and contemplation; the stages of spiritual development; discernment and spiritual direction; mysticism and higher spiritual states; spirituality and the ideal of perfection.

**GPAST 680 Pastoral Counseling**
3 credits
This course provides an introduction to the emerging field of pastoral counseling with an outlook towards professional development. Various specializations of pastoral counseling and the role of the pastoral counselor will be defined and explored. An examination of the minister's professional identity will include legal and ethical codes along with standards for certification, preparation and training of lay ecclesial ministers.

**GPAST 690 Ecumenism**
3 credits
This course surveys the first nine ecumenical councils and focuses on the Second Vatican Council's Decree on Ecumenism, Unitatis Redintegratio. This document will form the basis for examining ecumenical dialogue since 1965. This study will also highlight the process and the progress of this movement toward Christian unity

**GPAST 691 Theological Journeys: A Scriptural and Archaeological Approach**
3 credits
A multi-disciplinary course designed to illustrate the importance of archaeological data in biblical, historical and theological reconstruction. This course will combine modern textual study of both the Old and New Testaments with relevant archaeological discoveries as foundational to a theological journey.

**GPAST 692-694 Special Topics in Theology**
3 credits
Specifically designed seminars focusing on specific topics in systematic and pastoral theology, biblical studies, or catechetics that are meant to supplement the regular course offerings.

**GPAST 796 Directed Research Project and Oral Examination**
3 credits

**Directed Research**
The research project is to give evidence of the student's competence to do scholarly, theological research and apply the research findings to his or her respective area of concentration. In consultation with the Director of Pastoral Studies, the student will select a topic to research. The Director of the Program will then assign the student a project director, who will direct the individual's research. Once the research in completed as determined by the project director, a final draft of the research paper is submitted to the Director of Pastoral Studies. The paper is then distributed to three reviewers who's average grade will comprise the grade of the research project.

**Oral Examination**
An oral examination will occur once the student has completed the Directed Research Project. The same three reviewers of the research project will also serve as the oral examiners. The average grade of the examiners will comprise the grade of the oral examination.

The student must successfully complete both portions of GPAST 796, the successful completion of the research project and the successful completion of the oral examination. The average of both the research paper and the oral examination will constitute the final grade for GPAST 796.

**Courses from Other Programs**
See course descriptions for Graduate Programs in Community Counseling, and Education.

# Physical Therapy
## The Doctor of Physical Therapy (DPT) Degree

***Chairperson: Kristine S. Legters, PT, DSc, NCS***

## INTRODUCTION
Physical Therapy is a health care profession that primarily focuses on the preservation, development, and restoration of optimal function. Physical therapists provide evaluative, rehabilitative, and preventive health care services designed to alleviate pain; prevent the onset and progression of impairment, functional limitation, disability resulting from injury, disease, or other causes; and restore, maintain and promote overall fitness, health and optimal quality of life. Physical therapists work with individuals of all ages who demonstrate movement dysfunction, or the potential for such dysfunction, of the neurological, musculoskeletal, integumentary, and cardiopulmonary systems.

Physical therapists practice in a hospital setting, or provide services in out-of-hospital settings through home health agencies, in nursing homes, in industrial settings, through public health agencies, in private physical therapy clinics, in public schools and in a variety of other nontraditional settings.

## VISION
Gannon University's Doctor of Physical Therapy Program will be a leader in educating autonomous physical therapists who participate in integrative and collaborative practice to facilitate high quality health and educational outcomes. We will be practitioners of choice in the community, recognized as experts in movement, function and health. As leaders we will embrace our social responsibility, promote humanistic care, and contribute to the profession's body of knowledge.

## MISSION
The mission of the Doctor of Physical Therapy Program at Gannon University is to facilitate holistic patient/client-centered management for body functions, activity and participation related to movement, function and health. We prepare our graduates to be knowledgeable, service-oriented, collaborative, reflective practitioners. They render evidence based, independent judgments concerning patient/client needs by virtue of critical thinking, commitment to lifelong learning, and ethical values. They possess the intellect, psychomotor proficiency and core values to meet the current and future needs of the profession and the health care system.

## PHILOSOPHY

- Physical therapists are integral members of the health care team who are recognized and respected for their education, experience, and expertise in movement, function and health. The Doctor of Physical Therapy Program at Gannon University is guided by the following tenets: The essence of physical therapy practice is patient/client-centered management for body functions, activity and participation related to movement, function and health.
- Professional physical therapist education should prepare individuals to be autonomous practitioners capable of providing direct access.
- Active, integrative and experiential learning methods promote student self-reliance, increase self-assessment skills and develop a pattern of independent learning that will promote lifelong learning and continuing professional development.
- Evidence-based practice (EBP) is the framework for physical therapy practitioners' clinical decision making. EBP skills are cultivated through development of self-directed learning, utilizing a variety of resources that are enhanced by technology.
- The health care environment is continually evolving. Physical therapist practice encompasses roles in primary, secondary, and tertiary care, as well as prevention, health promotion and wellness.
- Practitioners are educators who use their knowledge, creativity, communication and interpersonal skills to promote the health of individuals and communities.
- Competency based education ensures that practitioners demonstrate proficiency in knowledge, psychomotor, and affective domains.
- Professionalism is an integral part of physical therapy education and practice.

## GOALS

Consistent with the University's and Program's Mission Statement, the goals of the Doctor of Physical Therapy Program at Gannon University are to:

- Provide outstanding educational experiences to our students in order to develop expertise in movement, function and health.
- Develop creative and flexible educational approaches to meet the changing needs of the students and profession
- Provide services in the community that promote the health and quality of life of the community
- Contribute to the advancement of knowledge in physical therapy and health science through scholarly inquiry
- Model professionalism through involvement in the University, the profession and associated organizations
- Competent and excellent delivery of physical therapist professional educational content

## OUTCOMES

Our graduates/students will be competent in patient/client centered care management for body functions, activity and participation related to movement, function and health.

Our graduates/students will demonstrate professionalism and ethical behavior in all aspects of the educational, community and clinical setting.

Our graduates/students will incorporate evidence based practice in clinical decision making.

Our graduates/students will be skilled in educating and communicating with patients/clients, caregivers, colleagues, payers and policy makers.

## ADMISSION

Prerequisite Course Requirements for entry into the Graduate Physical Therapy Program include the following:

| | |
|---|---|
| Biology | 2 semesters |
| (200 or 300 level Human Anatomy and Physiology courses do not meet this prerequisite) | |
| Chemistry | 2 semesters |
| Psychology | 1 semester |
| (200 level behavioral/social science course) | |
| Statistics | 1 semester |
| Human Anatomy with Lab | 1 semester |
| (Human Gross Anatomy recommended; course should be at 200 or 300 level at four year degree granting institution) | |
| Human Physiology with Lab | 1 semester |
| Exercise Physiology (lab recommended) | 1 semester |
| Physics with Lab | 2 semesters |

**Important Note Regarding Prerequisites:**
Prerequisites must be completed within five years preceding entrance to the graduate program.

**Recommended Courses:**
Social Sciences – at least two additional semesters in social sciences (i.e., Sociology, Social Psychology)
Kinesiology with lab

**Communication:**
Practice as a health care professional requires the ability to communicate both in written and oral form. The physical therapy program stresses communication and expects enrolled students to demonstrate graduate level competence in written as well as oral communication.

## ADMISSION REQUIREMENTS

- Baccalaureate degree from an accredited college or university
- cumulative prerequisite course quality point average (QPA) of 3.0 or better (4.0 scale). Grades below a C are not acceptable
- overall undergraduate QPA of 3.0 or better (4.0 scale)
- applicant demonstrates the ethical, personal and professional qualities to fulfill the role of the physical therapist as determined by review of the applicant's references and the interview process
- application review begins on November 1; application deadline January 15
- qualified applicants will be called for an informational session
- TOEFL – Minimum score of 550 for all applicants from non-English speaking countries
- meet essential functions: physical, emotional, intellectual, and communication standards

## ESSENTIAL FUNCTIONS OF THE STUDENT PHYSICAL THERAPIST

Essential functions are the activities that a student physical therapist must be able to perform in partial fulfillment of the requirements for successful completion of the professional curriculum. Every student must be able to perform these essential functions, with or without reasonable accommodations, while practicing safely, ethically, and in a legal manner. Reasonable accommodations are based on individual need, program essential requirements, public safety, and no undue hardship on the University or clinical sites.

If a student is unable to perform these essential functions, it is the student's responsibility to:

1. Reveal a need for reasonable accommodations prior to entering the professional curriculum.
2. Obtain diagnostic data to substantiate a claim of need for reasonable accommodations.
3. Provide the diagnostic data to the institution prior to entering the professional curriculum.

The ability to perform essential functions is expected of students in the classroom, labs, simulated clinical settings, and while on clinical education assignments. The Doctor of Physical Therapy Program's essential functions are described below by: 1) category and 2) examples. The examples are for clarity and do not represent an exhaustive list of all possible activities.

CATEGORY and EXAMPLE

**Behavior** – ability to act in a professional manner
- Practice safely, ethically, legally
- Demonstrate responsibility for lifelong professional growth and development

**Critical thinking** – ability to make clinical judgments
- Identify cause/effect relationships
- Develop patient outcomes/goals/interventions
- Respond to emergencies
- Apply standard precautions
- Apply teaching and learning theories in clinical practice
- Participate in scientific inquiry

**Communication** – ability to verbalize and write
- Explain treatment interventions
- Initiate health teaching
- Document and interpret physical therapist actions and patient responses

**Coping** – ability to perform in stressful environments or under deadlines
- Maintain professional demeanor in all situations
- Accept constructive feedback
- Prioritize multiple commitments
- Recognize problems and apply stress management techniques

**Hearing** – auditory ability sufficient to monitor and assess health needs
- Monitor alarms and emergency signals
- Respond to a timer

**Interpersonal** – ability to interact with groups from a variety of backgrounds
- Establish rapport with patients, clients, and colleagues
- Recognize psychosocial impact of dysfunction/disability
- Demonstrate respect for the needs of the patient and family
- Demonstrate respect for diversity

**Motor Skill** – gross and fine motor abilities sufficient to provide safe and effective physical therapy
- Calibrate and operate equipment
- Maneuver in patients' rooms and treatment spaces
- Guard patients and perform facilitation techniques during gait training
- Perform physical therapy assessment and treatment activities such as ROM, MMT, debridement, or use of physical agents

**Tactile** – ability to use touch to monitor and assess health needs
- Palpate
- Apply resistance during examinations or interventions

**Visual** – visual ability sufficient to monitor and assess health needs
- Observe patients' responses
- Monitor vital signs
- Read medical records
- Observe integumentary integrity

## FINANCIAL ASSISTANCE

The tuition for students in the DPT program remains at the initial rate of when the student enrolled in the DPT program; thus tuition is not impacted by increases experienced during the three years of enrollment. Scholarships are provided to the top 20 students in each class based on overall grade point average. These scholarships are renewable for the second and third year of the program if a 3.30 GPA is maintained. Graduate assistantships are available to applicants to the program. Additional information about these assistantships is available from the DPT program or the program website.

## CURRICULUM

Gannon offers an entry level Physical Therapy degree after the completion of thirty-three (33) months of study (including summers). Evidence-based practice (EBP) is the framework for physical therapy practitioners' clinical decision making. Both clinical science and research content are framed within an EBP format, utilizing current scientific research in conjunction with clinical experience for a specific patient/client problem within the physical therapists' scope of practice. The study of normal structure and function is followed by specific case-based patient/client problems and pathologies organized around body systems. Elements of the patient/client management model including examination, evaluation, physical therapy differential diagnosis, prognosis, intervention, and outcomes are integrated into each of the clinical science courses. Concepts between and within each course are cumulative, competency based, and continued enrollment depends upon mastery and use of previous concepts. Practical clinical experiences are integrated into the academic program at the completion of major areas of study. The academic coordinator of clinical education assigns students to clinical sites, based on student needs and learning goals. In addition to sites in the Erie and western Pennsylvania areas, the program offers clinical experiences at sites throughout the United States and Canada.

## CURRICULUM REQUIREMENTS

The DPT degree program requires one hundred seven (107) credit hours beyond the baccalaureate degree and must be completed as a full time program. The curriculum below is the major didactic courses, although lab material may be a large component of the content as indicated in the course descriptions.

| **1st Semester - Fall** | | **Credits** |
|---|---|---|
| GDPT 811 | Applied Anatomy | 2 |
| GDPT 818 | Foundations in Human Movement | 6 |
| GDPT 814 | Research Applications: Evidence-Based Practice I | 2 |
| GDPT 815 | Basic Physical Therapy Practice and Interventions | 2 |
| GDPT 816 | Community Health Initiative I | 1 |
| GDPT 817 | Pathology | 3 |
| Total | | 16 |

| **2nd Semester - Spring** | | |
|---|---|---|
| GDPT 810 | Health Care System & Policy I | 2 |
| GDPT 822 | Examination, Evaluation & Intervention for Musculoskeletal Movement Dysfunction of the Extremities | 9 |
| GDPT 825 | Examination, Evaluation & Intervention for Musculoskeletal Movement Dysfunction of the Spine | 4 |
| GDPT 826 | Community Health Initiative II | 1 |
| GDPT 890 | Pharmacology | 1 |
| Total | | 17 |

| **3rd Semester - Summer** | | |
|---|---|---|
| GDPT 830 | Health Care System & Policy II | 2 |
| GDPT 831 | Foundations in Geriatrics | 2 |
| GDPT 832 | Clinical Practicum 1 (10 weeks) | 5 |
| Total | | 9 |

| **4th Semester - Fall** | | |
|---|---|---|
| GDPT 821 | Examination, Evaluation & Intervention for Cardiovascular & Pulmonary Dysfunction 1 | 2 |
| GDPT 841 | Foundations in Pediatrics | 4 |
| GDPT 843 | Examination, Evaluation, & Intervention for Neuromuscular Movement Dysfunction I | 4 |
| GDPT 848 | Neuroscience | 5 |
| GDPT 847 | Clinical Synthesis I | 1 |
| GDPT 844 | Research Applications: Evidence-Based Practice II | 1 |
| Total | | 17 |

| **5th Semester - Spring** | | |
|---|---|---|
| GDPT 823 | Examination, Evaluation & Intervention for Cardiovascular & Pulmonary Dysfunction II | 2 |
| GDPT 850 | Health Care System & Policy III | 2 |
| GDPT 853 | Examination, Evaluation, & Intervention for Neuromuscular Movement Dysfunction II | 9 |
| GDPT 854 | Research Applications: Evidence-Based Practice III & Guidance | 2 |
| GDPT 856 | Community Health Initiative III | 1 |
| Total | | 16 |

| **6th Semester - Summer** | | |
|---|---|---|
| GDPT 862 | Clinical Practicum II (10 weeks) | 5 |
| GDPT 867 | Clinical Synthesis II | 1 |
| GDPT 860 | Health Care System & Policy IV | 1 |
| GDPT 866 | Community Health Initiative IV | 1 |
| Total | | 8 |

| **7th Semester - Fall** | | |
|---|---|---|
| GDPT 873 | Examination, Evaluation, & Intervention for Integumentary & Multi-System Movement Dysfunction | 4 |
| GDPT 870 | Health Care System & Policy V | 2 |

| | | |
|---|---|---|
| GDPT 872 | Clinical Practicum III (8 weeks) | 4 |
| Elective | | 2-3 |
| Total | | 12-13 |

**8th Semester - Spring**

| | | |
|---|---|---|
| GDPT 882 | Clinical Practicum IV (12 weeks) | 6 |
| GDPT 887 | Clinical Synthesis III | 2 |
| GDPT 886 | Community Health Initiative V | 1 |
| Elective | | 2-3 |
| Total | | 11-12 |

Total Credits 107-108

## ELECTIVES

Five to six credits of elective coursework are required in this curriculum plan. Students may fulfill this requirement either by completing their group research project or selecting from graduate elective courses available during the student's 7th or 8th semesters of the program. Most of these course offerings are available online.

## 3 + 3 DPT PROGRAM

For those students enrolled in the accelerated 3 + 3 DPT program they must successfully complete the first year graduate courses for completion of the intended undergraduate degree. Failure to successfully complete the graduate coursework may result in additional undergraduate coursework to fulfill the undergraduate degree requirements.

## LICENSURE

To achieve licensure as a physical therapist, program graduates must successfully complete and pass a comprehensive licensure examination administered by each state. To assist graduating students in preparing for the licensure examination, the program offers a series of practice licensure examinations prior to graduation.

