

# **Gannon University Graduate Catalog 2012 - 2013**

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 8179 master's degree and 212 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](mailto: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](http://www.msache.org)

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

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.apta.org](http://www.apta.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](http://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](http://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

Association of Collegiate Business Schools and Programs  
7007 College Blvd., Suite 420, Overland Park, KS 66211  
(913) 339-9356, FAX (913) 339-6226, [www.acbsp.org](http://www.acbsp.org)

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

College Scholarship Service Foundation for Independent Colleges  
800 North Third Street, Suite 502, Harrisburg, PA 17102  
(717) 232-8649, FAX (717) 231-4053

The Council of Independent Colleges  
One Dupont Circle, Suite 320  
Washington, DC 20036  
(202) 466-7230, [www.cic.org](http://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](mailto: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](http://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, 504/ADA Coordinator, Gannon University, 109 University Square, Erie, PA 16541, (814) 871-5522, [kanter002@gannon.edu](mailto: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.

## Gannon University holds membership in:

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](http://www.AACTE.org)

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](http://www.aacn.nche.edu)

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](http://www.acenet.edu)

Association of American Colleges  
1818 R Street NW, Washington, DC 20009  
(202) 387-3760, FAX (202) 265-9532

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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 1151 graduate students among a total student body of 4076 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 Leadership Certificate in 1998 and our most recent addition is the Ph.D. in Organizational Learning and Leadership that was first offered in 2007.

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.

# 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

**\*Counseling Psychology (Ph.D.) current students only.**  
**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
- Education (National Certifications)**
  - National Board Professional Teacher Standards Certification
- **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)**
- **Natural and Environmental Sciences (Master of Education – MEd)**
- **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)**

\* Note: The University is no longer accepting applications to the Counseling Psychology program. The program has been discontinued.

\*\* 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.

*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.*

## 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](mailto: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, or 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.

## Interruption of Study

It is expected that a degree-seeking student 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 Graduate Studies.

## 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.

## 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

A student must complete a Master’s degree program within six years of taking the first course. Exceptions can be granted only by the program director and the Academic Dean. Additionally, students who have not enrolled for two years must contact their program directors for approval of registration and review of remaining requirements. Doctoral Programs will establish their own statute of limitations and provide that information in the program description.

## Thesis or Research Project

With a few exceptions, all of the master’s degree programs require either a thesis or a research project. In either case, 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. 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 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.

## 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](http://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 2000 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 200 periodicals and provides online access to over 60,000 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

## 2012-13

Tuition and fees for 2012-13 are subject to change

### Tuition

All graduate programs ( <i>except those listed below</i> )	\$850	per credit
Education Program	565	per credit
Act 48 Courses designated by GUEC	287	per credit
MBA Outreach	640	per credit
Physician Assistant Program - 5th Year	975	per credit
Occupational Therapy Program - 5th Year	975	per credit
Doctor of Physical Therapy Program		
Full time	14,165	per term
Part time (less than 10 credits)	7,885	per term
PH.D. in Organizational Learning and Leadership	850	per credit
PH.D. in Counseling Psychology Program		
Fall & Spring - Full time	9,955	per term
Fall & Spring - Part time (less than 9 credits)	875	per credit
Summer - Full time	5,685	per term
Summer - Part time (less than 6 credits)	875	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
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**

- **E-Check**

Online payment using a checking or savings account is available at [www.gannon.edu/epayment](http://www.gannon.edu/epayment). There is no fee charged for an E-Check transaction.

- **Credit Card**

Credit Card payment is available at [www.gannon.edu/epayment](http://www.gannon.edu/epayment). Only MasterCard, Discover and American Express are accepted. A 2.65% convenience fee is assessed on all transactions.

- **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](http://www.fafsa.ed.gov). The FDSL MPN is available online at: [www.studentloans.gov](http://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. 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 programs, Doctoral programs or Act 48 courses. 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. Classes must be taken on the Gannon campus to qualify. 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 in a business discipline)
- A completed application for admission
- A complete 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:  $200 \times (\text{Undergraduate GPA}) + \text{GMAT Score}$

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 at least a 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 in 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	2 courses 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 501	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 Human Resource Management requires 9 credits and is outlined as follows:

- GMBA 735 Employee Relations and Employment/Labor Law
- GMBA 736 Human Resource Management
- GMBA 744 Strategic Management

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 MBA 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 671 Managerial Economics**

3 credits

Prerequisites: GMBA 525 and GMBA 571

The application of microeconomic analysis, and statistical techniques, and operations management models to solve problems of the firm related to demand, pricing, cost, production and investment. The emphasis is on the formulation of guides and models to decision making in these problem areas using the case method.

**GMBA 681 Global Business**

3 credits

Prerequisites: GMBA501, 531, 571

This course is an advanced survey of the field of Global Business that exposes the student to all the major issues arising from conducting business activities across national boundaries.

**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 696 Business Information and Communication**

3 credits

Prerequisites: GMBA501, GMBA531

An analysis of the use of business information systems and technology as a mission critical component of the organization. In addition communication styles under various circumstances within and outside the organization will be evaluated and practiced to gain proficiency in oral and written communication.

**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 Baldrige criteria, the cost of quality, assessing organizational performance, lean and Six Sigma techniques, process improvement and the development of a customer orientation.

**GMBA 738 Entrepreneurial Management**

3 credits

Prerequisites: GMBA 601, GMBA 651

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 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 651, GMBA 661

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 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**

1-3 credits

Prerequisite: Permission of the Director of Graduate Programs

Note: Current business experience cannot be used to fulfill the requirements of this course.