To practice as a physical therapist in the United States, many states require a clean criminal record, with no misdemeanors or felonies. Individuals with criminal records should contact the physical therapy licensing board of the state where they would like to practice prior to applying for admission to a DPT program so that they may fully inform themselves of any restrictions that may apply to them.

## RESEARCH PROJECT

The DPT program requires students to complete a group research proposal that includes a traditional introduction, literature review, and description of methods. Project ideas are usually faculty generated. However, students will be given an opportunity to develop their own research idea. Topics are related to a traditional clinical question or a community-based research project that meets an identified need of a community organization. All students will write a mock Institutional Review Board application for their project. Students will be offered the option to complete their research project utilizing their elective credits. This option would include: applying for Institutional Review Board approval, collecting and analyzing data, and preparing a research report suitable for publication and/or a conference presentation.

## ACCREDITATION

The Physical Therapy educational program is accredited by the Commission on Accreditation in Physical Therapy Education of the American Physical Therapy Association.

For further information on accreditation, contact: CAPTE, 1111 North Fairfax Street, Alexandria, VA 22314. Phone: 703-706-3245.

## CLINICAL EXPERIENCES

Students participate in four full-time clinical experiences [forty (40) total weeks] spaced throughout the curriculum. The clinical education component is designed to allow students the opportunity to practice and refine their assessment process, skills and techniques immediately following the presentation of the didactic material.

Many of the clinical sites that the DPT Program uses for clinical placements require a clean criminal record or the student may not be assigned to that site. Once admitted to a DPT program, a DPT student with a criminal record may be limited in clinical site assignments. Several clinical sites also require drug testing prior to starting the clinical experience. A clean drug test may be required for the student to participate in the learning experience.

The Academic Coordinator of Clinical Education formally tracks the clinical site placements of each student, makes site selections, and advises each student to gain the most diverse exposure possible. The students are required to go outside of Northwestern Pennsylvania for at least three of the four clinical rotations.

## COURSE DESCRIPTIONS

**GDPT 810 Health Care System and Policy I**
2 credits
This course begins the student's process of socialization into the physical therapy profession. It introduces students to the scope of physical therapy practice within the continuum of the current health care environment and system. An understanding of global health care perspectives is contrasted with modern western medicine. Principles of professional behavior and portfolio development are introduced. Concepts of respectful professional and patient/client relationships are emphasized including culturally sensitive, verbal and non-verbal communications, ethics, legal and liability issues, and conflict management.

**GDPT 811 Applied Anatomy**
2 credits
An advanced study of human anatomy with cadaver dissection and clinical correlation to the practice of physical therapy. The course

is structured to provide laboratory experiences that supplement the didactic material presented in GDPT 815 and GDPT 818. Incorporated in the course are activities to develop skills of teamwork and education of peers.

**GDPT 814 Research Applications: Evidence-Based Practice I**
2 credits
The purpose of the Research Applications: Evidence-Based Practice course series is to first teach students how to judiciously search and analyze professional literature to answer clinical questions with an emphasis of how evidence can be incorporated into daily decisions about the care of individual patients and populations. Through a group process, students will complete a research project including: project and Institutional Review Board proposals, data collection, defense of project, and presentation in a public forum.

The Research Applications: Evidence-Based Practice I teaches students how to develop answerable, searchable clinical questions utilizing the PICO (Patient, Intervention, Comparison Outcome) model that supports application of evidence-based practice in clinical decision-making. It begins with development of skills to locate potentially useful information that will provide evidence to answer a clinical or research question by searching the literature through strategies that access both print and electronic media. Students will study the nuts and bolts of research terms, concepts, designs and the most frequently used statistics in physical therapy. Different electronic databases will be identified and utilized. Using the Quality Appraisal (QA) format students will learn critical review and evaluate articles on diagnostic testing, prognosis, treatment efficacy and effectiveness, and systematic review with and without meta-analysis.

**GDPT 815 Basic Physical Therapy Practice and Interventions**
2 credits
The essential concepts of the physical therapy patient/client management model are introduced, set within the context of the Guide to Physical Therapy Practice, and the disablement model. The five elements of patient/client management are defined with an emphasis on data that may be generated from a patient/client history. Documentation in the patient/client record is introduced. There is an emphasis on health promotion, wellness, prevention of disease/disability, and nutritional considerations. Students will learn the basic principles of exercise testing, assessment of normal and abnormal vital signs, and exercise responses. Application of fundamental physical therapy interventions are initiated including exercise prescription, standard precautions, patient/client transfers, gait training with assistive devices, and functional mobility screening. Introduction to medical screening and review of body systems will prepare the students in examination and evaluation for patients with musculoskeletal dysfunction.

**GDPT 816 Community Health Initiatives I**
1 credit
The purpose of this course sequence is for students to understand their expanding and potential professional role in the community; and to develop skills and application of educational activities, health promotion, prevention and wellness through experiential community-based learning (service learning). In the first course of this sequence, students will engage in community activities supportive of the Erie community and society. Students will begin to study the scope of local community services agencies that promote improving the health of the community and its constituents. Concepts of health promotion, wellness, and service learning will be introduced. Oral discussion, reflective writing, and student directed readings are used to link social responsibility with professional role in the community.

**GDPT 817 Pathology**
3 credits
This course covers an introduction to the variety of pathologies encountered in physical therapy practice. Using a body systems approach students explore structure and function, etiology, clinical presentation, medical management and special implications for physical therapists. Systems covered include: immune, integumentary, endocrine, metabolic, cardiovascular, lymphatic, hematologic, respiratory, gastrointestinal, hepatic, pancreatic, biliary, renal and urologic, reproductive, and nervous systems, with additional units on infectious disease, oncology and biopsychosocial diseases and dysfunctions. Musculoskeletal pathologies are included in the musculoskeletal system course in the following semester.

**GDPT 818 Foundations in Human Movement**
**GDPT 819 Foundations in Human Movement Lab**
6 credits
This course is an in-depth analysis of normal and pathological human motion that provides a framework for much of the basic and applied foundation and clinical content areas of the physical therapy curriculum. A major emphasis is placed on normal anatomical structure and function. Incorporated within the course is a study of the pathological mechanisms affecting human movements. Basic theories of biomechanics and kinesiology are presented, along with application of these principles to biologic tissues, providing students with the necessary principles to analyze the forces generated by muscles and the forces applied to joints during gait and other activities. Fundamental patient evaluation procedures of palpation, joint motion, strength assessment, gait, posture assessment movement/task analysis, and sensory and reflex testing are also presented. Laboratory experiences are designed to enhance, integrate and apply lecture concepts.

**GDPT 821 Examination, Evaluation, and Intervention for Cardiovascular and Pulmonary Dysfunction I**
**GDPT 823 Examination, Evaluation, and Intervention for Cardiovascular and Pulmonary Dysfunction II**
4 credits
Prerequisite for GDPT 823 is GDPT 821
This course is an integrated approach to the study of normal movement and movement dysfunction of cardiovascular and pulmonary systems related to the practice patterns of physical therapy, including relevant physiologic, anatomic, pathologic, differential diagnoses, pharmacology, imaging (radiological, CT scan, MRI), medical and therapeutic concepts associated with these systems. The cardiovascular system will be reviewed as it interrelates with the pulmonary system. The context of the course fosters evidence-based practice and is set within the framework of the patient/client management - examination, evaluation, diagnosis, prognosis, and interventions that lead to optimal outcomes. Interventions include applicable documentation, communication, reimbursement, coordination of services, patient/client related instruction, and procedural intervention such as therapeutic exercise, manual therapies, functional training, physical agents and modalities. Understanding the implications of psychosocial, cultural, economic, and vocational aspects of impairment and disability are incorporated into case discussions. The course offers lecture, problem-oriented case discussion and laboratory learning experiences building from simple to complex patient/client problems that facilitate development of student competencies linked to cardiovascular/ pulmonary physical therapy preferred practice patterns.

**GDPT 826 Community Health Initiatives II**
1 credit
In the second course of this sequence, activities include providing volunteer services to community agencies and participation in the development and delivery of a community educational activity. Basic concepts of educational theory related to teaching and learning are introduced. Readings, oral discussion, and reflective writing are used to link social responsibility with professional role.

**GDPT 822 Examination, Evaluation & Intervention for Musculoskeletal Movement Dysfunction of the Extremities**
**GDPT 824 Examination, Evaluation & Intervention for Musculoskeletal Movement Dysfunction of the Extremities Lab**
9 credits
The GDPT 822 & 824 course sequence is an integrated approach to the study of relevant physiologic, anatomic, pathologic, medical and therapeutic concepts related to musculoskeletal aspects of physical therapy practice of the extremities. The course includes the physical therapy evaluation process, physical therapeutic techniques and procedures, reimbursable documentation and patient care program development from a collaborative management approach. The course offers classroom, laboratory and clinical field experiences building from simple to complex problems to assist the student in developing necessary competencies in musculoskeletal physical therapy. Experiences related to psychological, social, cultural, economic and vocational aspects of impairment and disability are included. The course offers learning experiences using the problem oriented case study approach, organized around the musculoskeletal system, with an orientation toward health maintenance, promotion and prevention of disease and disability.

**GDPT 825 Examination, Evaluation & Intervention for Musculoskeletal Movement Dysfunction of the Spine**
**GDPT 827 Examination, Evaluation & Intervention for Musculoskeletal Movement Dysfunction of the Spine Lab**
4 credits
The GDPT 825 & 827 course sequence is an integrated approach to the study of relevant physiologic, anatomic, pathologic, medical and therapeutic concepts related to musculoskeletal aspects of physical therapy practice in the spine. This course will follow the same format and build on concepts and skills taught in GDPT 822 & 824. The course includes the physical therapy evaluation process, physical therapeutic techniques and procedures, reimbursable documentation and patient care program development from a collaborative management approach. The course offers classroom, laboratory and clinical field experiences. Experiences related to psychological, social, cultural, economic and vocational aspects of impairment and disability are included. The course offers learning experiences using the problem oriented case study approach, organized around the musculoskeletal system, with an orientation toward health maintenance, promotion and prevention of disease and disability.

**GDPT 830 Health Care System and Policy II**
2 credits
The purpose of this course is to educate students about the delivery of health care services. Issues related to access to health care, economics of health care, reimbursement issues, and financing therapy services are discussed including how these factors affect access to physical therapy and therapists. It specifically prepares students to implement the Guide to Physical Therapy Practice (GPTP) interventions of communication, coordination, documentation, patient/client related instructions, discharge planning; and criteria for termination of physical therapy services. The role of the physical therapist in the acute and post-acute health care system is explored. The student will develop an understanding and respect for the practice domains of other health care professionals and be able to identify which services may or may not be directed to others.

**GDPT 831 Foundations in Geriatrics**
2 credits
Foundations in Geriatrics is part of the lifespan content of the curriculum and complements the Foundations in Pediatrics course. Normal versus pathologic aging of all body systems and the concept of usual versus successful aging will be defined. Common pathologies associated with aging will be considered. Specific examination, evaluation, diagnosis, prognosis, and interventions for the elderly will be identified. The impact of psychosocial aspects

of aging are considered as they affect the health and well being of the older adult. Ethical, legal, and health care issues specific to the geriatric population will be discussed.

**GDPT 832 Clinical Practicum I (10 weeks)**
5 credits
This is a ten-week, full-time clinical experience provided primarily throughout the United States. The experience is structured to provide the student with the opportunity to develop competency in the management of patients with musculoskeletal dysfunction.

**GDPT 841 Foundations in Pediatrics**
4 credits
An in-depth study of the theories and concepts related to normal motor development and motor control. Building upon this foundation, the course provides an integrated approach to the study of all relevant physiologic, anatomic, pathological, medical and therapeutic concerns related to pediatric musculoskeletal and cardiopulmonary physical therapy practice. This course includes the physical therapy evaluation process, physical therapeutic techniques and procedures, and patient care program development from a collaborative management paradigm. The course offers learning experiences using direct patient care opportunities in laboratory and clinical settings to assist the student in developing some of the instrumental competencies in pediatric physical therapy. Experiences related to psychological, social, cultural, economic, and vocational aspects of impairment and disability of acute, sub-acute and chronic cardiopulmonary and musculoskeletal care are included. The course offers learning experiences presented using the problem/case study approach, organized around the musculoskeletal and cardiopulmonary systems, with an orientation toward health maintenance and promotion and prevention of disease.

**GDPT 843 Examination, Evaluation, and Intervention for Neuromuscular Movement Dysfunction I**
**GDPT 845 Examination, Evaluation, and Intervention for Neuromuscular Movement Dysfunction I Lab**
4 credits
An integrated approach to the study of all relevant physiologic, anatomic, pathologic, medical and therapeutic concepts related to pediatric neurological physical therapy practice. The course includes the physical therapy evaluation process, physical therapeutic techniques and procedures, and patient care program development from a collaborative management paradigm. The course offers learning experiences using direct patient care opportunities in the laboratory through the utilization of children from various community resources to assist the student in developing the necessary competencies of physical therapy practice in these areas. The course offers learning experiences presented using the problem/case study approach, organized around the body system, with an orientation toward health maintenance and promotion and prevention of disease and disability.

**GDPT 844 Research Applications: Evidence-Based Practice II**
1 credit
Students will begin their group research projects based on faculty led or student developed topics. The process commences with an individually developed annotated bibliography related to student's research topic of interest. Other course content includes critical analysis of qualitative research reports, research methodology and paradigms, and the development of a theoretical context. The course will culminate with a group written paper first draft of the systematic review of the literature for their research project.

**GDPT 847 Clinical Synthesis I**
1 credit
This course is designed to facilitate in the physical therapy student the synthesis of clinical data with the research evidence supporting the examination and treatment of the selected diagnoses. Within the structure of the course, the student is required to analyze the literature regarding the selected case, facilitate a discussion of these findings in a group setting with colleagues, and critique and reflect upon their previous examination and treatment of the case.

**GDPT 848 Neuroscience**
**GDPT 849 Neuroscience Lab**
5 credits
This course is a study of structure and function of the human central and peripheral nervous system including vascular components and special senses. The course emphasizes nervous system control of movement. Laboratory sessions include human nervous system material as depicted in the course lab manual and atlas, brain sections, and anatomical models. The course uses clinical correlations to reinforce comprehension of structure and function.

**GDPT 850 Health Care System and Policy III**
2 credits
This course is a continuation of the Health Care System & Policy series. The student will explore current issues and trends in health care at all levels (local, state, national) and their effects upon the delivery of physical therapy services. Topics include methods of health care delivery, regulations governing health care delivery, professional organizations role and function, and methods by which change may be effected in these areas. The student will explore the role of the physical therapist as a consultant and advocate. Students will further develop their portfolios, and will identify opportunities for career development within the field of physical therapy.

**GDPT 853 Examination, Evaluation, and Intervention for Neuromuscular Movement Dysfunction II**
**GDPT 855 Examination, Evaluation, and Intervention for Neuromuscular Movement Dysfunction II Lab**
9 credits
An integrated approach to the study of all relevant physiologic, anatomic, pathologic, medical and therapeutic concepts related

to adult cerebrovascular, traumatic and degenerative neurological physical therapy practice. The course includes the physical therapy evaluation process, physical therapeutic techniques and procedures, and patient care program development from a collaborative management paradigm. The course offers learning experiences using direct patient care opportunities in the laboratory through the utilization of adults and children from various neurological disability support groups to assist the student in developing the necessary competencies of physical therapy practice in these areas. Also incorporated are direct patient care opportunities in the clinical setting through the use of experienced clinicians working with the students in a clinical mentoring program. The course offers learning experiences presented using the problem/case study approach, organized around the body system, with an orientation toward health maintenance and promotion and prevention of disease and disability.

**GDPT 854 Research Applications: Evidence-Based Practice III**
**GDPT 851 Research Applications: Evidence-Based Practice III Guidance**
2 credits
The purpose of this course is for the student to develop a complete research proposal including application to Institutional Review Board for their study. Students will be guided through this process under the direction of a research advisor and a content advisor. There is a focus on understanding how to maintain ethical standards in designing a research study, including the collection and handling of data, drawing conclusions, critiquing and reporting results.