# Clinical Mental Health Counseling

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

*Director: David Tobin, 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. Professional Identity – Demonstrate understanding of professional counselor identity, counselor roles, professional ethics, and counselor development.
2. Social and Cultural Diversity – Demonstrate multicultural competencies including awareness, knowledge, and skills related to cultural context of self and others.
3. Human Growth and Development – Demonstrate knowledge of human behavior and needs of individuals at all developmental levels and apply this knowledge within the counseling relationship.
4. Career Development – Demonstrate knowledge of career development and career counseling processes and apply this knowledge within the counseling relationship.
5. Helping Relationships – Demonstrate knowledge of counseling theories and skills and apply this knowledge to the development of therapeutic relationships in the counseling and consultation process.
6. Group Work – Demonstrate a theoretical and experiential understanding of group dynamics and group counseling methods.
7. Assessment – Demonstrate knowledge of assessment instruments, methods, and diagnosis and apply this knowledge within the counseling relationship.
8. Research and Program Evaluation – Demonstrate knowledge of research methods, statistical analysis, needs assessment, and program evaluation and apply this knowledge to the counseling and consultation processes.
9. Clinical Mental Health Counseling – Demonstrate clinical counseling skills, case conceptualization skills, and the assessment and treatment of mental and emotional disorders and conditions consistent with the CACREP Clinical Mental Health Counseling curriculum content and the counseling profession.



10. 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](http://www.cacrep.org). For further information on NBCC, contact: NBCC 33 Terrace Way Greensboro, NC 27403. Phone: (336) 547-0607. Website: [www.nbcc.org](http://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
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- |          |                                    |   |
|----------|------------------------------------|---|
| 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	3

(GCOU 690 and 691 must be completed after the Counseling Core II sequence and prior to enrolling in GCOU 651)

GCOU 691	Counselor Preparation	0
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4. Advanced Core Sequence (15 credits)
 

GCOU 649	Mental Health Counseling	3
GCOU 655	Advanced Counseling Theories	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 561 Computer 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 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 506 Personal Software Process *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 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 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 506 Personal Software Process *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 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 WD 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. The 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 506 Personal Software Process**

3 credits, Fall

Prerequisite: GCIS 564 or GENG 585

The Personal Software Process (PSP) is a process-based method of software engineering used in the development of large-scale projects and is based on the software quality management techniques of the Capability Maturity Model (CMM) framework. Defect management, design and code review design templates, and process analysis used. The student progresses through a sequence of software processes developing the awareness for repeatable, quality-based development.

### **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 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

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 Math 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.

**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

Prerequisite: GCIS 566 or GCIS 567 or equivalent

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 or GCIS 506

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 (hereafter 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.

# Counseling Psychology

## The Doctor of Philosophy (Ph.D.) Degree

*Director of Training: Linda M. Fleming, Ph.D.*

**NOTE:**

The program in counseling psychology is no longer accepting new students and is in the process of being phased out. There are no plans to re-open the program in the future. The information contained in this section is for the use of current students only.

**INTRODUCTION**

The major objective of the Doctor of Philosophy (Ph.D.) degree program in counseling psychology is to develop capable professionals who are able to practice independently as psychologists. Training is oriented toward the acquisition of those skills necessary for effective functioning in individual, community, or institutional settings. The program seeks to develop proficiency in four main areas: core psychology, psychotherapeutic intervention, assessment/diagnosis, and research. In addition to the knowledge expected of any psychologist, the range of skills expected of each graduate is reflected in the training provided in individual, group, and marriage and family therapy as well as assessment and diagnosis in each of these modalities.

This program requires that applicants have a master's degree in a related field. In addition to doctoral coursework and practica, a year-long internship and a dissertation are required. These requirements reflect the practitioner-scholar model in the preparation of psychologists. Each student is required to take coursework in supervision and provide supervision to master's level community counseling students. Participation in the Psychological Services Clinic, a freestanding clinic of the counseling psychology program that serves the local community is required for all students; approved externships are also available for students to obtain additional training experience. These unique features of the program develop psychologists with well-developed clinical skills and the scientific methodology to inform their practice.

**PHILOSOPHY**

The Ph.D. degree in Counseling Psychology at Gannon University seeks to educate and train psychology practitioners who deliver high-quality human services. The program seeks to prepare practitioners who are skilled in providing psychological services to underserved

populations. The program is committed to education and training which prepares practitioners within a framework that acknowledges and respects diversity. Because our program emphasizes the integration of multiculturalism into counseling psychology, we endorse the “Guidelines on Multicultural Education and Training, Research, Organizational Change, and Practice for Psychologists” and “Guidelines for Psychotherapy with Lesbian, Gay, and Bisexual Clients” of the American Psychological Association. These guidelines are based on the premise that, because the U.S. population is increasingly diverse, multiculturally appropriate services are necessary. In endorsing these guidelines, the faculty recognizes that these guidelines reflect current expert consensus based on theory and research.

We believe that diversity is recognized, accomplished, and respected through attention to, awareness, acknowledgment, and acceptance of differences across persons, cultures, ethnicities, sexual orientations, gender, age groups, abilities, ideas, values, beliefs, approaches, and needs. This is achieved in our program through flexibility of admissions, individual planning for learning experiences, and recognition of prior achievements.

As an integral part of our program, we have worked toward a dialogue of diversity. To realize this goal, we have designed a program that integrates a pluralistic education in all aspects of the curriculum and professional experience. Multicultural competencies, including awareness, knowledge, and skills, are infused throughout the curriculum, training, special programming, research, and faculty-student dialogue. Students and faculty explore on an ongoing basis their own attitudes, understanding, and behaviors as they relate to cultural interactions and issues of sexism, racism, ageism, heterosexism, and discrimination.

Personal growth and academic learning are essential to one’s development as a psychologist. Therefore, students should expect to share appropriate personal information as part of their practicum training or coursework. For example, students may be required to discuss their family genogram in a family systems course. In supervision, students are expected to process the emotional reactions they have to clients. However, students are not mandated to participate in individual or group therapy, or experiential groups, as part of their training.

## TUITION

Tuition rates and fees are subject to change and are set by the Board of Trustees of Gannon University. The rates for the 2009-2010 academic year are found earlier in the catalog.

## FINANCIAL AID

The Counseling Psychology program has limited funds available for financial assistance. There are several sources of financial assistance available to qualified students, including student loans and Graduate Assistantships.

## THE DISSERTATION

The Ph.D. degree requires a doctoral dissertation. Given the practitioner focus of the Ph.D., the expectation is that doctoral dissertations will reflect studies of practical use and interest to practicing psychologists. Qualitative and other clinically useful designs are encouraged.

## THE INTERNSHIP

The Ph.D. degree requires 2000 hours of pre-doctoral internship as a part of the requirements for the degree. These internships are pre-approved training sites listed in the APPIC Manual and/or approved by the American Psychological Association (APA). Internships are paid experiences and are the culminating experience in the doctoral training program.

## STATUTE OF LIMITATIONS

Students must complete the program within seven years of matriculation. Exceptions can be granted only by the Director of Training and the Dean of Humanities, Education, and Social Sciences.

## CURRICULUM

This course of study is prepared in accordance with the recommendations of the American Psychological Association (APA) and the requirements for licensing as a psychologist.

### Core Psychology - 18 credits

GPSY 803	Physiological Psychology	3
GPSY 865	Introduction to Psychopharmacology	3
GPSY 811	Learning and Cognition	3
GPSY 806	Social Psychology	3
GCOU 608	Human Development	3
GPSY 804	History of Psychology	3

### Research - 28 credits

GPSY 601	Elements of Statistics 1	4
GPSY 809	Elements of Statistics 2	3
GCOU 603	Research Methodology	3
GPSY 810	Qualitative Research Methods	3
GPSY 820	Research Apprenticeship	3
GPSY 822	Research Methodology 2	3
GPSY 899	Dissertation	9

### Professional Counseling Psychology - 29 credits

GCOU 631	Abnormal Psychology	3
GPSY 861	Advanced Psychopathology	3
GCOU 605	Group Dynamics	3
GCOU 612	Family Systems	3
GCOU 622	Career Development	3
GPSY 826	Legal/Ethical Issues	3
GPSY 801	Professional Development Seminar	1
GPSY 802	Seminar in Counseling and Personality Theory	3
GPSY 805	Colloquium in Counseling Psychology (2 sem)	0
GPSY 841	Theories of Supervision	3
GCOU 625	Multicultural Aspects in Counseling	3



**Multicultural Electives – 3 credits required**

GPSY 623	Psychology of Gender	3
GPSY 825	Multiculturalism and Diversity	3

**Practica and Internship – 31 credits**

GCOU 648	Counseling Strategies and Techniques	3
GPSY 843	Practicum in Supervision of Psychotherapy	1
GPSY 850	Introductory Practicum	6
GPSY 852	Advanced Individual Practicum	6
GPSY 854	Practicum in Marital and Family Therapy	6
GPSY 856	Practicum in Group Therapy	6
GPSY 858	Psychological Services Clinic (3 consecutive)	3
GPSY 900	Internship in Counseling Psychology (3 sem)	0

**Assessment – 12 credits**

GPSY 807	Psychometric Theory	3
GPSY 871	Cognitive and Intellectual Assessment	3
GPSY 873	Personality Assessment	3
GPSY 875	Introduction to Projective Techniques	3

NOTE: This program is founded upon the principle of a strong advising relationship between faculty and students. Each entering student's transcript is evaluated for past academic coursework and current competence forming the basis for the development of an individualized plan of study.

**COURSE DESCRIPTIONS****GPSY 601 Elements of Statistics 1**

4 credits

This course introduces students to basic statistical knowledge. It covers probability, inference and sampling, correlation, hypothesis testing, one-way ANOVA, and an introduction to computer statistics packages.

**GPSY 801 Professional Development Seminar: Counseling Psychology**

1 credit

A critical review of current issues in the discipline of Counseling Psychology. An introduction to the specialty of Counseling Psychology and its professional identity. Provides an overview of the doctoral program in Counseling Psychology and an introduction to the faculty of the Department of Psychology.

**GPSY 802 Seminar in Counseling and Personality Theory**

3 credits

A comparative and critical in-depth analysis of personality and counseling theories including the interrelationship, philosophical foundations and practical applications. Students are encouraged to begin developing a personal theory of personality and counseling.

**GPSY 803 Physiological Psychology**

3 credits

This course is an exploration into the biological bases of behavior.

The intent of this course is to familiarize students with the essential methods, terminology, and concepts that constitute the contemporary field of biological psychology. The focus will be on applying physiological psychology concepts in understanding clinical issues and behavior.

**GPSY 804 History of Psychology**

3 credits

A detailed consideration of the formal systems of psychology (e.g., Structuralism, Behaviorism, Humanistic-Existentialism) with review of psychology's roots in philosophy and physiology. There will be a special emphasis on the history of psychotherapy and intelligence testing including the impact of gender and culture on their development.

**GPSY 805 Colloquium in Counseling Psychology**

0 credits

This course is designed to expose doctoral students to a broad range of learning experiences that encompass topics, speakers, and professional issues beyond the more traditional didactic experiences of the classroom. Guest presenters from the region are invited to present a two hour program on their area of expertise.

**GPSY 806 Social Psychology**

3 credits

This course will cover such topics as self-perception, prejudice, group dynamics, violence, intimate relationships, persuasion, conformity, and prosocial behavior. In addition, this course will examine the influence of culture on self-concept and social behavior. Further, this course will also focus on the application of learned concepts to a counseling setting.