**GDPT 856 Community Health Initiatives III**
1 credit
The purpose of this course is to develop the student's skills as an educator in an application of health promotion, prevention and wellness, and for students to understand their expanding and potential professional role in the community through experiential community-based learning (service learning). In the third course of this sequence activities will include developing a health promotion educational presentation that is based on community education needs identified by community organizations. Students will develop, deliver, peer, and self-evaluate at least one of their community educational presentations using at least two different formats. Readings, oral discussion, and reflective writing are used to link social responsibility with professional role.

**GDPT 860 Health Care System & Policy IV**
1 credit
Introduction to the theories and application of management activities including personnel relations, budgeting, planning, organizing, and operating a physical therapy program in a variety of health care settings. The course includes independent study and experiential learning activities.

**GDPT 861 Research Guidance (Elective)**
1 credit
Student research groups electing to complete their research project will develop a Faculty-Student Research Contract that outlines expectations for progression of research project through 7th and 8th semesters of the program, which include GDPT 871, 874, 881, and 884. Students will begin the data collection phase of a research project following approval from the Institutional Review Board for Protection of Human Subjects. Data collection is conducted under the supervision or direction of their content advisor. Data analysis processes including SPSS will be attended to through computer laboratory activities and class room discussions. Students are expected to continue working on their research project and demonstrate progress through completion of the listed course requirements.

**GDPT 862 Clinical Practicum II**
5 credits
Ten week full-time clinical experience provided primarily throughout the United States. The experiences are structured to provide the student with the opportunity to develop competence in the management of patients with neurologic, orthopedic and cardiac dysfunction.

**GDPT 866 Community Health Initiatives IV**
1 credit
The purpose of the fourth course in this sequence is to develop a special project proposal in collaboration with a student selected community organization. The project will meet the needs or objectives identified by the organization, which contributes to their mission. The student will demonstrate their role as an educator, consultant, and/or advocate through completion of this project. The project can take any form mutually agreed upon by course coordinator, faculty mentor and student, providing it meets required proposal guidelines. Examples of an organization's needs include but are not limited to: educational presentations, marketing plans, consultation, advocacy, or assistance with an organization's sponsored events. Written project proposal should demonstrate social responsibility and link community partner's need/objective with appropriate DPT program educational outcomes.

**GDPT 867 Clinical Synthesis II**
1 credit
This course is designed to facilitate in the physical therapy student the synthesis of clinical data with the research evidence supporting the examination, and treatment of the selected diagnoses. Within the structure of the course, the student is required to analyze the literature regarding the selected case, facilitate a discussion of these findings in a small group setting with colleagues, and critique and reflect upon their previous examination and treatment of the case.

**GDPT 870 Health Care System & Policy V**
2 credits
This course builds on the foundation of Health Care System & Policy IV and continues the program development process and application of management theories. Students will complete program development and provide a presentation to the health care community of their ideas. The course continues use of independent study and experiential learning activities.

**GDPT 872 Clinical Practicum III**
4 credits
This is an eight-week, full-time clinical experience provided in a variety of health care settings.. The experience is structured to provide the student with the opportunity to develop competency in the management of patients with acute or chronic dysfunction.

**GDPT 873 Examination, Evaluation, and Intervention for Integumentary & Multi-System Movement Dysfunction and Lab**
4 credits
An integrated approach to the study of all relevant physiological, anatomic, pathological, medical and therapeutic concepts related to patients with multi-system problems Four major topic areas will be addressed: (1) concepts related to neoplastic, infectious, and metabolic problems; (2) concepts related to patients with vascular, integumentary, hematologic and immune dysfunction along with upper and lower extremity prosthetic assessment and management; (3) concepts related to organ failure and transplantation, and (4) concepts related to preventive strategies, intervention and referral for OB-GYN related issues. The course includes the physical therapy assessment process, physical therapeutic techniques and procedures, and patient care program development from a collaborative management paradigm. The course offers classroom, tutorial, laboratory, and clinical field work experiences building from simple to complex to assist the student in developing the necessary competencies of physical therapy practice in these areas. Experiences related to psychological, social, cultural, economic and vocational aspects of impairment and disability are included. The course offers learning experiences presented using the problem/case study approach, with an orientation toward health maintenance and the prevention of disease and disability.

**GDPT 874 Research Applications: Evidence-Based Practice IV (Elective)**
**GDPT 871 Research Applications: Research Guidance IV (Elective)**
2 credits
Students will progress through these courses completing the work designated by the Faculty-Student Research Contract. Completion of these courses may culminate in an article ready for publication. However, other end points may include but are not limited to preliminary data collection, analysis, written report of preliminary findings, assimilation and analysis of several years of data and final written report.

**GDPT 882 Clinical Practicum IV**
6 credits
This is a twelve-week, full-time clinical experience provided primarily throughout the United States. The experience is structured to provide the student with the opportunity to develop advanced skills in the management of patients in an interest area or to practice in a unique setting. This experience will also emphasize the administrative, consultative and diagnostic role of the autonomous physical therapist.

**GDPT 884 Research Applications: Evidence-Based Practice V (Elective)**
**GDPT 881 Research Applications: Research Guidance V (Elective)**
2 credits
Students will progress through these courses completing the work designated by the Faculty-Student Research Contract. Completion of these courses may culminate in an article ready for publication. However, other end points may include but are not limited to preliminary data collection, analysis, written report of preliminary findings, assimilation and analysis of several years of data and final written report.

**GDPT 886 Community Health Initiative V**
1 credit
In this capstone course of the Community Health Initiative course sequence, the student completes their special community project as per their proposal developed in GDPT 866: Community Health Initiatives 4. Students will demonstrate their role as an educator, consultant, and/or advocate. Students will be provided an opportunity to share their project outcomes with other student physical therapists and community members through an oral and/or visual presentation. Written reflection of community project should link community partner's need/objective with specific and appropriate Commission on Accreditation for Physical Therapist Education evaluative criteria.

**GDPT 887 Clinical Synthesis III**
2 credits
This course is designed to facilitate in the physical therapy student the synthesis of clinical data with the research evidence supporting the examination and treatment of the selected diagnoses. Within the structure of the course, the student is required to analyze the literature, facilitate a discussion of these findings in a group setting with colleagues, and critique and reflect upon their previous examination and treatment of the patient case. The course will culminate in structured student presentations as part of exam preparation for the National Physical Therapy Examination (NPTE).

**GDPT 890 Introduction to Pharmacology**
1 credit
This course is an introduction to basic pharmacology including pharmacodynamics and pharmacokinetics. Lab values used in the diagnosis of common pathologies will also be discussed.

Medications used to treat pathologies and the clinical implications for physical therapy will be reviewed. It will address how drug therapy interacts with the patients and how medications have both beneficial and adverse effects on rehabilitation of patients. This course will closely follow the clinical course sequence of GDPT822 and GDPT 825.

**GDPT 899 Independent Study (Elective)**
3 credits
This course allows students to enrich their knowledge and competency in an advanced area of interest related to PT practice. The student designs the learning experience(s) with guidance from the Independent Study Coordinator and a faculty member (content advisor) by means of a learning contract. Only the student's motivation and the availability of the selected experience may limit the type of independent study experience. The independent study focuses on enrichment; a new and varied advanced learning opportunity. Students may not use independent study to remediate existing didactic or clinical deficiencies (i.e., incompletes or below mastery standing). It is the student's responsibility to develop and carry out specific objectives defined through a learning contract. Through this learning experience, the student will acquire and demonstrate a new or enhanced body of knowledge.

**GTDPT 901 Foundation of Current and Future Practice (Elective)**
2 credits
This course provides an orientation of physical therapists to a doctoring profession, addressing the professional, interactive, ethical and managerial skills required to work in first-contact practice settings. Topics such as autonomous practice, direct access to health care systems, professional core values and ethics, collaboration and referral process, and professional social responsibility to the community and society will be covered.

# Physician Assistant Science

***Department Chair: Michele M. Kauffman, JD, MPAS, PA-C***

## INTRODUCTION

Physician Assistants are skilled, dependent health practitioners who are academically and clinically prepared to provide patient care services under the supervision of a physician. Their specific tasks vary widely due to differences among state laws, hospital policies and utilization preferences of supervising physicians.

Generally, PAs are qualified to obtain patient histories, perform comprehensive physical examinations, order and interpret diagnostic laboratory tests, prepare a diagnosis, implement a treatment plan for common illnesses, deliver patient education and counseling, perform certain surgical procedures, and provide emergency care. PAs may assist in surgery and deliver pre-operative and post-operative care. Physician Assistants may deliver patient care in any setting in which the physician works.

The Physician Assistant Department offers a Master of Physician Assistant Science degree available through either a five-year undergraduate admission program or a post baccalaureate curriculum. The curriculum is predominantly clinical during the final year of the program. Adjunct regional medical faculty, in conjunction with various health care institutions, introduces the students to professional physician assistant training. Clinical sites are offered primarily in northwestern Pennsylvania, Ohio, and western New York, as well as some locations farther a field. Students are responsible for their own housing and transportation to and from clinical sites.

The PA program curriculum of the Gannon University Physician Assistant Program is accredited by the Accreditation Review Commission on Education for the Physician Assistant, Inc.

## OUTCOMES/OBJECTIVES

Upon completion of the Physician Assistant Program the student will be able to:

- Perform a complete and accurate history and physical examination; identify abnormal findings and develop an appropriate differential diagnosis
- Develop a plan of evaluation in support of the differential diagnosis, including specialized diagnostic imaging, and pathologic modalities

- Develop a treatment plan consisting of surgical and medical interventions including non-pharmacological modalities such as physical therapy, counseling and patient education through analysis of clinical and laboratory data
- Accurately relate the clinical data to the other members of the health care team, forming a collaborative effort to assure maximal patient benefit through a multiple disciplinary approach
- Show proficiency in performing clinical skills
- Identify characteristics of professional and ethical conduct for the Physician Assistant Profession
- Synthesize theory and research in order to provide advanced care to patients

## ADMISSION REQUIREMENTS

Applicants must possess a baccalaureate degree. A minimum GPA of 3.0 is required from previous professional education and prerequisites must have been completed within the last five years. As part of the application process, applicants must submit recommendation forms from three evaluators and complete a personal interview. In addition, applicants must submit the following: official transcripts, curriculum vitae and 30 hours of documented volunteer/paid medical experience or 30 hours of shadowing a Physician Assistant. All international students must take the Test of English as a Foreign Language (TOEFL) and Test of Spoken English (TSE) exams. A minimum TOEFL score of 600 (paper test) or 250 (computer-based test) and a minimum TSE score of 50 are required for application. The application deadline is January 15. Applications received after the deadline will be reviewed on a space availability basis.

## TECHNICAL STANDARDS

A candidate for admission to the PA Program must have the use of certain sensory and motor functions to permit them to carry out the activities described in the sections that follow. Graduation from the program signifies that the individual is prepared for entry into clinical practice or into postgraduate training programs. Therefore, it follows that graduates must have the knowledge and skills needed to function in a broad variety of clinical situations and to render a wide spectrum of diagnostic and therapeutic care. The candidate and student must be able consistently, quickly, and accurately to integrate all information received by whatever sense(s) are employed. Also, they must have the intellectual ability to learn, integrate, analyze, and synthesize data.

A candidate for the PA Program ordinarily must have the following abilities and skills as explained below: observation; communication; motor; intellectual, conceptual, integrative, and quantitative; and behavioral and social. Where technological assistance is available in the program, it may be permitted for disabilities in certain areas. Under all circumstances, a candidate should be able to perform the following tasks in a reasonably independent manner:

I. *Observation*: Candidates and students ordinarily must have sufficient vision to be able to observe demonstrations, experiments, and laboratory exercises. They must be able to observe a patient accurately at a distance and close at hand.

II. *Communication*: Candidates and students ordinarily must be able to communicate with patients and colleagues. They should be able to hear, but if technological compensation is available, it may be permitted for some handicaps in this area. Candidates and students must be able to read, write, and speak English.

III. *Motor*: Candidates and students ordinarily should have sufficient motor function such that they are able to execute movements reasonably required to provide general care and emergency treatment to patients. Examples of emergency treatment reasonably required of physician assistants is cardiopulmonary resuscitation, administration of intravenous medication, the application of pressure to stop bleeding, the opening of obstructed airways, the suturing of simple wounds, and the performance of simple obstetrical maneuvers. These actions require coordination of both gross and fine muscular movements, equilibrium, and functional use of the senses of touch and vision.

*IV. Intellectual, Conceptual, Integrative, and Quantitative Abilities:* These abilities include measurement, calculation, reasoning, analysis, and synthesis. Problem solving, the critical intellectual skill demanded of a physician assistant, requires all of these intellectual abilities. In addition, candidates and students should be able to comprehend three-dimensional relationships and understand the spatial relationships of structures.

V. *Behavioral and Social Abilities*: Candidates and students must possess the emotional health required for full utilization of the intellectual abilities, the exercise of good judgment, the prompt completion of all responsibilities attendant to the assessment and care of patients, and the development of mature, sensitive, and effective relationships with patients. Candidates and students must be able to tolerate physically taxing workloads, adapt to changing environments, display flexibility, and learn to function in the face of uncertainties inherent in the clinical problems of many patients. Compassion, integrity, concern for others, interpersonal skills, interest, and motivation are all personal qualities to be assessed during the admissions and educational processes.

The PA Department is committed to providing reasonable accommodations to students with an identifiable disability as defined by the Americans with Disability Act. In doing so, however, the PA Department must maintain the integrity of its curriculum and preserve those elements deemed essential to educating candidates to become effective physician assistants.

Students in the program must be of sufficient health to meet the criteria of our clinical affiliates.

The PA Department reserves the right to reassess the student's ability to meet the technical standards at any time during the student's training and act accordingly.

# EMPLOYMENT POLICY

Employment during the PA Program is not recommended. Demanding courses and time constraints are to be expected. Employment during the clinical phase of the PA Program is strongly discouraged. Students will spend an average of 40 hours a week on clinical site, plus complete reading assignments in order to prepare for end of rotation exams. Students may need to relocate every six weeks, precluding steady employment. Students who choose to work may jeopardize performance and continuation in the program.

# MASTER OF PHYSICIAN ASSISTANT SCIENCE CURRICULUM

## 5 YEAR OPTION

**Graduate Phase Only** (See the undergraduate catalog for the complete curriculum.)

**Summer (start of Graduate phase)**

| | | |
|---|---|---|
| GPHAS 600 | Pre-Rot Lec Series Lab | 1 |
| GPHAS 601 | Pre-Rot Lec Series | 4 |
| GPHAS 602 | Bus Prac and Cur Iss for PAs | 2 |
| GPHAS 614 | General Surgery Rotation | 5 |
| Total 12 | | |

**Fifth Year**
**Fall**

| | | |
|---|---|---|
| GPHAS 616 | Clinical Research | 4 |
| GPHAS 617 | Family Medicine Rotation I | 5 |
| GPHAS 618 | Family Medicine Rotation II | 5 |
| Total 14 | | |

**Spring**

| | | |
|---|---|---|
| GPHAS 619 | Family Medicine Rotation III | 5 |
| GPHAS 621 | Emergency Med Rotation | 5 |
| GPHAS 622 | Fam Med Rotation IV | 5 |
| Total 15 | | |

**Summer**

| | | |
|---|---|---|
| GPHAS 623 | Elective Rotation I | 5 |
| GPHAS 624 | Elective Rotation II | 5 |
| GPHAS 631 | Research/ Project Guidance | 2 |
| GPHAS 634 | Clinical & Professional Capstone | 2 |
| Total 14 | | |

## POST BACCALAUREATE OPTION

# PREREQUISITES

Following are prerequisites for the Post-Baccalaureate Option and must be completed prior to enrolling:

| | |
|---|---|
| Major Level Biology | 8 Credits |
| Chemistry | 8 Credits |
| Medical Terminology (or demonstrated competency) | 3 Credits |
| Psychology | 3 Credits |
| Statistics | 3 Credits |

Prerequisite and undergraduate courses will not be accepted if they have been completed over 5 years prior to enrollment. Advanced standing is not granted in the graduate phase of the program. No credits are awarded for experiential learning.