**GPSY 807 Psychometric Theory**

3 credits

This is a fundamental course in psychological testing and measurement. The emphasis is on test construction and item analysis. An in-depth investigation of the range of validity and reliability issues in testing will be followed by the study of the internal consistency of specific tests. Practical applications are made by way of reading and interpreting test manuals of various psychological tests, and in the selection and ethical use of tests for specific assessment purposes and questions. This course culminates in the student's project to develop a test instrument to measure a psychological trait or dimension.

**GPSY 809 Elements of Statistics 2**

3 credits

Prerequisite: GPSY 601

This course covers the application and interpretation of multivariate statistics utilizing the ordinary least squares form of the generalized linear model. The theory and mechanics of each technique are reviewed insofar as it aids the application/interpretation process. Topics include; dummy variable regression, interaction effects and moderator variables, curvilinear regression, nonlinear transformations, factor analysis, and regression diagnostics.

**GPSY 810 Qualitative Research Methods**

3 credits

This course will focus on qualitative research methods in counseling psychology. Using a seminar approach, students will learn to conduct research with particular emphasis on rigor and self-reflexivity in qualitative research, field work, in-depth interviewing, and focus groups. Data analytic approaches will be examined. Proposal-writing and article critiques will be incorporated.

**GPSY 811 Learning and Cognition**

3 credits

Review of learning theorists and their models of acquisition, elimination, and maintenance of behavior. Effects of previous experience on responses to new situations. Effects of thinking differently (changed conditions) upon past, current, and future behavior. Effects of memory, attention, motivation, social influence, and language.

**GPSY 820 Research Apprenticeship**

3 credits

The course is designed to help students begin the process of integrating research and practice through the design and implementation of a small research project in a practice setting. The class typically will assess some aspect of the student's work with a single case using accepted methodology.

**GPSY 822 Research Methodology II**

3 credits

Prerequisites: GPSY 603; GPSY 602 or equivalent

Development of skills in advanced quantitative methods and the integration of sampling, design, measurement, ethics, and statistical methods with an emphasis on researching relationships. Students will demonstrate their knowledge of course content by developing a comprehensive research proposal.

**GPSY 823 Psychology of Gender**

3 credits

Intensive review of gender role socialization in a workshop setting emphasizing men's and women's gender role conflicts across the life span. Lectures, readings, discussions, media, and self-assessments are used to explicate core concepts and themes. Readings are completed prior to the first day of class.

**GPSY 825 Multiculturalism and Diversity**

3 credits

This course will expose students to a range of issues in multiculturalism and diversity as they relate to the science and practice of counseling psychology. Students will gain knowledge about diverse racial, ethnic, and cultural groups and also about theories of racial, cultural, and sexual identity development. Emphasis is placed on examination of one's own biases and assumptions and how those impact one's work with diverse clientele.

**GPSY 826 Legal and Ethical Issues**

3 credits

Co-requisite with GPSY 850

This course provides students with the knowledge of legal and ethical guidelines for the practice of psychology. Students will learn to use these guidelines in combination with specific decision-making strategies to make sound decisions about professional practice.

**GPSY 841 Theories of Supervision**

3 credits

This course provides an exploration and in-depth study of theories of supervision of counseling practitioners. It involves a study of the problems involved in training individuals to engage in the therapeutic process.

**GPSY 843 Practicum in Supervision of Psychotherapy**

1 credit

Co- or Prerequisite: GPSY 841; Prerequisite: Majors only; Permission of Practicum Supervisor

Practice in the supervision of individual, group and/or family practitioners. May be repeated.

**GPSY 850 Introductory Practicum**

6 credits

Co-requisite: GPSY 826. Prerequisites: Majors Only; Permission of Practicum Supervisor

Requires 12 hours per week. This practicum involves live supervision of individual counseling sessions in a laboratory setting. Supervision will be directed toward development and improvement of psychotherapy skills. Individual adult, child and adolescent clients may be seen.

**GPSY 852 Advanced Individual Practicum**

6 credits

Prerequisites: Majors Only; GPSY 850; Permission of Practicum Supervisor

This is the final supervised practicum experience of this program. Live supervision of sessions permits in vivo interventions by the supervisor while peers process sessions from behind the one-way mirror. Seminars involve readings of empirically supported interventions. Students complete research of single case study design. Students will begin the process of integrating research and practice through the design and implementation of a small research project in a practice setting.

**GPSY 854 Practicum in Marriage and Family Therapy**

6 credits

Prerequisites: Majors Only; GPSY 850, GCOU 612; Permission of Practicum Supervisor

Therapist training with diverse couples and families. Therapists work in co-therapy teams and receive live supervision. Each student will learn assessment and intervention skills utilizing major theories of family/couples therapy. Supervision of therapy is conducted in group and individual format.

**GPSY 856 Practicum in Group Therapy**

6 credits

Prerequisites: Majors Only: GCOU 605; GPSY 850 or equivalent; Permission of Practicum Supervisor

Receive supervised experience in the role of group facilitator, including feedback on group process, leadership and intervention skills, and problem areas.

**GPSY 858 Psychological Services Clinic Practicum**

1 credit per semester

Prerequisites: GPSY 626, GPSY 850 and either GPSY 854 or GPSY 856; Majors Only Consent of Clinic Director

Builds experience as staff clinicians in the Psychological Services Clinic by providing a range of therapeutic services to clients and engaging in case management procedures under the clinical supervision of Clinic Faculty. Students enroll for this course for a minimum of three consecutive semesters.