**Undergraduate Courses**

| | | |
|---|---|---|
| BIOL 365 | Human Anatomy | 3 |
| BIOL 366 | Human Anatomy Lab | 1 |
| BIOL 368 | Human Physiology | 3 |
| BIOL 369 | Human Physiology Lab | 1 |
| BIOL 378 | Medical Microbiology | 3 |
| BIOL 379 | Medical Microbiology Lab | 1 |
| BIOL 232 | Human Genetics | 3 |
| PHAS 363 | The Research Process | 3 |
| Total 18 | | |

**Fall Semester**

| | | |
|---|---|---|
| GPHAS 511 | Physical Diagnosis I | 5 |
| GPHAS 513 | Physical Diag Lab II | 1 |
| GPHAS 514 | Medical Lecture Series I | 3 |
| GPHAS 524 | Pharmacotherapeutics I | 3 |
| GPHAS 531 | Clinical Science 1 | 3 |
| GRADS 541 | Intro to Radiology | 3 |
| Total 18 | | |

**Spring Semester**

| | | |
|---|---|---|
| GPHAS 508 | Behavioral Medicine | 1 |
| GPHAS 515 | Medical Lecture Series II | 6 |
| GPHAS 516 | Physical Diag Lab III | 1 |
| GPHAS 525 | Pharmacotherapeutics II | 2 |
| GPHAS 532 | Clinical Science II | 2 |
| GPHAS 538 | PEDS/OB/GYN Lec Series | 4 |
| GPHAS 545 | Problem Based Medicine | 2 |
| Total 18 | | |

**Summer Semester**

| | | |
|---|---|---|
| GPHAS 601 | Pre-Rot Lec | 4 |
| GPHAS 600 | Pre-Rot Lec Lab | 1 |
| GPHAS 602 | Bus Prac and Cur Iss for PAs | 2 |
| GPHAS 614 | General Surgery Rotation | 5 |
| Total 12 | | |

**Fall Semester**

| | | |
|---|---|---|
| GPHAS 616 | Clinical Research | 4 |
| GPHAS 617 | Family Medicine Rotation I | 5 |
| GPHAS 618 | Family Medicine Rotation II | 5 |
| Total 14 | | |

**Spring Semester**

| | | |
|---|---|---|
| GPHAS 619 | Family Medicine Rotation III | 5 |
| GPHAS 621 | Emergency Medicine Rotation | 5 |
| GPHAS 622 | Family Medicine Rotation IV | 5 |

Total 15

**Summer Semester**

| | | |
|---|---|---|
| GPHAS 623 | Elective Rotation I | 5 |
| GPHAS 624 | Elective Rotation II | 5 |
| GPHAS 631 | Research/ Project Guidance | 2 |
| GPHAS 634 | Clinical & Professional Capstone | 2 |

Total 14

# COURSE DESCRIPTIONS

**GPHAS 508 Behavioral Medicine**
1 credit
Prerequisite: GPHAS 514
This course is designed to introduce the students to the major mental health conditions including adolescent and childhood disorders. Special attention will be given to disease characteristics, etiologies and applicable behavioral and pharmacological treatments.

**GPHAS 511 Physical Diagnosis I**
5 credits
The techniques of history-taking, discussion and demonstration of normal physical findings with various organ systems and alteration of physical signs in disease states are introduced to the student. The relationship of physical signs to altered physiology is emphasized.

**GPHAS 513 Physical Diagnosis Lab II**
1 credit
Designed to complement the physical diagnosis lectures, this course enables students to develop skills in performing histories and physical examinations on fellow students.

**GPHAS 514 Medical Lecture Series I**
3 credits
Symptoms, signs and abnormal body function are taught in a problem-oriented manner, including a logical method, relevant diagnostic maneuvers, possible therapeutic intervention and patient education. The lectures complement the knowledge acquired in Physical Diagnosis, and is correlated with the Pharmacology and Laboratory Diagnosis courses.

**GPHAS 515 Medical Lecture Series II**
6 credits
Prerequisite: GPHAS 514
A continuation of GPHAS 514

**GPHAS 516 Physical Diagnosis Lab III**
1 credit
Prerequisites: GPHAS 511; and GPHAS 513
In addition to performing histories and physical examination on hospitalized or nursing home patients, the student is exposed to a wide variety of frequently encountered medical problems and begins to develop a basic understanding of pathophysiology. In addition the student will develop a methodology for approaching any medical complaint.

**GPHAS 524 Pharmacotherapeutics I**
3 credits
This course is designed to provide both basic information regarding the pharmacology of many commonly used medications coupled with a practical and systematic approach to the selection of appropriate drug therapy for patients. Two major areas of focus are a review of the principles of therapeutics (e.g., pharmacokinetics and pharmacodynamics) and a review of recommended drug therapy for common medical disorders (e.g., hypertension, peptic ulcer disease). Students will be instructed on a process through which they will think pharmacotherapeutically – that is, to identify a disease, review the drugs available to treat that disease, select treatment based upon goals of therapy and specific patient parameters and how to adjust therapy if required. Also, all lectures are coordinated with Medical Lecture Series such that medications are reviewed in close proximity to lectures on pathophysiology in order to enhance the learning experience for students.

**GPHAS 525 Pharmacotherapeutics II**
2 credits
Prerequisite: GPHAS 524
A continuation of GPHAS 524

**GPHAS 531 Clinical Science I**
3 credits
This course is designed to provide a basic understanding of the pathophysiology and clinical diagnostic methods involved in the evaluation of common disease processes. Emphasis is placed on understanding molecular structure and function as it applies to application and interpretation of clinical testing for diagnostic/ therapeutic purposes. Topics include hematology, immunology & serology, medical microbiology, virology, clinical chemistry, urine studies and pertinent genetic testing. Lectures correlate with Physical Diagnosis I & II, Medical Lecture Series I, Pharmacotherapeutics I and Radiology in a systems oriented approach to the disease processes.

**GPHAS 532 Clinical Science II**
2 credits
Prerequisite: GPHAS 531
A continuation of GPHAS 531, this course is designed to provide a basic understanding of the pathophysiology and clinical diagnostic methods involved in the evaluation of common disease processes

discussed in Medical Lecture Series II and Pharmacotherapeutics II. Topics continue from Clinical Science I and include parasitology, arterial blood gas interpretation, electrocardiography interpretation and fluid, electrolyte & acid-base balance.

**GPHAS 538 Pediatrics/Obstetrics/Gynecology Lecture Series**
4 credits
Prerequisite: GPHAS 514
This course will discuss common disease process in Obstetrics/ Gynecology and Pediatrics in a problem oriented manner to enable the student to incorporate knowledge of pathogenesis, clinical findings, appropriate laboratory and diagnostic testing and create a treatment plan for each disease process.

**GRADS 541 Introduction to Radiology**
3 credits
This course is designed to introduce the Physician Assistant student to radiology, computerized tomography (CT), and magnetic resonance imaging (MRI). The focus of the class will include technical, anatomical and pathologic considerations.

**GPHAS 545 Problem Based Medicine**
2 credits
Prerequisite: GPHAS 514
This course offers the student an introduction to evidence based medicine. Emphasis will be placed on clinical problem solving through a case study approach. The student will be instructed to incorporate knowledge of pathogenesis, clinical findings, laboratory and other diagnostics to develop a differential diagnosis. This approach is designed to initiate critical thinking about medical problems and incorporation of treatment plans.

**GPHAS 590 Special Topics**
3 credits
This is an elective course which will cover topics of special interest.

**GPHAS 600 Pre-Rotation Lecture Lab**
1 credit
Prerequisites: Successful completion of PHAS 408-445 or GPHAS 508-545
This laboratory section is designed to complement and integrate the Pre-Rotation Lecture Series course in the Physician Assistant Program. The Laboratory experiences will supplement many of the lectures and afford students hands-on opportunities to practice clinical skills such as IVs, injections, NG tubes, Phlebotomy, Catheterization, Casting, Knot tying, and Suturing using task trainers. Clinical experiences include CPR/ACLS, computer-based medical training and clinical care scenarios utilizing high-fidelity mannequins in the Patient Simulation Center.

**GPHAS 601 Pre-Rotation Lectures and Skills**
4 credits
Prerequisites: Successful completion of PHAS 408-445 or GPHAS 508-545
This capstone course is designed to complement and integrate the Liberal Studies academic experience and didactics of the preprofessional phase of the Physician Assistant Program. Students are expected to demonstrate their capacity to utilize concepts and methodologies presented in previous Liberal Studies courses as we explore the issues related to medical ethics. Issues explored will include but not be limited to the patient and health care provider relationship, human experimentation, reproductive and dying technology. Topics in the areas of Emergency Medicine, Orthopedics, and Surgery will be discussed utilizing the foundation of information previously presented in the didactic pre-professional phase.

**GPHAS 602 Business Practices and Current Issues for Physician Assistants**
2 credits
Prerequisites: Successful completion of PHAS 408-445 or GPHAS 508-545
This course is designed to introduce the Physician Assistant student to practice management in the clinical setting. Emphasis is placed on understanding health insurance coverage, cost containment and the quality of health care. Diagnosis and procedure coding will be introduced and legal issues related to the clinical setting are addressed.

**GPHAS 614 General Surgery Rotation**
5 credits
Prerequisites: Enrollment in or successful completion of GPHAS 600, GPHAS 601, GPHAS 602
This six week clinical experience is designed to allow the student exposure to a wide variety of acute surgical problems. Under supervision, the student is expected to participate in preoperative and postoperative patient care. This experience will include taking histories, performing physical examinations, and assisting in the emergency department and operating room.

**GPHAS 616 Clinical Research**
4 credits
Prerequisites: Enrollment in or successful completion of GPHAS 600, GPHAS 601, GPHAS 602
This is a four week rotation in which students participate in medical research under the direction of a preceptor or develop a community health project. This project may involve reviewing charts, interviewing patients, reviewing existing data, collecting data and/or participating in ongoing clinical trials or educating the public. Students are required to complete a project outline and will begin to compose a research or project paper of publishable quality. The students will begin to develop a power point presentation in order to illustrate their research or project.

**GPHAS 617 Family Medicine Rotation I**
5 credits
Prerequisites: Enrollment in or successful completion of GPHAS 600, GPHAS 601, GPHAS 602
This six week clinical experience is designed to familiarize the student with all aspects of Family Practice in ambulatory, inpatient and long-term care settings. The student, through the collection and acquisition of historical, physical and laboratory data, develops an understanding of patient evaluation and treatment under the supervision of physicians or mid-level practitioners. This clinical rotation will emphasize aspects of Internal Medicine and the unique characteristics of the care of the geriatric patient.

**GPHAS 618 Family Medicine Rotation II**
5 credits
Prerequisites: Enrollment in or successful completion of GPHAS 600, GPHAS 601, GPHAS 602
This six week clinical experience is designed to familiarize the student with all aspects of Family Practice in ambulatory, inpatient and long-term care settings. The student, through the collection and acquisition of historical, physical and laboratory data, develops an understanding of patient evaluation and treatment under the supervision of physicians or mid-level practitioners. This clinical rotation will emphasize normal variations of growth and development of children from infancy to adolescence, as well as, exposure to acute and chronic illnesses of childhood.

**GPHAS 619 Family Medicine Rotation III**
5 credits
Prerequisites: Enrollment in or successful completion of GPHAS 600, GPHAS 601, GPHAS 602
This six week clinical experience is designed to familiarize the student with all aspects of Family Practice in ambulatory, inpatient and long-term care settings. The student, through the collection and acquisition of historical, physical and laboratory data, develops an understanding of patient evaluation and treatment under the supervision of physicians or mid-level practitioners. This clinical rotation will emphasize routine gynecologic care and common complaints as well as prenatal care of the female patient. This experience will also focus on common behavioral health disorders encountered in primary care.

**GPHAS 621 Emergency Medicine Rotation**
5 credits
Prerequisites: Enrollment in or successful completion of GPHAS 600, GPHAS 601, GPHAS 602
This six week clinical experience is designed to stress the evaluation and management of both medical and surgical problems of the ambulatory patient in an acute care situation. Students gain experience in the initial evaluation of patients in the emergency setting, perform problem specific examinations, practice minor surgery skills, and participate in the management of orthopedic problems.

**GPHAS 622 Family Medicine Rotation IV**
5 credits
Prerequisites: Enrollment in or successful completion of GPHAS 600, GPHAS 601, GPHAS 602
This six week clinical experience is designed to familiarize the student with all aspects of Family Practice in ambulatory, inpatient and long-term care settings. The student, through the collection and acquisition of historical, physical and laboratory data, develops an understanding of patient evaluation and treatment under the supervision of physicians or mid-level practitioners. This clinical rotation will emphasize the evaluation and treatment of conditions common at the primary care level and the appropriate health maintenance measures for different age groups from infancy to geriatrics.

**GPHAS 623 Elective Rotation I**
5 credits
Prerequisites: Enrollment in or successful completion of GPHAS 600, GPHAS 601, GPHAS 602 This six week clinical experience is designed to acquaint the student with the role of the physician assistant in practice. Students train under the supervision of a physician or mid-level provider in an office/or hospital setting. Through this clinical rotation the student will gain an in-depth exposure to a wide-spectrum of acute and chronic patient problems. This experience can occur in a clinical area that has already been experienced by the student or a specialty area of the student's choosing.

**GPHAS 624 Elective Rotation II**
5 credits
Prerequisites: Enrollment in or successful completion of GPHAS 600, GPHAS 601, GPHAS 602
This six week clinical experience is designed to acquaint the student with the role of the physician assistant in practice. Students train under the supervision of a physician or mid-level provider in an office/or hospital setting. Through this clinical rotation the student will gain an in-depth exposure to a wide-spectrum of acute and chronic patient problems. This experience can occur in a clinical area that has already been experienced by the student or a specialty area of the student's choosing.

**GPHAS 631 Research/Project Guidance**
2 credits
Prerequisites: Enrollment in or successful completion of GPHAS 600, GPHAS 601, GPHAS 602
Students complete a research project (including analysis of data and reporting results) using the scientific method to answer a question in clinical practice, under the direction of a research/project advisor. Projects may use a variety of methodologies. Students will finalize a power point presentation and/or poster for presentation or display at the annual research symposium.

**GPHAS 634 Clinical & Professional Capstone**
2 credits
Graduation from an accredited PA program qualifies an individual to take the Physician Assistant National Certification Examination (PANCE). Successful completion of PANCE is mandatory for clinical practice as a PA. As the student works to achieve professional status as a PA, the Clinical and Professional Capstone allows for an opportunity to merge the clinical rotation experiences with textbook learning. This course will provide a comprehensive overview or requisite knowledge for the graduating PA student. Emphasis will be placed on identified organ systems and task areas. Additionally, the Clinical and Professional Capstone will focus on the application of knowledge and skills for clinical practice via patient simulation, case study and evidence-based medicine. Prerequisites: Successful completion of the senior year clinical and didactic courses.

# Public Administration

***Director: Michael J. Messina, Ph.D.***

## INTRODUCTION

Gannon University's Master of Public Administration Program strives to give students the tools they need to be able to effectively solve problems and capture opportunities as a public administration professional. The mission of the MPA Program is to provide students with the vision, values and leadership skills required for successful professional and rewarding personal lives.

Public Administration is at the core of the discipline of political science. It involves the study of the management of governmental entities. It's the who, when, where and how policies are formulated, implemented, and evaluated. It's where campaign promises get carried out (or not).

Public administration is a rapidly changing field. In fact, the one thing that is constant is change. It is a field in which new ways of doing things are constantly being suggested. It is a field in which politics and values are always in flux. Public administrators are consistently being held to higher standards-to be accountable, to be ethical, to be efficient and effective, and to be responsive.

These recent dramatic changes in the worlds of politics, government, international relations, not-for-profits, and the private sector have cast a new light on the importance of leadership within the public sector.

The urgency for leadership studies and development has never been greater! A commitment to instilling qualities of leadership in students lies at the heart of a Gannon University education. That long-standing focus on leadership has become even more intense through development of new academic programs and scholarships that will uniquely position Gannon graduates to take leadership roles in fields that will be most in demand in the next century.

Political appointees of the past are rapidly being replaced by a new breed of public sector managers, more similar to executives, engineers, and accountants of the private sector. Governments, agencies, foundations, and authorities are seeking highly motivated individuals with communication, critical analysis, marketing, finance, strategic planning abilities, grant writing experience, program development capabilities, organizational skills, and the ability to solve problems creatively.

To meet this demand, the Gannon Master of Public Administration and Master of Business Administration Programs share resources. This encourages public administration students to pursue management skills training with the rigor and dedication frequently associated only with business school training. It also provides opportunities to specialize in selected concentrations.

Gannon is a student-oriented, value-centered teaching university. This philosophy guides our approach to teaching, advising, and designing our curriculum. We recognize and understand the ongoing changes taking place in today's workplace environments as a result of the introduction of recent reinvention initiatives. We want to prepare students to excel in this current reality. Our approach is to work closely with students on a personal basis, challenging you to grow while ensuring that you meet your own objectives. Courses are rigorous and challenging by design, but we will work with you to build the skills you will need for the world of the new millennium.

Our experience as the region's oldest and largest graduate school of management and administration has taught us some important lessons. Simply having a master's degree is no assurance of success or happiness. To succeed students need real skills, an understanding of the worlds of the public, private, and not-for-profit sectors, practical experience, and a moral compass.

What are the origins of public administration? How has public administration evolved and changed? What motivates human behavior? What are the differences and similarities between public, private, and nonprofit management? What are the various theories of organization? What is the science of "muddling through"? How are policies formulated and implemented? What is strategic planning and how is it done? How are budgets and financial statements created? How do we evaluate programs? What role do ethical considerations play in public administration and what tools exist to help "good people make tough choices"? Where is public administration headed in the 21st century? These are some of the questions that students will grapple with during time studying the field of public administration at Gannon.

Our central location to city, county, state, and federal government offices makes Gannon University a virtual public administration laboratory. Our close proximity allows for continuous interaction with government and agency leaders who visit classes on a regular basis and often serve as instructors themselves. This is a program in which real world case studies are often the focus of seminar deliberations and class projects. In addition, internship opportunities abound. This practical experience adds balance to academic life.

**OFFERINGS**

Gannon University offers the Master of Public Administration Degree (MPA), the Five Year Bachelor Degree/MPA Degree Program, Gannon Online Degree (GOLD) MPA Program, and the MPA Bridge Program.

Within the MPA, students are able to select from the following options:

- The Administrative Track
- The Organizational Leadership Track
- The Individualized Track. A combination of 6 electives from both tracks to best meet the specific needs and career plans of the student in consultation with the MPA director

The MPA Program may be pursued on either a full or part-time basis.

**MISSION OF THE MPA PROGRAM**

- To impart a sophisticated and lasting paradigm for understanding bureaucracy and the administrative process in large, complex organizations;
- To develop requisite skills necessary to succeed in management and leadership roles in public administration; and
- To enhance leadership potential in the public, nonprofit, and for-profit sectors

**OUTCOMES OF MPA PROGRAM**

Outcomes of the Foundation Curriculum

Upon completion of the MPA Program, students should be able to:

- appreciate broader environmental and contextual backdrops
- acquire both theoretical and experiential perspectives
- leverage technology
- understand global cultures and concepts
- understand public policy
- valuate policy outputs
- understand strategic planning and budgeting
- understand basic legal principles affecting all facets of public administration
- understand the worlds of government, profits, and for nonprofits and how they interface
- act with integrity and ethics in all aspects of daily life
- interact with leaders and managers

*Track I: Administrative Outcomes*

Upon completion of this track, students should be able to:

- do accounting, financial management, marketing
- do quantitative analysis
- analyze financial data and prepare operating budgets
- collect data, understand statistical methodology, and analyze statistical data
- evaluate the effectiveness of on-going programs
- understand the concepts underlying the use of scarce resources

*Track II: Organizational Leadership Track Outcomes*

Upon completion of this track, students should be able to:

- solve problems creatively
- negotiate and bargain effectively
- lead, motivate, and empower others
- bring people to consensus
- prepare a strategic plan
- facilitate a visioning process

- communicate effectively in listening, speaking, and writing
- understand how leadership style affects the outcomes of policy implementation
- understand the importance of community leadership/trusteeship

**ADMISSION REQUIREMENTS**

- A Bachelor's degree in any discipline from an accredited college or university
- A completed application for admission
- Transcripts from all prior institutions attended
- TOEFL scores if English is not a first language
- GRE scores (this requirement is waived for students with an undergraduate GPA of 3.2 or higher) or
- Students may also be offered "Provisional Acceptance" if their GPA is less than 3.2. Provisional acceptance requires students to earn a minimum of a 3.0 average in the first three Core classes completed in the program within two consecutive semesters. If a student does not earn a minimum grade of "B" in each of the first 9 credits, they will not be permitted to register for further MPA courses.
- Three letters of recommendation

**GANNON'S GOLD MPA PROGRAM**

Gannon's Online Degree (GOLD) Program in Public Administration uses an internet delivery system for a robust teaching and learning experience for students who work full-time and may have travel schedules and/or family obligations. Gannon uses the ANGEL delivery mechanism. With ANGEL, students have access to all their course materials, collaborative workspaces and online resources. Courses require that students work both independently and interdependently with their instructors and with fellow students. Participants in these courses must maintain their own internet access and have Microsoft Word or compatible word processing software.

All courses are three credits and will be delivered in efficient seven-week sessions. There is an expectation that the student will stay current with the course, remain engaged in all learning activities, and if necessary, seek help in a timely fashion. Students can begin their studies in any seven-week session and may either take one class per session as a part-time student or may take two classes in a session as a full-time student.

While applications may be submitted at any time, Gannon reviews applications on a rolling basis. Please contact our admissions representative to discuss details about our next start date and how to apply. Students must complete the application process prior to the start date of a given session.

Gannon's Online MPA Program consists of a 24 credit core and a 12 credit Administrative Track. A student may enroll in the program on a full-time or part-time basis.

**GANNON'S THREE-YEAR MPA BRIDGE PROGRAM**

The MPA Bridge Program is designed for international students coming from non-Bologna compliant three-year baccalaureate degree programs. This program comprises of one year of undergraduate academic study intended to bridge the difference between the student's three-year baccalaureate degree and a four-year U.S. baccalaureate degree. The MPA Bridge Program requires 66 credits and is outlined as follows:

Bridge Curriculum (30 credits)

| | | |
|---|---|---|
| BCOR 111 | Principles of Microeconomics | 3 |
| SPCH 111 | Speech | 3 |
| POLI 111 | U.S. Government and Politics | 3 |
| BCOR 112 | Principles of Macroeconomics | 3 |
| POLI 122 | Public Policy Analysis | 3 |
| BCOR 201 | Financial Accounting | 3 |
| POLI 210 | Bureaucracy and Public Administration | 3 |
| MGMT 211 | Human Resource Management | 3 |
| BCOR 251 | Principles of Management | 3 |
| MGMT 360 | Ethics and Social Responsibility | 3 |

MPA Curriculum (36 credits)

| | | |
|---|---|---|
| GMPA 501 | Elements of Public Administration | 3 |
| GMPA 511 | Administrative Decision-Making Skills | 3 |
| GMPA 522 | Ethics and Public Policy | 3 |
| GMBA 525 | Statistical Analysis | 3 |
| GMPA 531 | Administrative Law and Ethics | 3 |
| GMPA 601 | Strategic Planning | 3 |
| | or | |
| GMBA 774 | Strategic Management | 3 |
| GMBA 631 | Organizational Culture, Creativity and Change | 3 |
| GMPA 799 | Research in Public Administration | 3 |
| GMPA | Electives | 12 |

**FIVE-YEAR BACHELOR DEGREE/MPA DEGREE PROGRAM**

The Five-Year Bachelor Degree/MPA Degree Program is designed to allow outstanding undergraduate students the opportunity to earn both an undergraduate degree and an MPA within a five-year period. All majors are eligible. If interested, students should apply before their junior year. Working with both undergraduate and the Director of Graduate Programs, a schedule will be customized for the student using undergraduate electives and/or cognates to take MPA courses.

**INTERNSHIPS AND COOPERATIVE EDUCATION**

In consultation with the Director of Graduate Programs, students may accept field placements related to their interests and academic studies. Placements range from short-term assignments to full-time positions. If students are looking for experience, internships complement book learning and classroom lectures and are also a great resume builder. If interested, students can consult the Director of Graduate Programs. In some circumstances, elective credits are awarded for these placements.

**DUAL MBA/MPA PROGRAM**

A student who has earned an MBA or MPA can obtain a second master's degree with a reduced number of courses. See the Program Director of Graduate Programs for details.

**PUBLIC ADMINISTRATION TRACKS**

In registering for electives, students have a number of avenues to pursue, such as:

- Specializing in the Administrative Track (12 credits).
- Specializing in the Organizational Leadership Track (12 credits).
- Taking various courses in Business, Criminal Justice, Counseling, Psychology, Education, Gerontology, or Pastoral Studies to meet your personal needs and career plans (12 credits).

Students should consult with the Director of Graduate Programs to determine a systematic plan including their choice of electives and a research project given their prior course work, their areas of interest, and their future career plans.

**CURRICULUM REQUIREMENTS**

The MPA is a professional degree program. Each student begins studies with a wide variety of academic and work backgrounds. As such, the design of the curriculum is dependent upon your experiences and academic background.

The MPA curriculum requires 36 credits and is outlined as follows:

Core Curriculum (24 credits)

This series is designed to give you the basic principles and theories of public administration along with the necessary skills to help students succeed in public administration.

| | | |
|---|---|---|
| GMPA 502 | Elements of Public Administration | 3 |
| GMPA 511 | Administrative Decision Making Skills | 3 |
| GMPA 522 | Ethics and Public Policy | 3 |
| GMPA 531 | Administrative Law & Ethics | 3 |
| GMPA 601 | Strategic Planning | 3 |
| | or | |
| GMBA 774 | Strategic Management | 3 |
| GMBA 631 | Organizational Culture, Creativity & Change | 3 |
| GMBA 525 | Statistical Analysis | 3 |
| GMPA 799 | Research in Public Administration | 3 |

Administrative Track (12 credits)

Suggested courses from which to choose:

| | | |
|---|---|---|
| GMBA 501 | Financial Accounting | 3 |
| GMBA 531 | Management and Marketing Concepts | 3 |
| GMBA 561 | Fundamentals of Financial Management | 3 |
| GMBA 571 | Economic Environment of the Firm | 3 |
| GMBA 651 | Strategic Marketing Management | 3 |
| GMBA 735 | Employee Relations and Employment/ Labor Law | 3 |
| GMPA 741 | Public Finance | 3 |

Organizational Leadership Track (12 credits)

Suggested courses from which to choose:

| | | |
|---|---|---|
| GMPA 632 | Nonprofit Management and Leadership | 3 |
| GMPA 633 | Program Development | 3 |
| GMPA 635 | Community Power | 3 |
| GMBA 736 | Human Resource Management | 3 |
| GMPA 745 | Community Development Process | 3 |
| GMPA 763 | Leadership and Environments of Administration | 3 |
| GMPA 790-794 | Special Topics | 3 |

Additional MPA Electives

| | | |
|---|---|---|
| GMPA 746 | The National Policy Process | 3 |
| GMPA 747 | Human Services Administration | 3 |
| GMPA 761 | Politics and Government in Metropolitan Regions | 3 |
| GMPA 796 | Directed Readings | 3 |
| GMPA 798 | Internship | 3 |

Special Topics Electives (3)

GMPA 790-794

Corrections Management
Court Administration
Economic Development
Fund Raising
Inspirational Leadership
Issues of Public Management
Leadership in Educational Administration
Leadership in the Twenty-First Century
Marketing for Nonprofits
Negotiating and Bargaining
Program Planning Evaluation
Public Policy Process
The Administrative Process
Urban Administration
Workforce Empowerment and Personnel Policy
World in Change

**COURSE DESCRIPTIONS**

Consult the Business Administration section for courses with GMBA prefix.

**500 Series Courses**

**GMPA 502 Elements of Public Administration**

3 credits

This course will provide you with an overview of the field of public administration: its origins; its evolution; differences and similarities between public, private, and nonprofit management; various theories of organization; policy formulation, implementation, and evaluation; the role of law; ethics in public policy; and the future of public administration.

**GMPA 511 Administrative Decision Making Skills**
3 credits
A study of the technical aspects of the administrative decision-making process. This course will teach you how to use accounting and financial information to support administrative decisions. Also included is an overview of budgeting and marketing concepts as they relate to the offering of public services.

**GMPA 522 Ethics and Public Policy**
3 credits
This course explores special problems public administrators face in the decision-making process. We will discuss the policy cycle and use case studies to stimulate your thoughts regarding ethical/unethical behavior; provide you with a framework for making tough decisions; and get you to think about where you stand on various issues of public policy and ethics.

**GMBA 525 Statistical Analysis**
3 credits

**GMPA 531 Administrative Law and Ethics**
3 credits
Basic legal principles and the rules and ethics affecting the administrative process, legislative delegation of powers, administrative investigations, rule making, discretionary powers, adjudication, and judicial review. Legal and political contexts of regulatory administration.

**600 Series Courses**
**GMPA 601 Strategic Planning**
3 credits
This course will teach you how to do effective strategic planning. Strategic planning is the art and skill of deliberately matching the organization's resources to the environment in order to maximize the contribution of its mission and its customers.

**GMPA 632 Nonprofit Management and Leadership**
3 credits
Through extensive reading and site visits, you will explore the many challenges facing nonprofits and examine the functions and roles of nonprofit staffs and boards. You will also reflect on the similarities and differences between the business, government, and nonprofit sectors and the effective ways in which these three sectors collaborate.

**GMPA 633 Program Development**
3 credits
In this course, you will learn a variety of tools and processes that are used in the program/service development process including feasibility studies, financial analysis, and project management software tools. Upon learning the concepts, you will then apply what you have learned through an experiential project with a local nonprofit organization or government entity.

**GMPA 634 Grant Writing**
3 credits
This course introduces you to the basics of grant writing. You will learn effective communication strategies with prospective grant seekers, how to match requirements between requesters and providers, methods of basic project assessment, and specific steps for submitting and writing quality proposals.

**GMPA 635 Community Power**
3 credits
Through extensive reading, this course introduces you to the concept of community power after which you will apply what you learn to your community.

**GMPA 636 Inspirational Leadership**
3 credits
This course explores the leadership styles of those who have so powerfully and passionately inspired their followers and introduces students to the differences between motivation and inspiration. It also leads students in the identification of their destiny, cause, and calling statements, and focuses on strategies for serving those around you by helping them to find their calling and then aligning their calling with the cause. Other topics that are covered include creativity, communication, and interpersonal relationships.

**GMPA 637 Marketing for Nonprofits**
3 credits
Today, not-for-profit organizations are facing challenges on a daily basis to meet the needs of their clients. The graduate nonprofit marketing course will address a variety of topics and issues confronting today's nonprofit organization. This course will include topics such as strategic planning, nonprofit branding, service planning, market research for nonprofits, marketing ethics, promotional planning, customer service, marketing, and fundraising. A key aspect of the course will address how a nonprofit manager operates in an environment that differs from a manager in a business environment. The course will help students develop the necessary skills to prepare a nonprofit marketing plan including the ability to identify marketing problems and opportunities in a variety of nonprofit situations. Classroom discussions and presentations will further enhance the learning experience this semester.

**700 Series Electives**
*Courses which are noted contain research project components.

**GMPA 741 Public Finance**
3 credits
Prerequisite: GMBA 525
Theory and practice of public finance in the United States. Revenue sources, taxation, fiscal policy and policy making, budgeting, expenditure trends, administrative problems in public finance.

**GMPA 745 Community Development Process**
3 credits
Defining community problems and establishing priorities and objectives for the response of the public and private sectors. Program planning and administration, with emphasis on developing comprehensive, coordinated and innovative approaches. Citizen participation and community control.

**GMPA 746 The National Policy Process: The American Presidency, Congress and Public Policy**
3 credits
Focuses in on the policy, roles and responsibilities of the American Presidency, the White House Staff and Executive Office agencies, the contemporary House and Senate. Emphasis is placed on the impact of structure on the content of U.S. public policy and how to appropriately interface at the national level.

**GMPA 747 Human Service Administration**
3 credits
Human Service organizations and programs. Role functions and tasks of the administrator in a human service organization and non-profit foundation.

**GMPA 751 Public Personnel Administration**
3 credits
Theories of public personnel administration and the merit system. Organization for personnel administration on national, state, and local levels. Labor management problems, review of methods of recruitment, classification, promotion, discipline, control and separation.

**GMPA 761 Politics and Government in Metropolitan Regions**
3 credits
An analysis of the political structure and processes in American metropolitan areas. Includes consideration of basic organization and operation of urban governments; political relationships among governments within metropolitan regions; the impact of federalism and intergovernmental relationships.