**GPSY 861 Advanced Psychopathology**

3 credits

This course provides the student with an intensive study of psychopathology from a developmental, cultural, and family systems perspective.. It provides a thorough knowledge of the etiology and pathogenesis of clinical disorders through intensive reading, research, and practical knowledge. Emphasis is placed on distinguishing psychological disorders from physical conditions.

**GPSY 865 Introduction to Psychopharmacology**

3 credits

An investigation of psychopharmacological approaches to treating psychological disorders. The purpose of this course is to provide information on psychotropic medication to mental health professionals who do not prescribe.

**GPSY 871 Cognitive and Intellectual Assessment**

3 credits

Prerequisite: GPSY: 807; Majors Only or with Permission of Director of Training

This course is designed to provide the student with a comprehensive knowledge of the process of psychological assessment of intelligence. This is not an introductory level course, but rather an in-depth clinical course in the administration and interpretation of intelligence tests. Multicultural and theoretical issues and controversies are explored. Students score and interpret tests and present findings in comprehensive reports.

**GPSY 873 Personality Assessment**

3 credits

Prerequisite: GPSY 807; Majors Only or with Permission of Director of Training

This course includes the administration, scoring, and interpretation of objective measures of personality. Emphasis is on formulating a sound data base of information from interviews and tests and developing interpretational strategies. Special focus is placed

upon understanding the psychometric properties of personality instruments and the ways personality theories are reflected in the tests. Assigned readings focus on multicultural issues. Students gain experience in writing interpretive and integrative reports.

**GPSY 875 Introduction to Projective Techniques**

3 credits

Prerequisites: GPSY 871; GPSY 873; Majors Only or with Permission of Director of Training

This course is an in-depth study in the conceptual basis for comparing Projective with traditional psychometric procedures, and develops the skills to administer, score and interpret a variety of Projective instruments.

**GPSY 899 Dissertation**

9 credits

Prerequisites: Consent of Instructor; Majors Only; Admission to Candidacy

Students must complete a minimum of 9 semester hours of credit for the dissertation in partial fulfillment of requirements for a doctoral degree. P/F graded.

**GPSY 900 Internship in Counseling Psychology**

0 credits

Prerequisites: Majors Only; Permission of Director of Training, Counseling Psychology

For the doctoral candidate in counseling psychology who will complete a 2000 hour approved internship in not less than one year nor more than two years after completion of all course work required for the Ph.D. degree.

# 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 - Cohort Option

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

Gannon University offers the Master of Education in Curriculum and Instruction in off-campus cohorts throughout western Pennsylvania and on campus in Erie. The Masters degree is a 31 credit, non-thesis, portfolio-based program. Twenty-four (24) credits are taken from the Gannon core and six (6) credits earned as electives. The program is completed with a 1 credit portfolio.

There are two options for completing the M.Ed. in Curriculum and Instruction:

**Weekend Option:** The program is built around a teacher’s schedule with classes meeting every other Saturday during the academic year and for two one-week-long sessions in the summer. It is a pre-scheduled program in which students complete two Gannon core courses (6 credits) each semester for four semesters. Students take the electives whenever and wherever it is most convenient to them.

**Summer & Online Option:** This option allows students to complete the majority of the coursework in the summertime with two online courses during the school year. The schedule is as follows:

Summer	Three one-week live instruction courses (one in June, one in July, and one in August)
Fall	An online/blended course with one to two live face to face meetings
Spring	An online/blended course with one to two live face to face meetings
Summer	Three one-week live face to face instruction courses (one in June, one in July, and one in August)

Students take the electives whenever and wherever it is most convenient to them.

The startup of the cohort on the date indicated is contingent upon sufficient enrollment. Ten students are needed in order to begin the program. Maximum enrollment is twenty-four students per cohort. If sufficient enrollment for the start date is not achieved, marketing continues and the program begins once the minimum enrollment is achieved.

## 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 (induction, deduction, inquiry, analysis and synthesis) 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

This program requires the student to take 25 credits of core courses and 6 credits of electives, bringing the total number of credits for the degree to 31.

- Core Courses and Portfolio (25 credits)**  
GEDU 503 Educational Leadership (3 credits)  
GEDU 505 Classroom Discipline (3 credits)  
GEDU 601 Educational Research Methods (3 credits)  
GEDU 602 Portfolio (1 credit).  
GEDU 603 Current Issues in Education (3 credits)  
GEDU 604 Educational Tests and Measurements (3 credits)  
GEDU 621 School Curriculum (3 credits)  
GEDU 637 Learning Theory (3 credits)



GEDU 650 Advanced Educational Computing (3 credits online)  
Electives (6 credits)

#### **Gannon University Elective Cohort:**

Gannon University Elective Cohort offers elective courses online and in your area 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 has perfected. The times and locations will reflect the schedule of educators and will not be offered at the same time as M.Ed. cohort courses. 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. These 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](http://www.gannon.edu/Act 48).

#### **Pathways:**

Gannon University will continue to offer its Pathway Programs. Pathway credits can fulfill the six credit elective requirement and also be included as the first two courses for an advanced certification as a Reading Specialist, ESL Program Specialist, or Principal.

#### **Gannon University Courses:**

Students may continue to use graduate courses offered through Gannon University as M.Ed. electives.

#### **Transfers:**

With approval of the program director, graduate students may transfer six graduate credits from other accredited universities to fulfill the elective requirement.

#### **Online:**

The six elective credits may be traditional, online or blended courses.

## **Master of Education: Curriculum and Instruction/National Board for Professional Teaching Standards Certification**

*Director: Linda Cook*

*Phone 814-871-5358, [cook027@gannon.edu](mailto:cook027@gannon.edu)*

*Center for Teaching Excellence, [www.gannon.edu/nbpts](http://www.gannon.edu/nbpts)*

### **OVERVIEW**

Teachers pursuing the Master of Education in Curriculum and Instruction at Gannon University may simultaneously prepare for National Board for Professional Teaching Standards (NBPTS) Certification.

Gannon University hosts one of four Pennsylvania Centers for Teaching Excellence, each of which supports teachers and counselors who are pursuing National Board for Professional Teaching Standards Certification. Gannon University’s M.Ed. in Curriculum and Instruction is aligned with the National Board Professional Teacher Certification Standards. Gannon is one of four Centers of Teaching Excellence in Pennsylvania that supports teachers who are preparing for National Board Certification. The core courses in the M.Ed. in Curriculum and Instruction provide a strong foundation for the pedagogical, curricular, analytical and reflective skills needed for National Board for Professional Teaching Standards Certification.

The National Board for Professional Teaching Standards Pathway provides support and guided learning for National Board candidates in preparing their portfolio entries, and studying for their certificate area examinations.

Students who wish to pursue National Board Certification as part of the M.Ed. in Curriculum and Instruction must talk to the Director of the Center for Teaching Excellence as part of the admission and advising process so that they can take the proper course sequence and meet all program requirements.

Students must be in at least the spring of their third year of full time teaching before they take the first NBPTS Pathway course. Teachers are eligible for formal application and admission to the National Board for Professional Teaching Standards after completing their third year of teaching. All requirements of National Board for Professional Teaching Standards Certification, including successful submission of the portfolio and passing the certificate area examinations, must be met in order to attain National Board for Professional Teaching Standards Certification. Successful completion of the M.Ed. in Curriculum and Instruction NBPTS Pathway does not guarantee National Board Certification.

### **ADMISSIONS REQUIREMENTS**

- A completed application for admission including three letters of recommendation
- Final, official transcripts showing completion of a bachelor’s degree from a regionally accredited college or university with a GPA of at least 3.0
- Teacher Certification
- Teachers must be in their third year of teaching experience before they enroll in the NBPTS program
- Evidence by previous academic record that the applicant has the general ability and preparation necessary to pursue graduate study successfully.

### **CURRICULUM REQUIREMENTS**

This program requires the student to take 25 credits of core courses and six credits which focus around preparation for National Board Certification.

## MASTER OF EDUCATION: CURRICULUM AND INSTRUCTION

GEDU 503	Educational Leadership (3 credits)
GEDU 505	Classroom Discipline (3 credits)
GEDU 601	Educational Research Methods (3 credits)
GEDU 603	Current Issues in Education (3 credits)
GEDU 604	Educational Tests and Measurements (3 credits)
GEDU 621	School Curriculum (3 credits)
GEDU 637	Learning Theory (3 credits)
GEDU 650	Advanced Educational Computing (3 credits online)
GEDU 602	Portfolio (1 credit)

## REQUIRED COGNATE FOR THE NATIONAL BOARD FOR PROFESSIONAL TEACHER STANDARDS CERTIFICATION (6 CREDITS)

The NBPTS Pathway Courses should be taken in the following sequence, unless otherwise approved by the student's advisor and the Director of the Center for Teaching Excellence.

GUEC 560	NBPTS Candidate Preparation I (3 required credits)
GUEC 561	NBPTS Candidate Preparation III (3 required credits)

This course sequence completes the requirements for the M.Ed.

**Total credits for M.Ed. Curriculum and Instruction 31**

## Master of Education: Curriculum and Instruction/Reading Specialist Certification

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

### OVERVIEW

The Reading Specialist Certification Program provides 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.

Preparation in reading is a valuable area of specialization. The Master's in Curriculum and Instruction provides a strong foundation for the pedagogical, curricular and leadership dimensions of the role of a Reading Specialist. Gannon University's M.Ed. in Curriculum and Instruction is aligned with the National Board Professional Teacher Certification Standards. Gannon is one of four Centers of Teaching Excellence in Pennsylvania that supports teachers who are preparing for National Board Certification.

Students who wish to pursue Reading Specialist Certification as part of the Master's in Curriculum and Instruction will need to talk to their advisor early so that they can take the proper course sequence and meet all program requirements. Students must attend a summer course on campus for the required clinic course or complete an approved clinic experience in the home school district. All other Reading Specialist course requirements are met in an online format.

Those who already hold a Master's degree may complete only the certificate program of 27 credits.

Formal application and admission to the Reading Specialist Certification program is required before beginning the requirements for certification.

### ADMISSIONS REQUIREMENTS

- A completed application for admission including three letters of recommendation
- Final, official transcripts showing completion of a Bachelor's degree from a regionally accredited college or university with
- A GPA of at least 3.0
- Teacher Certification
- Evidence by previous academic record that the applicant has the general ability and preparation necessary to pursue graduate study successfully

### CURRICULUM REQUIREMENTS

This program requires the student to take 25 credits of core courses and 6 credits of required electives focused on preparation for Reading Specialist Certification for completion of the M.Ed. Students who wish to complete Reading Specialist Certification must take an additional 21 credits including 100 hours of clinical experience.

## MASTER OF EDUCATION: CURRICULUM AND INSTRUCTION

GEDU 503	Educational Leadership (3 credits)
GEDU 505	Classroom Discipline (3 credits)
GEDU 601	Educational Research Methods (3 credits)
GEDU 602	Portfolio (1 credit)
GEDU 603	Current Issues in Education (3 credits)

GEDU 604	Educational Tests and Measurements (3 credits)
GEDU 621	School Curriculum (3 credits)
GEDU 637	Learning Theory (3 credits)
GEDU 650	Advanced Educational Computing (3 credits online)

### **Required Cognate for Reading Specialist Certification (6 credits)**

The cognates should be taken in the following sequence:

GEDU 626	Foundations of Literacy for Elementary Students (3 credits online)
GEDU 627	Foundations of Secondary and Content Area Literacy (3 credits online)

This course sequence completes the requirements for the M.Ed.