**GMPA 763 Leadership and Environments of Administration**
3 credits
Administration, whether it is in the public, private, or non-profit sector, is strongly influenced by various contexts internal and external to the bureaucracy. The major contexts are: cultural, economic, political, governmental, legal and administrative. This course will survey each in an effort to understand its role and, through seminar deliberations, formulate strategies for better performing leadership and managerial roles within large, modern complex organizations.

**GMPA 790-794 Seminar: Select Topics in Public Policy, Administration, and Leadership Skills**
3 credits

**GMPA 796 Directed Readings**
3 credits
A program of directed study in which students do an independent literature review on an area of interest within the field of Public Administration.

**GMPA 798 Internship**
3 credits
Prerequisite: Permission of the Director of Graduate Programs
Students are placed in work roles that are related to their professional interests and supervised by both a faculty member and a field coordinator.

**GMPA 799 Research in Public Administration**
3 credits
Prerequisites: Course must be taken during the last semester in the MPA Program
Through a program of directed study and seminar-type deliberations, this course will seek to conclude and integrate your Public Administration experience. You will apply principles and concepts of Public Administration and develop a culminating portfolio.

# Sport and Exercise Science

## Concentration: Human Performance

*Director: Jay Willow, Ph.D.*

## INTRODUCTION

Gannon University offers the Master of Science in Sport and Exercise Science with a concentration in Human Performance. This M.S. degree is a 36 credit-hour program that is designed to be completed in one calendar year. Students can expect to receive advanced education in many facets of human performance including the physiological, biomechanical, nutritional and psychological factors that both enhance and limit our movement capabilities. The program offers two degree options: a thesis option, and a non-thesis, year-long internship option. All classes are offered in the evening to accommodate working students and a part-time option is available for students who are unable to devote the time necessary to attend on a full-time basis. The program is designed to prepare students for gainful employment and/or further graduate training.

## MISSION STATEMENT

Our mission in the Department of Sport and Exercise Science is to instill in our students the knowledge, skills and abilities that make them leaders in the promotion of safe, active and healthy lifestyle behaviors. Through professional preparation of both undergraduate and graduate students in exercise, sport and associated fields, our exceptional faculty strive for distinction in our respective fields at the local, regional, and national level. We pursue this goal through active engagement in novel and applied research activities that involve both undergraduate and graduate students, through assisting students in making connections between theoretical concepts and real-life applications, through fostering a positive, engaging, and interactive learning environment, through the active promotion of advanced-level educational opportunities and through active participation in local and regional community health initiatives. It is with these initiatives in mind that we design our curriculum, advise our student body and guide our departmental activities.

## STUDENT LEARNING OUTCOMES

The curriculum for the Master of Science degree is designed around providing the student with an advanced, well-balanced, and applied educational experience. Upon graduating with a Master's of Science degree in Sport and Exercise Science with a concentration in Human Performance from Gannon University, the student will

- Possess and demonstrate advanced knowledge of testing the physical capabilities of the body and prescribing activity to improve those parameters.
- Demonstrate knowledge, skills and abilities for laboratory and field testing in both physiology and biomechanics.
- Demonstrate comprehensive knowledge of the research process including design of a research studies as well as analysis and interpretation of collected data.
- Possess and demonstrate advanced knowledge of the psychology of human performance.
- Possess and demonstrate advanced knowledge of the relationship between nutrition and human performance.
- Possess and demonstrate advanced knowledge of the physiology of human performance.
- Possess and demonstrate advanced knowledge of the biomechanics of human performance
- Demonstrate leadership and expertise in the field of advanced human performance.

## ADMISSION REQUIREMENTS

Internal candidates who have an interest in pursuing a Master of Science degree will be evaluated at the conclusion of their junior year. Qualified students will then be eligible to take 500 level courses in conjunction with their senior year coursework provided that they possess the following qualifications.

- Cumulative and prerequisite GPA of 3.0.
- Completion of all prerequisite coursework to date with a grade of C or better.

Candidates who do not meet the requirements for early start as well as external candidates applying for the program will apply during the fall/spring of their senior year and will be considered for enrollment if they possess the following qualifications.

- Undergraduate degree (or expected degree completion prior to enrollment) in exercise science, kinesiology, human performance, sports medicine or related field.
- Minimum overall and prerequisite GPA of 2.75.
- 3 letters of recommendation

## ADMISSIONS PROCESS

Internal candidates who wish to be considered for early enrollment will be considered according to the entry guidelines that have been set forth above. Students will be required to submit an unofficial transcript along with the standard graduate school application. Students will be notified of admissions decisions by March 15th of their junior year. Students who meet early entry enrollment

requirements will be "provisionally accepted" and will meet full acceptance requirements upon review of the spring transcript of the junior year. Students whose overall or prerequisite GPA falls below 3.0 at the conclusion of the spring, while not eligible to take graduate level courses during the senior year, may reapply for admission to the program during the senior year.

External candidates will be considered on a rolling basis for the summer cohort of the calendar year for which they are applying. Students will not be accepted for fall or spring semester entry. Students will be required to submit an unofficial transcript along with the standard graduate school application as well as 3 letters of recommendation. Students will be notified of admissions decisions after review by the department admissions committee.

**PREREQUISITES COURSEWORK**

Prerequisites for internal candidates are highlight below. Students must achieve a grade of C or better in each.

Two biology courses (with labs)

One chemistry course (with lab)

Statistics

SPRT130 Sport Nutrition or suitable replacement
SPRT240 Sport Psychology
SPRT250 Exercise Psychology
SPRT310 Research Methods
SPRT360/361 Kinesiology with Lab
SPRT390/391 Exercise Physiology with Lab
SPRT400/401 Exercise Testing and Prescription

External candidates should possess the following prerequisite coursework, achieving a grade of C or better in each.

Nutrition (1 course)
Exercise Physiology (1 course with lab preferred)
Human Anatomy and Physiology (2 courses)
Psychology (2 courses)
Kinesiology / Biomechanics / Functional Anatomy or similar (1 course)
Exercise Testing and Prescription (1 course with Lab)
Research Methods and/or Statistics (1 course)

## DEGREE COMPLETION OPTION: THESIS

Students choosing the thesis option will complete 30 credits of coursework as well as 6 credits of research-based, faculty supervised, scientific study that will culminate in the preparation and defense of the masters thesis, a requirement for graduation. This option prepares the student not only for midlevel employment in the field but also entrance into doctoral programs should they choose to continue their education beyond the masters level. Students will use the first summer session to review current research in the field and to develop a research question of their own. The fall and spring will consist of development, preparation and defense of the master's thesis. While this is certainly an aggressive time frame, provisions are in place that will allow students to extend their graduate program until the thesis project is completed.

## DEGREE COMPLETION OPTION: INTERNSHIP

In the non-thesis option, students will complete 30 credit hours of coursework as well as 6 credits of an academic-year-long internship, many with one of the University's athletic teams. Under the supervision of both members of the faculty as well as the coaching staff of their respective team, the student intern will serve in the capacity of strength and conditioning coach on their respective teams. Students will assist in the design, implementation, maintenance and assessment of the team's conditioning activities. Note: It is required that students have at least attempted, and preferably successfully completed certification requirements through either the National Strength and Conditioning Association (Certified Strength and Conditioning Specialist) or the American College of Sports Medicine (Health and Fitness Specialist) prior to starting their internship experience. Both of these certification exams are available in a computer-based format that allows for immediate results. Both also require a fee that will be the responsibility of the student upon registration.

## CURRICULUM REQUIREMENTS

**FULL TIME ENROLLMENT**

**SUMMER –** 12 credits

| | | |
|---|---|---|
| GSPRT 500 | Seminar in Human Performance | 3 |
| GSPRT 510 | Advanced Strength and Conditioning | 3 |
| GSPRT 520 | Advanced Laboratory Techniques | 3 |
| GSPRT 530 | Research Methods and Statistics in Human Performance | 3 |

**FALL –** 12 credits

| | | |
|---|---|---|
| GSPRT 540 | Psychology of Performance | 3 |
| GSPRT 550 | Advanced Sport Nutrition | 3 |
| GSPRT 560 | Applied Sport Physiology | 3 |
| GSPRT 600 | Thesis I or GSPRT602 Internship I | 3 |

**SPRING** – 12 credits

| | | |
|---|---|---|
| GSPRT 570 | Dietary Programming in Sport Nutrition | 3 |
| GSPRT 580 | Applied Sport Biomechanics | 3 |
| GSPRT 590 | Advances in Motivation in Exercise and Sport | 3 |
| GSPRT 601 | Thesis II or GSPRT603 Internship II | 3 |

**PART-TIME ENROLLMENT**

**SUMMER YEAR** 1 – 6 credits

| | | |
|---|---|---|
| GSPRT 500 | Seminar in Human Performance | 3 |
| GSPRT 510 | Advanced Strength and Conditioning | 3 |

**FALL YEAR 1** – 6 credits

| | | |
|---|---|---|
| GSPRT 540 | Psychology of Performance | 3 |
| GSPRT 550 | Advanced Sport Nutrition | 3 |

**SPRING YEAR 1** – 12 credits

| | | |
|---|---|---|
| GSPRT 570 | Dietary Programming in Sport Nutrition | 3 |
| GSPRT 590 | Advances in Motivation in Exercise and Sport | 3 |

**SUMMER YEAR 2**

| | | |
|---|---|---|
| GSPRT 520 | Advanced Laboratory Techniques | 3 |
| GSPRT 530 | Research Methods and Statistics in Human Performance | 3 |

**FALL YEAR 2** – 6 credits

| | | |
|---|---|---|
| GSPRT 560 | Applied Sport Physiology | 3 |
| GSPRT 600 | Thesis I or GSPRT602 Internship I | 3 |

**SPRING YEAR 2** – 12 credits

| | | |
|---|---|---|
| GSPRT 580 | Applied Sport Biomechanics | 3 |
| GSPRT 601 | Thesis II or GSPRT603 Internship II | 3 |

# COURSE DESCRIPTIONS

**GSPRT 500 Seminar in Human Performance**
3 credits
This course is intended to familiarize students with current and relevant research in the field of human performance. Students will gather, read, present and critique current scholarly material in human performance and related fields in an effort to both better understand the research process and also to help formalize their own research interests.

**GSPRT 510 Advanced Strength and Conditioning**
3 credits
The objective of this course is to provide majors with theoretical and practical knowledge of the physiological, biomechanical, administrative aspects of designing and supervising strength and conditioning programs for various populations.

**GSPRT 520 Advanced Laboratory Techniques**
3 credits
This course is designed to give the student working knowledge of the procedures of various testing techniques used in both the laboratory as well as in field settings. The student will be expected to demonstrate expertise in various laboratory testing techniques as a requisite for course completion.

**GSPRT 530 Research Methods and Statistics in Human Performance**
3 credits
This course is designed to introduce the student to methodological and statistical techniques specific to human performance and related fields. Students will be exposed to the research process and also various statistical techniques used to assess the efficacy of exercise interventions and conditioning programs. Student will also become familiar with various types of research and the benefits and drawbacks of each.

**GSPRT 540 Psychology of Performance**
3 credits
The purpose of this course is to help the student gain a greater understanding of psychological and emotional factors that influence athletic performance. Furthermore, the student will learn psychological strategies to improve performance and will apply this knowledge in a practical setting.

**GSPRT 550 Advanced Sport Nutrition**
3 credits
This course is designed to further develop an understanding of the influence of nutrition for acute and chronic biological and physiological adaptations to physical activity and sport. Emphasis will be placed on adaptations in macronutrients and micronutrients metabolism to fuel energy systems, popular performance enhancing and weight loss supplements, and current research trends that address various sports and populations.

**GSPRT 560 Applied Sport Physiology**
3 credits
The objective of this course is to provide majors with hands on practical experience in order to develop skills required to evaluate athletic performance, develop training plans, assess training plan effectiveness, and understand the specific need/requirements for a given sport. Upon completion of this course, the student will be able to assess, refine, enhance, and improve athletic performance through an applied approach to exercise physiology.

**GSPRT 570 Dietary Programming in Sport Nutrition**
3 credits
This course is designed to utilize an array of assessment tools which can be implemented in nutritional programming. Practice with methodology, application, implications, strengths and limitations of assessment tools will provide a basis for nutritional programming for athletes and teams.

**GSPRT 580 Applied Sport Biomechanics**
3 credits
For this course, the student explores an area of interest related to sport biomechanics. The course provides the student with an opportunity to utilize biomechanical analysis to answer research questions proposed in two projects.

**GSPRT 590 Advances in Motivation in Exercise and Sport**
3 credits
This course is a comprehensive study of motivational processes in exercise and sport contexts. Motivation will be examined from multiple theoretical perspectives with particular interest paid to what motivates individuals to become involved in sport and physical activity, what factors contribute to them staying involved as well as the factors contributing to discontinuation from the activity.

**GSPRT 600 Master's Thesis I**
3 credits
For this course, the student will complete the first four chapters of his or her master's thesis. The chapters include the introduction, literature review, statement of the problem and hypothesis, and proposed methods. This course will be completed prior to data collection on his or her master's thesis and prior to GSPRT 601.

**GSPRT 601 Master's Thesis II**
3 credits
For this course, the student will complete the final two chapters of his or her master's thesis. The chapters include the results and discussion sections. This course prepares the student for the final thesis defense prior to obtaining the master's degree.

**GSPRT 602 Master's Internship I**
3 credits
For this course, the student will engage in a practical internship as assigned by the director or instructor of the Sport and Exercise Science Master of Science degree program. The majority of these assignments will be with one of the athletic teams at the university. This internship will last the duration of the fall semester.

**GSPRT 603 Master's Internship II**
3 credits
This course is a continuation of GSPRT602: Master's Internship I. The student will engage in a practical internship as assigned by the director or instructor of the Sport and Exercise Science, Master of Science degree program. The majority of these assignments will be with one of the athletic teams at the university. This internship will last the duration of the spring semester.

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Associate Professor of Sociology, Director of Sociology Program and Chairperson of Social and Organizational Studies
B.A., M.A., Ph.D. State University of New York at Buffalo

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Assistant Professor of Physical Therapy
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Assistant Professor of English
B.A. Allegheny College; Ph.D. State University of New York at Stony Brook

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Assistant Professor of Occupational Therapy
B.S. Medical College of Georgia; M.S. Bowie State University

**Brinkman, Barry J.**
Assistant Professor of Computer and Information Science
B.S. University of Notre Dame; M.S., Ph.D. The Ohio State University

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Professor of Economics
B.A. University of South Florida; Ph.D. North Carolina State University

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Assistant Professor of Education
B.A. Lake Erie College for Women; M.S. Gannon University; Advanced Administration Certifications, St. Bonaventure; Psy.D. Indiana University of Pennsylvania

**Cannell, Jeremy C.**
Instructor of Computer and Information Science
B.Sc. Honours University of Surrey; M.S.E.S. Gannon University

**Cavanagh, Kimberly**
Associate Professor of Physician Assistant Program, Clinical Coordinator
B.S. Siena College; Certificate Physician Assistant Allegheny University of the Health Sciences (Hahnemann University); MPAS University of Nebraska Medical Center; DHSc Nova Southeastern University

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Professor of Mechanical Engineering
B.S. Xion Jiaotong University; M.S., Ph.D. Rensselaer Polytechnic Institute

**Coppock, Timothy E.**
Assistant Professor and Director of Clinical Mental Health Counseling
B.A. Earlham College; M.A. Bowling Green State University; Ph.D. The University of Toledo

**Cultu, Mehmet**
Professor of Electrical and Computer Engineering
B.S., M.S. Middle East Technical University; Ph.D. Northwestern University

**Darling, Matthew J.**
Assistant Professor of English
B.A. University of Kentucky; M.A., Michigan State University; Ph.D. Marquette University

**Diz, Harry R.**
Associate Professor of Environmental Science and Engineering, Chair of Environmental Science and Engineering
B.A. Duke University; M.A. Northern Arizona University; M.S., Ph.D. Virginia Polytechnic Institute and State University

**Forbes, Leigh**
Assistant Professor of Education
B.S., M.Ed. Edinboro University; Ed.D. Duquesne University

**Frezza, Stephen**
Professor of Computer and Information Science
B.S., M.S., Ph.D. University of Pittsburgh, C.S.D.P.

**Galleher, Carolyn A.**
Assistant Professor of Physical Therapy
B.S. St. Louis University; M.H.S., D.H.S. University of Indianapolis

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B.A. Gannon University; S.T.B., M.Div., S.T.L. Saint Mary's Seminary & University

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Assistant Professor of Education, M.Ed. Cohort Program Director
B.A. St. Francis College; M.A., Ed.D. Indiana University of Pennsylvania

**Gustafson, Beth**
Assistant Professor of Physical Therapy
B.S. Quinnipiac College; M.S.Ed. University of Dayton

**Hartmann, Julie**
Instructor of Physical Therapy; Academic Coordinator of Clinical Education
B.S. Marquette University; M.Ed. The Pennsylvania State University; D.Sc. University of Maryland School of Medicine

**Hattjar, Bernadette**
Assistant Professor of Occupational Therapy
B.F.A. Edinboro University of Pennsylvania; M.Ed. The Pennsylvania State University; Dr.O.T. Nova Southeastern University

**Hersch, Kurt**
Instructor of Management
B.S. The Pennsylvania State University; MBA New York University

**Homan, Michelle**
Associate Professor of Environmental Science and Engineering
B.S. The Pennsylvania State University; M.S. State University of New York at Albany; Ph.D. University of Michigan

**Hotchkiss, Anita**
Instructor of Occupational Therapy
B.S. University of Pittsburgh; M.S. Gannon University

**Hwidong, Kim**
B.S., B.M.E., M.S. Inha University, Inchon, South Korea; Ph.D. University of Florida

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B.S. Gannon University; M.P.A.S. University of Nebraska Medical Center

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Assistant Professor of Electrical & Computer Engineering
B.S.E.E. Korea University; M.S.E.E. Georgia Institute of Technology; Ph.D. Georgia Institute of Technology

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B.A. Mount St. Mary's College; M.A. University of Dayton; D.A. Carnegie Mellon University

**Kerr, Rev. Aaron**
Assistant Professor of Pastoral Studies
B.A. Otterbein College; M.Div. Garrett-Evangelical Theological Seminary; M.T.S. Garrett-Theological Seminary; Ph.D. Duquesne University

**Kessler, Larry**
Assistant Professor of Education
B.S., M.A. Advanced Administrative Certification Edinboro University; Advanced Administrative Certification Westminster College

**Kim, Sr. Min Shik**
Associate Professor of Nursing
B.S.N. Catholic University, Seoul, Korea; M.S.N. Catholic University, Seoul, Korea; M.P.H. University of Pittsburgh; Dr.P.H. University of Pittsburgh

**King, Douglas J.**
Associate Professor of English
B.A. State University of New York at Buffalo; M.A. George Washington University; Ph.D. Duquesne University

**Kingston, Kathleen**
Associate Professor of Education; Associate Director of the School of Education
B.S., M.Ed. Edinboro University of Pennsylvania; Ed.D. Nova Southeastern University

**Kliorys, Constantine K.**
Professor of Management
B.E. University of Detroit; M.S. Illinois Institute of Technology; Ph.D. Kent State University

**Knox, Carolyn E.**
Assistant Professor of Physician Assistant, Clinical Coordinator
B.S., M.S. Gannon University

**Kozak, David**
Professor of Political Science; Assistant Director of the Public Administration
B.A. Gannon University; M.A. Kent State University; Ph.D. University of Pittsburgh

**Latta, Gail F.**
Associate Professor and Director of Organizational Learning and Leadership PhD and Leadership Studies Programs
B.S. University of Texas at Arlington, M.L.S. Texas Woman's University; Ph.D. University of Nebraska-Lincoln

**Lee, Wookwon**
Associate Professor of Electrical and Computer Engineering
B.S. IInha University, Korea; M.S., D.Sc. The George Washington University

**Legters, Kristine S.**
Associate Professor and Chairperson of Doctor of Physical Therapy
B.A. Northwestern College; B.S. State University of New York/ Upstate Medical Center; M.S. Gannon University; DSc Rocky Mountain University of Health Professions

**LeVan, David**
Assistant Professor, Interim Program Director of Occupational Therapy
B.S., M.Ed. Gannon University; DHS University of Indianapolis

**LeVan, Sally**
Professor of English
B.S. Indiana University of Pennsylvania; M.A. Gannon University; Ph.D. Indiana University of Pennsylvania

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Assistant Professor of Computer and Information Science
B.S., M.S. University of Science and Technology (China); M.S. University of Illinois at Chicago; Ph.D. West Virginia University

**MacKellar, Donald V.**
Instructor of Electrical and Computer Engineering
B.S. New Mexico State University; M.S. Gannon University

**MacPhedran, Kate**
Instructor of Doctor of Physical Therapy program
B.S., MPT Gannon University

**Mahan, Gary**
Associate Professor of Economics
B.S. Westminster College; M.A., Ph.D. North Carolina State University

**Majewski, Jennifer D.**
Assistant Professor of Physician Assistant Program, Clinical Coordinator
B.S. Grove City College; M.S.P.A.S. Arcadia University

**Mak, Fong-Kiong**
Professor and Chairperson of Electrical and Computer Engineering, Director of Graduate Electrical and Embedded Software Programs
B.S. West Virginia University; M.S., Ph.D. University of Illinois

**Marshall, Patricia A.**
Assistant Professor of Nursing; Director, Undergraduate Nursing Programs
B.S.N. University of Wisconsin; M.S.N. California State University

**McCurdy, Ken**
Associate Professor of Clinical Mental Health Counseling
B.A. Clarion University of Pennsylvania; M.S. University of Scranton; Ph.D. Ohio University

**Medeksza, Ludwik A.**
Professor of Mechanical Engineering
B.S., M.S., Ph.D. Technical University of Wroclaw

**Messina, Michael J.**
Professor of Marketing, Director of Master of Business Administration and Master of Public Administration Programs
B.S. John Carroll University; M.B.A. Youngstown State University; Ph.D. Kent State University

**Miller, James E.**
Assistant Professor of Accounting
B.S. Gannon University; M.B.A. Gannon University; DBA Anderson University

**Moore, Berwyn**
Associate Professor of English
B.A. University of North Carolina at Wilmington; M.F.A. Bowling Green State University

**Oberle, Lynne**
Instructor of Occupational Therapy
B.S. Eastern Michigan University; M.S. Mercyhurst College

**O'Connell, Patrick F.**
Professor of English and Theology
B.S. The College of the Holy Cross; M.A. Yale University; M.A. Fordham University; Ph.D. Yale University; Ph.D. Fordham University

**Ostrowski, Thomas**
Professor of Political Science
B.A. St. Mary's University; M.A., Ph.D. University of Houston

**Panza, Michael J.**
Professor of Mechanical Engineering
B.M.E., M.S. Gannon University; Ph.D. State University of New York at Buffalo

**Patterson, Kathleen T.**
Assistant Professor and Director of Villa Maria School of Nursing
B.S.N. Villanova University; M.S.N. University of Pennsylvania; Ph.D. University of Pittsburgh

**Prokop, Duane R.**
Assistant Professor of Marketing
B.S., M.B.A. Youngstown State University; D.S.L. Regent University

**Quick, Robin**
Assistant Professor, School of Education
B.S., M.Ed. Edinboro University; D.Ed. Indiana University of Pennsylvania

**Quinn, Lisa**
Associate Professor of Nursing, Advisor, Family Nurse Practitioner Graduate Option
B.S.N. Villa Maria College; M.S.N. Edinboro University of Pennsylvania; Ph.D. Kent State University

**Reynolds, Pamela**
Professor of Physical Therapy
B.S., P.T., M.S. University of Pittsburgh; Ed.D. Duquesne University

**Roth-Kauffman, Michele**
Professor and Director of Physician Assistant
B.S. Saint Francis College; MPAS University of Nebraska Medical Center; J.D. Duquesne University

**Rutland, Laura**
Associate Professor of English, Director, Freshman Writing
B.A. Emory University; M.A. Georgia State University; Ph.D. University of Tennessee

**Sasi, Sreela**
Professor of Computer and Information Science
B.Sc. University of Kerala; M.S. University of Idaho; Ph.D. Wayne State University

**Skelly, Donna**
Assistant Professor of Physical Therapy
B.S., M.S. University of Pittsburgh

**Smith, Penelope**
Assistant Professor of English, Chair, Department of English, Director of the Liberal Studies
B.A. Bucknell University; M.A. Gannon University; Ph.D. Indiana University of Pennsylvania

**Snarski, Kristen**
Instructor of Physical Therapy
B.S., P.T. Ithaca College; M.H.S. University of Indianapolis

**Steinbrink, Scott**
Associate Professor of Mechanical Engineering,
B.S. University of Colorado; M.S. Auburn University; Ph.D. Virginia Polytechnic Institute and State University

**Sundaram, Ramakrishnan**
Associate Professor of Electrical and Computer Engineering
B.S., M.S. Massachusetts Institute of Technology; Ph.D. Purdue University

**Tang, Mei-Huei**
Associate Professor of Computer and Information Science
B. A. National Cheng Chi University; M.S. State University of New York, University at Albany; Ph.D. State University of New York, University at Albany

**Thompson, Sharon J.**
Associate Professor of Nursing; Advisor of Nurse Anesthesia Option
B.S.N. Villa Maria College; M.P.H. San Diego State University; M.S.N. Gannon University; Ph.D. Duquesne University

**Tobin, David**
Associate Professor of Clinical Mental Health Counseling
B.S., M.S. Gannon University; Ph.D. University of Pittsburgh

**Torab, Hamid**
Professor of Mechanical Engineering and Director of Biomedical Engineering
B.S. University of Tehran; M.S., Ph.D. University of Michigan

**Vernaza, Karinna M.**
Associate Professor of Mechanical Engineering
B.S. United States Merchant Marine Academy; M.S., Ph.D. University of Notre Dame

**Vitolo, Theresa M.**
Associate Professor and Chair of Computer and Information Science
B.S.E., Ph.D. University of Pittsburgh

**Wallace, Robert A.**
Assistant Professor of Finance
B.S., M.B.A. Gannon University; Ph.D. Kent State University

**Whiteman, Janice**
Assistant Professor of Education
B.A. St. Francis College; M.Ed. Gannon University

**Willow, Rebecca A.**
Associate Professor of Clinical Mental Health Counseling
B.A. Allegheny College; M.A. Bowling Green State University; M.A. Edinboro University of Pennsylvania; Ed.D. Duquesne University

**Wozniak, Rev. Casimir J.**
Assistant Professor and Chair of Theology
B.A. Saint Bonaventure University; M.Div. Christ the King Seminary; M.A. Gannon University; S.T.L. Saint Paul University, Ottawa; Ph.D. Duquesne University

**Xu, Frank**
Assistant Professor of Computer and Information Science
B.S. Southeast Missouri State University; M.S. Towson University; Ph.D. North Dakota State University

**Young, John**
Associate Professor of English, Associate Dean of the College of Humanities, Education and Social Sciences
B.A. College of St. Thomas; M.A. Gannon University

**Zhao, Lin**
Assistant Professor of Electrical and Computer Engineering
B.S., M.Sc. Shandong University, China; Ph.D. University of Western Ontario, Canada

**Zheng, Qing (Julia)**
Assistant Professor of Electrical and Computer Engineering
B.S. North China University of Technology; M.E. National University of Singapore; Ph.D. Cleveland State University

# Adjunct Faculty

**Bacik, Michael**
Lecturer in Electrical and Computer Engineering
B.S., M.S. Gannon University

**Beiter, Michael**
Lecturer in Computer and Information Science
B.A. The Pennsylvania State University

**Bonace, Allan**
Lecturer in Nursing
M.S.N./M.B.A. Gannon University

**Caputo, James**
Assistant Professor of Nursing and Physician Assistant
B.S. The Pennsylvania State University; B.S. University of Pittsburgh; Pharm D. University of Pittsburgh

**Coffman, John**
Lecturer in Computer and Information Science
B.A. Duquesne University; M.Ed. Gannon University

**Cuzzola-Kern, Amy**
Lecturer in Public Administration
B.A. University of Michigan; M.P.A. University of Pittsburgh; Ph.D. Case Western Reserve University

**Dart, Eric**
Instructor in Pastoral Ministry
B.S., M.A. Gannon University; Ph.D.(cand.) Duquesne University

**Dietz, Sr. Kathleen**
Instructor of Theology; Instructor in Permanent Deacon Formation Program
B.A. Cardinal Newman College; M.A. Pontifical College Josephinum; S.T.L., S.T.D. Pontifical University of Saint Thomas Aquinas, Rome

**Frew, David**
Professor Emeritus, Management
B.A., M.A. Gannon University; DBA Kent State University

**Getz, Andrew W.**
Lecturer in Pastoral Studies
B.S. Lenoir-Rhyne College; M.A. Catholic University of America; Ph.D. Duquesne University

**Giles, Terry**
Professor of Theology
B.A. Grand Rapids Baptist College; M.Div. and Th.M. Grand Rapids Baptist Seminary; Ph.D. Michigan State University/Hebrew University

**Goetz, Sr. Janet**
Lecturer in Nursing
B.S.N. Villa Maria College; M.S.N. Gannon University; F.N.P. Certification Edinboror University

**Hawley, John W.**
Lecturer in Pharmacology
B.S., Pharm.D. University of Arkansas

**Heidecker, Sharon**
Instructor in Nursing
B.S.N. Villa Maria College; M.S.N. Gannon University

**Hoch, David**
Lecturer in Environmental Health & Engineering
A.B. Haverford College; M.Ph., Ph.D Cambridge University

**Hudson, Joseph**
Lecturer in Environmental Health & Engineering
B.S., M.S. Gannon University

**Jackson, William G.**
Lecturer in Public Administration
M.B.A., M.S. Gannon University

**Jageman, John**
Medical Director of Physician Assistant Program
B.S., Pharm.D. Duquesne University

**Joy, Dawn**
Lecturer in Public Administration
B.S. Villa Maria College; M.S.N. West Virginia University

**Keck, Rev. Mr. Fredrick**
Instructor in Pastoral Studies, Instructor in Permanent Deacon Formation Program
M.A., Ph.D. Fordham University

**Kennedy, Thomas**
Instructor of Engineering
B.S. State University of New York; M.B.A. The Pennsylvania State University

**Kesicki, Rev. Michael**
Instructor in Permanent Deacon Formation Program
Associate Vice President for Mission and Ministry
B.A. Gannon University; S.S.L. Pontifical Biblical Institute of the Gregorian University

**Lange, John H.**
Lecturer in Environmental Education and Natural Sciences
B.A. Thiel College; M.S. Clarion University; M.P.H. University of Pittsburgh

**Lehnard, Tami Lea Rose**
Lecturer in Occupational Therapy
B.S. Pennsylvania State University; M.S. Western Michigan University

**Lewis, Richard**
Lecturer in Clinical Mental Health Counseling
B.S., M.S. Edinboro State College; Ph.D. University of Pittsburgh

**Linkie, Christine**
Lecturer in Occupational Therapy
B.S. Colgate University; M.S. Colombia University

**Lu, Chi-Houng Eddie**
Lecturer in Electrical and Computer Engineering
B.S.M.E. National Taiwan University, Taiwan; M.S.I.S.E. Ohio State University; M.B.A. Pennsylvania State University

**Lucia, Rev. Mr. Joseph**
Instructor in Permanent Deacon Formation Program

**Martin, Andrew**
Lecturer in Environmental Education and Natural Sciences
B.S. Mercyhurst College; M.Ed. Gannon University; Ph.D. Candidate University of Pittsburgh

**McCall, Amy**
Lecturer in Occupational Therapy
B.S., M.S. D'Youville College

**McGraw, Rev. Michael**
Assistant Professor of Theology
B.S., M.Div. St. Mary's Seminary; M.A. Johns Hopkins University; M.A. Fordham University; M.S.S.W. Case Western Reserve University

**McMahon, Patty**
Instructor in Family Nurse Practitioner Program
B.S. Villa Maria College; M.S.N. University of Pittsburgh; Ph.D. Duquesne University

**Mejia, Jennifer**
Lecturer in Occupational Therapy
B.S., M.S. Gannon University

**Michaels, Eileen**
Lecturer in Occupational Therapy
B.S. Quinnipiac University; M.Ed. University of Pittsburgh

**Miller, John M.**
Lecturer in Computer and Information Science
B.S. Dickenson College; M.S. The American University, C.P.M.P., C.P.M.I.