### **Total credits for M.Ed. Curriculum and Instruction: 31**

### **The following additional courses are required for Reading Specialist Certification**

GEDU 520	ESL Teaching Methods (3 credits online)
GEDU 631	Diagnosis and Remediation of Reading Difficulties (3 credits online)
GEDU 633	Diverse Learner Competencies for Reading Specialists (3 credits online)
GEDU 640 or 641	Children's Literature or Young Adult Literature (3 credits online)
GEDU 645	Leadership and Current Issues/Practicum and Seminar (3 credits Summer online)
GEDU 647	Assessment of Literacy Development/Clinical Application (6 credits Summer clinic )

Please note that candidates will not be recommended for certification until the Master's degree is completed and all Reading Specialist Certification requirements are met. Candidates must have a 3.0 and pass the Praxis for certification.

## **Master of Education: Curriculum and Instruction/Principal Certification**

*Director: Kathleen Kingston, Ed.D*

*Phone: 814-871-5626, [kingston002@gannon.edu](mailto:kingston002@gannon.edu)*

### **OVERVIEW**

The Master of Education in Curriculum and Instruction is a natural pathway to Principal Certification. Principals who are instructional leaders understand that effective leadership focuses on improving teaching and learning and requires knowledge and skills that are grounded in the advanced study of curriculum, instruction, and

assessment. Aspiring principals will be prepared first as master teachers. Gannon University's M.Ed. in Curriculum and Instruction is aligned with the National Board Professional Teacher Certification Standards. Gannon is one of four Centers of Teaching Excellence in Pennsylvania that supports teachers who are preparing for National Board Certification.

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 change in schools and have emerged as leaders in their respective districts. This foundation in applied leadership as well as expertise in curriculum, instruction, and assessment serves to strengthen students' ability to be successful as principals and educational leaders.

Students who wish to pursue Principal Certification as part of the Master of Education in Curriculum and Instruction will need to talk to their advisor early so that they can take the proper course sequence and meet all program requirements. Additional credits beyond the M.Ed. are required for Principal Certification.

## **ADMISSION REQUIREMENTS FOR MASTER OF CURRICULUM AND INSTRUCTION/PRINCIPAL CERTIFICATION**

- 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

## **CURRICULUM REQUIREMENTS**

This program requires the student to take 25 credits of core courses and 6 credits of electives focused on preparation for school leadership for completion of the M.Ed. If students wish to pursue principal certification, they will take an additional 15 credits of Principal Certification coursework including 360 hours of job embedded internships.

## MASTER OF EDUCATION: CURRICULUM AND INSTRUCTION

GEDU 503	Educational Leadership (3 credits)
GEDU 505	Classroom Discipline (3 credits)
GEDU 601	Educational Research Methods (3 credits)
GEDU 603	Current Issues in Education (3 credits)
GEDU 604	Educational Tests and Measurement (3 credits)
GEDU 621	School Curriculum (3 credits)
GEDU 637	Learning Theory (3 credits)
GEDU 724	Technology Applications for Administrators (3 credits online)
GEDU 602	Portfolio (1 credit)

### Required Cognate for Curriculum and Instruction/ Principal Certification Program (6 credits)

Students must have eight core courses completed before beginning the required cognates and must apply and be admitted to the Principal Certification Program before enrolling in the following courses:

GEDU 720	Quality Teaching, Continuous Improvement, and Professional Accountability (3 credits)
GEDU 722	School Financial Management (3 credits)

This course sequence completes the requirements for the M.Ed.

### Total credits required for M.Ed. Curriculum and Instruction 31

### The following additional courses are required for Principal Certification.

GEDU 725	Principal Introductory Internship (1 credit) Integrated into GEDU 720
GEDU 726	School Finance Developmental Internship (1 credit) Integrated into GEDU 722
GEDU 723	Legal Aspects of Educational Administration (2 credits)
GEDU 727	School Law Developmental Internship (1 credit) Integrated into GEDU 723
GEDU 721	Principal as Agent of School Reform ( 3 credits )
GEDU 728	Principal Mastery Internship (3 credits with approval of program director)
GEDU 730	Diverse Learner Competencies for School Leaders (2 credits)
GEDU 731	Diverse Learner Internship (1 credit) Integrated into GEDU 730
GEDU 732	Leadership Mentor/Portfolio Advisor (1 credit)

### Total additional required credits for Principal Certification 15

Candidates must have completed the M.Ed., passed appropriate Praxis exams, documented three years of experience working under a certificate, and attained a 3.0 GPA in order to be recommended for certification by Gannon University.

## Master of Education: Curriculum and Instruction/English as a Second Language (ESL) Program Specialist Certificate

*Coordinator: Dr. Robin Quick, D.Ed.*

*Phone: 814-871-5399 quick003@gannon.edu*

### OVERVIEW

The Master of Education in Curriculum and Instruction is a natural pathway to the ESL Certificate. The foundation in curriculum, instruction, and assessment serves to strengthen the candidate's ability to be successful as an ESL teacher, program specialist, and a leader in the field of second language acquisition. The program also prepares candidates to help support other teachers with their expert knowledge and skills. Gannon University's M.Ed. in Curriculum and Instruction is aligned with the National Board Professional Teacher Certification Standards. Gannon is one of four Centers of Teaching Excellence in Pennsylvania that supports teachers who are preparing for National Board Certification.

Students who wish to pursue the ESL Certificate as part of the Master of Curriculum and Instruction will need to talk to their advisor early so that they can take the proper course sequence and meet all program requirements.