**Mioduszewski, Michelle**
Lecturer in Occupational Therapy
B.S., M.S. D'Youville College

**Mong, Tab**
Lecturer in Electrical and Computer Engineering
B.S.E.E. Gannon University; M.S.E.E. Case Western University

**Nowak, Rev. Mark**
Director, Permanent Deacon Formation Program

**Onest, Amy**
Lecturer in Public Administration
B.A. Gettysburg College; M.B.A. The Pennsylvania State University

**Probst, Karen**
Lecturer in Occupational Therapy
B.S., M.S. Gannon University

**Reddy, Suresh B.**
Lecturer in Engineering
B.S. Indian Institute of Technology; M.S. Ohio State; Ph.D. Massachusetts Institute of Technology

**Rowe, Rt. Rev. Sean**
Lecturer in Pastoral Studies Program
B.A. Grove City College; M.Div. Virginia Theological Seminary

**Schmitt, Rev. Charles**
Instructor in Permanent Deacon Formation Program

**Scott, Brian**
Lecturer in Computer and Information Science
B.A. The Pennsylvania State University; M.C.I.S. Gannon University

**Shewman, Rev. Mr. Richard D.**
Lecturer in Pastoral Studies; Instructor in Permanent Deacon Formation Program
B.A. State University of New York; M.A. University of Guam and St. Mary of the Woods; D.Min. St. Mary Seminary; J.C.L. Catholic University of America; Dpl. Trib. Catholic Institute of Sydney

**Shoemaker, Ruth**
Assistant Professor of Nursing
B.S.N. University of Michigan; M.S.N., Washington University; M.B.A. The Pennsylvania State University-Behrend

**Smith, Rev. Msgr. Robert, VG**
Instructor in Permanent Deacon Formation Program

**Streett, Joseph**
Lecturer in Pastoral Studies
B.A. Loyola College; M.Ed. Boston College

**Taylor, Mary Jean**
Instructor of Physical Therapy
M.A. New York University

**Tkach, Michael**
Assistant Professor of English
B.A., M.A. Gannon University

**Thompson, Debra**
Lecturer in Public Administration
B.S. Villa Maria College; M.B.A. Gannon University

**Verna, Vincent V.**
Lecturer in Electrical and Computer Engineering
B.S.E.E., M.S.E.E., M.B.A. University of Michigan

**Wang, Xiaozhong**
Lecturer in Mechanical Engineering
B.A., M.S. Tsinghua University, Beijing; Ph.D. University of Maryland

**Wolford, Matthew L.**
Lecturer in Environmental Studies
B.A. Pennsylvania University; J.D. Temple University School of Law

**Zalot, Charlotte, O.S.B.**
Lecturer in Pastoral Studies
B.A. Chestnut Hill College; M.A. St. Joseph College; M.Phil. Drew University; Ph.D. Drew University

# ADJUNCT FACULTY-EDUCATION

**Berlin, Kenneth**
Lecturer in Educational Leadership Program
B.A., M.Ed. Edinboro University of Pennsylvania; Advanced Administration Certifications Edinboro University of Pennsylvania and Gannon University

**Blozowich, David**
Lecturer in Education Outreach Program – Candidate
B.S., M.Ed. Clarion University of Pennsylvania; Advanced Administration Certifications Pennsylvania State University; Ed. D. Immaculata University

**Buhite, Rita**
Lecturer in Education Outreach Program
B.S. Mansfield University of Pennsylvania; M.Ed. Gannon University

**Cubelic, Cathleen**
Lecturer in Education Outreach and Educational Leadership Programs
B.S., M.S., Advanced Administration Certification Duquesne University

**Dangelo, Eugene**
Lecturer in Education Outreach Program
B.S., M.M. Duquesne University; Ph.D. University of Pittsburgh; Advanced Administration Certification California University of Pennsylvania

**Dimperio, Joseph C.**
Lecturer in Education Outreach and Educational Leadership Programs
B.A. Franciscan University; M.Ed., Ph.D. University of Pittsburgh; J.D. Duquesne University

**Ferko, Brad**
Lecturer in Educational Leadership Program
B.S. Westminster College; M.Ed. University of North Carolina at Chapel Hill; Ed. D. University of Pittsburgh

**Harding, Jason**
Lecturer in Education Outreach Program
B.S. Slippery Rock University; M.Ed., Ph.D. Gannon University

**Harding, Kaylee**
Lecturer in Education Outreach Program
B.S., M.Ed., Advanced Certification Gannon University

**Johnston, Jennifer**
Lecturer in Graduate Education
B.S. Clarion University; M.Ed. Advanced Certification; Edinboro University

**Kincade, Erik**
Lecturer in Education Outreach Program
B.S. Slippery Rock University; M.Ed., Advanced Administration Certifications Gannon University

**Kuhar, Christine**
Lecturer in Education Outreach Program
B.A., M.S., Advanced Graduate Study Certification Duquesne University

**Lachowicz, Joseph**
Lecturer in Education Outreach Program
B.A., M.Ed. Indiana University of Pennsylvania; Advanced Administration Certifications University of Pittsburgh; California University of Pennsylvania

**LaScola, James C.**
Lecturer in Educational Leadership Program
B.S. Edinboro University of Pennsylvania; M.Ed. Westminster College; Advanced Administrative Certification St. Bonaventure University and Kent State University

**Lee, Donald**
Lecturer in Education Outreach Program
B.S. Kent State University; M.S. University of Akron; Ed.D. Nova Southeastern University

**Lenz, Pamela**
Lecturer in Educational Leadership Program
B.S., M.Ed., Advanced Administration Certification Edinboro University of Pennsylvania; Ed.D. Duquesne University

**Lozar, Blanche**
Lecturer in Education Outreach Program
B.S. West Chester University; M.A. Adams State College

**Lozar, Thomas**
Lecturer in Education Outreach Program
B.A. Adams State College; M.Ed., Ph.D. Colorado State University

**Oliver, Robert**
Lecturer in Educational Leadership Program
B.A., Advanced Administrative Certification Edinboro University; Advanced Administrative Certification Gannon University; Ed.D. Nova Southeastern University

**Patton, Lori**
Lecturer in Educational Leadership Program
B.S. Edinboro University of Pennsylvania; M.Ed. Gannon University

**Pennington, Lawrence**
Lecturer in Education Outreach Program
B.A. Indiana University of Pennsylvania; M.A. St. Francis College; Ed.D. Indiana University of Pennsylvania

**Pollifrone, Patricia**
Lecturer in Graduate Education
B.S., M.Ed. Edinboro University of Pennsylvania; Ph.D. University of Pittsburgh

**Pysch, Richard**
Lecturer in Education Outreach and Educational Leadership Programs
B.S. University of Pittsburgh; M.S. Carnegie-Mellon University; Ph.D. University of Pittsburgh

**Seneta, Robin**
Lecturer in Education Outreach Program
B.S. Edinboro University of Pennsylvania; M.Ed. Gannon University

**Snyder, Robert**
Lecturer in Education Outreach Program
B.A. Grove City College; M.S. Gannon University; Advanced Administration Certifications Edinboro University of Pennsylvania and Westminster College

**Strosser, Walt**
Lecturer in Educational Outreach Program
B.A., M.A. Temple University; C.A.G.S. Edinboro University of Pennsylvania; Ed.D. West Virginia University

**Vergona, Joseph**
Lecturer in Education Outreach Program
B.S. California University of Pennsylvania; M.A. West Virginia University; Ed.D. Nova Southeastern University

# ADJUNCT FACULTY- NURSE ANESTHESIA

**Adams, Joyce**
Clinical Instructor
B.S. Slippery Rock; B.S.N. Edinboro University of Pennsylvania; M.S.N. Gannon University; C.R.N.A. Hamot Medical Center

**Adamczyk, Thomas**
Clinical Instructor
B.S. Edinboro University of Pennsylvania; C.C.P. Mississippi School of Perfusion Technology

**Albert, J. David**
Professor of Nursing; Chief, Division of Anesthesia
B.S. Gannon University; M.D. University of Pittsburgh

**Anderson, K. Stephen**
Associate Professor of Nursing; Director, Hamot School of Anesthesia-Retired
R.N. Manhattan State Hospital; C.R.N.A. St. Joseph Hospital; B.S. Edinboro State College; M.Ed. Edinboro University of Pennsylvania

**Ayad, Sabry S.**
Assistant Professor of Nursing
B.S. College of St Marc; M.D. University of Alexandria, School of Medicine

**Aziz, Adel Mofeed**
Assistant Professor of Nursing
B.S. Cairo University; M.D. Cairo University, School of Medicine

**Beckman, Robert**
Clinical Instructor
B.S.N. Penn State University; M.S.N. Gannon University; C.R.N.A. Hamot Medical Center

**Bender, Joseph**
Clinical Instructor
R.N. The Pennsylvania State University; C.R.N.A. Hamot Medical Center; B.S. Edinboro University of Pennsylvania

**Bindeman, Kathleen**
Clinical Instructor
B.S.N. Gannon University; M.S.N. Gannon University; C.R.N.A. Hamot Medical Center

**Cornfield, Freda**
Clinical Instructor
B.S.N. St. Mary's of the Plains; M.S.N. Gannon University; C.R.N.A. Hamot Medical Center

**Dilla, Lizabeth**
Assistant Professor of Nursing
R.N. Cuyahoga Community College; B.S. Edinboro University of Pennsylvania; M.S.N. Gannon University; C.R.N.A. Hamot Medical Center

**Dorris, Paula**
Clinical Instructor
B.S.N. Boston University; M.S.N. Gannon University; C.R.N.A. Hamot Medical Center

**Downing, Therese**
Clinical Instructor
B.S.N Graceland College; M.S.N Gannon University; C.R.N.A Hamot Medical Center

**Gamaleldin, Haissam**
Assistant Professor of Nursing
M.D. Ain Shams University School of Medicine

**Ganz, Lisa Rhode**
Assistant Professor of Nursing
B.S.N. Edinboro University of Pennsylvania; C.R.N.A. Hamot Medical Center; M.S.N. Edinboro University

**Goldner, Joshua**
Assistant Professor of Nursing
B.S. University of Wisconsin-Madison; M.D. Ohio State University College of Medicine

**Hague, Quazi**
Clinical Instructor
M.B.B.S. University of Chittagong, Bangladesh

**Helsley, Scott**
Associate Professor of Nursing
B.S. Gannon University; M.D./Ph.D. State University of New York at Buffalo

**Hallstrom, Laun Robert**
Clinical Instructor
B.S. Pennsylvania State University; M.D. Jefferson Medical Center

**Hense, Marilyn B.**
Clinical Instructor
R.N. Philipsburg State General Hospital, School of Nursing; B.S.N. Carlow College; C.R.N.A. Westmoreland-Latrobe Hospitals, School of Anesthesia; M.S. Carlow College

**Herriotts, Karen**
Clinical Instructor
R.N. Robert Packer Hospital School of Nursing; C.R.N.A. University Health Center of Pittsburgh School of Anesthesia; B.S. University of Pittsburgh; M.B.A. University of Akron

**Hofstra, Richard M.**
Assistant Professor of Nursing
B.A. Albion College; M.S. Wayne State University; M.D. University of Michigan School of Medicine

**Hoobler, Randall**
Associate Professor of Nursing
B.A. Thiel College; M.D. Jefferson Medical College

**Iditoiu, Christian**
Assistant Professor of Nursing
M.D. Iuliu Hatieganu University of Medicine and Pharmacy, Cluj-Napoca, Romania

**Jagetia, Anil**
Assistant Professor of Nursing
B.S. Youngstown State University; M.D. Northeastern Ohio Universities College of Medicine

**Kanurick, Ronald**
Clinical Instructor
R.N. Mercy Hospital; C.R.N.A. George Washington University; B.S.N. University of Pennsylvania

**Khalaf, Kamal**
Assistant Professor of Nursing
B.S., M.D. Damascus University College of Science; B.S. University of Pittsburgh; M.B.A. University of Akron

**Kibler, Jean M.**
Assistant Professor of Nursing
B.S.N. Pennsylvania State University; C.R.N.A. Hamot Medical Center; M.S.N. Gannon University

**Kim, John**
Clinical Instructor
M.B.B.S. London Hospital Medical College

**Kinkoph, Robert**
Associate Professor of Nursing
B.S. College of Wooster; M.D. Wright State University

**Knoll, Denise**
Clinical Instructor
B.S.N. Edinboro University of Pennsylvania; M.S.N. Gannon University; C.R.N.A. Hamot Medical Center;

**Kraus, Gail**
Clinical Instructor
R.N. Hamot Medical Center; C.R.N.A. Hamot Medical Center; B.S. Edinboro University of Pennsylvania

**Krichko, Kim**
Clinical Instructor
R.N. Sharon Hospital; C.R.N.A. Hamot Medical Center; B.S. Edinboro University of Pennsylvania

**Larmon, Donald**
Clinical Instructor
B.S.N. Edinboro University of Pennsylvania; M.S.N. Gannon University; C.R.N.A. Hamot Medical Center

**Larson, Christopher**
Assistant Professor of Nursing
M.D. University of Pittsburgh

**Laughner, James**
Assistant Professor of Nursing
B.S. Pennsylvania State University; A.A.S.N. Jamestown Community College; C.R.N.A. Hamot Medical Center; B.S. Edinboro University of Pennsylvania; D.O. University of Osteopathic Medicine & Health Sciences

**Lydon, Joseph F, Jr.**
Assistant Professor of Nursing
B.S. Boston College; M.D. Case Western Reserve University

**Macaluso, Marion**
Clinical Instructor
R.N. Jamestown Community College; C.R.N.A. Hamot Medical Center; B.S. Edinboro University of Pennsylvania

**Markiewicz, Melinda**
Clinical Instructor
B.S.N. Edinboro University of Pennsylvania; C.R.N.A. Hamot Medical Center; M.S.N. Gannon University

**Moritz, Jay**
Clinical Instructor
B.S. Michigan State University; D.P.M. Temple University

**Morrison, Tara**
Clinical Instructor
B.S.N. Edinboro University of Pennsylvania; M.S.N. Gannon University; C.R.N.A. Hamot Medical Center

**Myers, Timothy**
Clinical Instructor
B.S.N. Edinboro University of Pennsylvania; M.S.N. Gannon University; C.R.N.A. Hamot Medical Center;

**Neufeld, Todd**
Clinical Instructor
B.S.N. Indiana University of Pennsylvania; M.S.N. Gannon University; C.R.N.A. Hamot Medical Center;

**Novak, Kevin**
Associate Professor of Nursing
B.A. Carlton College; M.D. University of Minnesota

**Oberdorf, John**
Clinical Instructor
R.N. Rockland State Hospital; C.R.N.A. U.S. Army Anesthesiology

**Persinger, C. Kent**
Assistant Professor of Nursing; Senior Associate Director, Hamot School of Anesthesia
R.N. St. Francis Hospital; C.R.N.A. Hamot Medical Center; B.S. Ball State University; B.S. Edinboro University of Pennsylvania; M.S.N. Gannon University

**Peters, Michelle**
Clinical Instructor
B.S.N. Edinboro University of Pennsylvania; M.S.N. Gannon University; C.R.N.A. Hamot Medical Center

**Pierce, Trenton Lyle**
Assistant Professor of Nursing
B.A. Walla Walla College; M.D. Loma Linda University

**Raj, Stephen**
Assistant Professor of Nursing
B.S. Tagore Arts College; M.D. University of Madras

**Rupp, Jerome**
Clinical Instructor
B.S. Mercyhurst College; B.S.N. Gannon University; M.S.N. Edinboro University of Pennsylvania; M.S.N. Gannon University; C.R.N.A. Hamot Medical Center

**Shulkosky, Mark**
Assistant Professor of Nursing
B.S. University of Pittsburgh; M.D. Temple University

**Simko, Aundrea**
Clinical Instructor
B.S.N. University of South Carolina; M.S.N. Gannon University; C.R.N.A. Hamot Medical Center

**Stevens, Scott**
Associate Professor of Nursing
B.S. University of Southern California San Diego; D.O. LECOM

**VanHove, Shawn**
Associate Professor of Nursing
B.S. Ohio State University; M.D. S.V. Medical College; M.D. Medical College of Ohio

**Yeager, James**
Clinical Instructor
B.S.N University of Washington; M.S.N. University of Texas HSC at San Antonio

**Yoder, Krista**
Assistant Professor of Nursing; Director, Hamot School of Anesthesia
B.S.N. Roberts Wesleyan College; C.R.N.A. Hamot Medical Center; M.S.N. Edinboro University of Pennsylvania

**Zyck, Raymond**
Assistant Professor of Nursing
B.A. Case Western Reserve University; M.D. Universidad Autonoma De Guadalajara

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