## ADMISSION REQUIREMENTS FOR MASTER OF CURRICULUM AND INSTRUCTION ESL PATHWAY

- 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.



**Required areas of concentration:**

- 45 hours or 3 semester units of second language acquisition/linguistics.
- 90 hours of 6 semester units of methods of ESL, academic and literacy development, program implementation and assessment for English language learners.
- 45 hours or 3 semester units of understanding cultural diversity in K-12 classrooms, multicultural education.

**CURRICULUM REQUIREMENTS**

This program requires the student to take 25 credits of core courses and 6 credits of electives focused on preparation for the ESL Program Specialist Certificate. Students must take an additional 6 credits of approved ESL courses for the Program Specialist Certificate.

**MASTER OF EDUCATION:  
CURRICULUM AND INSTRUCTION**

GEDU 503	Educational Leadership (3 credits)
GEDU 505	Classroom Discipline (3 credits)
GEDU 601	Educational Research Methods (3 credits)
GEDU 602	Portfolio (1 credit)
GEDU 603	Current Issues in Education (3 credits)
GEDU 604	Educational Tests and Measurements (3 credits)
GEDU 621	School Curriculum (3 credits)
GEDU 637	Learning Theory (3 credits)
GEDU 650	Advanced Educational Computing (3 credits online)

**Required Cognate for Curriculum and Instruction/ ESL Certificate (6 credits)**

GEDU 518	Multicultural Aspects of ESL/Cross Cultural Communication (3 credits online)
GEDU 519	Structures of English (3 credits online)

**Total credits required for M.Ed. Curriculum and Instruction      31**

**Additional courses required for ESL program specialist:**

GEDU 520	Methods and Materials for Teaching ESL/Practicum (3 credits online)
GEDU 517	English as a Second Language Assessment and Program Development/Practicum (3 credits online)

**Master of Education: Curriculum and Instruction Secondary or K-12 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 or K-12 certified teacher in the content areas of Biology, English, History/Social Studies, Mathematics, or Spanish.

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 evenings, Saturdays, or 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**

- 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 FOR THE SCHOOL OF EDUCATION AT THE MASTER'S LEVEL

The candidate will provide the following official documentation:

- That all require courses in the candidate's content area of Biology, English, History/Social Studies, Mathematics, or Spanish 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 25 credits of core courses, 6 credits of required electives, and 21 credits of certification requirements.

## MASTER OF EDUCATION: CURRICULUM AND INSTRUCTION CORE (25 credits)

GEDU 503	Educational Leadership (3 credits)
GEDU 505	Classroom Discipline (3 credits)
GEDU 601	Educational Research Methods (3 credits)
GEDU 602	Portfolio (1 credit)
GEDU 603	Current Issues in Education (3 credits)
GEDU 604	Educational Tests and Measurements (3 credits)
GEDU 621	School Curriculum (3 credits)
GEDU 637	Learning Theory (3 credits)
GEDU 650	Advanced Educational Computing (3 credits)

## REQUIRED COGNATE/ELECTIVES FOR TEACHER CERTIFICATION IN SECONDARY OR K-12 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: 31**

## 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: 52**

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

*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.

The School of Education offers a Master of Education degree in Reading, including preparation for Reading Specialist Certification. The program can be completed online.

### 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

### PROGRAM OF STUDY

Requirements for Reading Specialist Certification (27 credits total)

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

## Principal K-12 Certification Program

*Director: Kathleen Kingston, Ed.D.*

*Phone: 814-871-5626, kingston002@gannon.edu*

### PRINCIPAL PREPARATION PROGRAM PRINCIPAL AS AGENT OF SCHOOL REFORM

This unique 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	Online
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
- Candidates may be admitted with two years of experience if they can document that they will have completed three years of experience by the time the program concludes.

COURSEWORK

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
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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



## SUPERVISOR OF CURRICULUM CERTIFICATION

*Director: Kathleen Kingston, Ed.D.*

*Phone: 814-871-5626, kingston002@gannon.edu*

Students pursuing the Master of Education in Curriculum may also pursue a district-wide Supervisor of Curriculum Certification. The Supervisor of Curriculum is a district-wide specialist who works across the total grade organization.

Students who successfully complete the principal certification program can elect to take an additional 9 credits of coursework in order to be eligible to apply for certification as a Supervisor of Curriculum. The Praxis is the same for both certifications.

### Required Courses

GEDU 618 School and Community Relations (3 cr)

GEDU 617 Administration of School Personnel (3cr)

GEDU 713 Supervisor of Curriculum Internship (3 cr)

## Superintendent Letter of Eligibility Certification Program

*Director: Kathleen Kingston, Ed.D.*

*Phone: 814-871-5626, kingston002@gannon.edu*

## SUPERINTENDENT AS STRATEGIC SYSTEM LEADER

This unique 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.

## COURSEWORK

### 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 503 Educational Leadership

3 credits

This course studies models of leadership, issues dealing with human development, communications, culture, change management, developing leadership capacity, and assessment of leadership.

### 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 English as a Second Language Assessment and Program Development/Practicum

3 credits

This specially tailored section of Student Assessment is designed for students in the graduate ESL Certificate program. It has been tailored specifically to address needs, assessments, programs and family-school support for ESL students. We will explore a broad array of student assessments and their use in program development and in developing the literacy skills of ESL students. Assessment of students before, during, and after instruction will be practiced and evaluated. Candidates will research this variety of assessment tools and strategies to identify purpose and audience for these assessments, including qualitative measures, observation, and portfolios. The course requires a fifteen hour integrated practicum.

### GEDU 518 Multicultural Aspects of ESL/Cross Cultural Communication

3 credits

This course will help students to develop an appreciation for and sensitivity to points of view in a pluralistic society. Various cultures will be presented from the perspective of family structure, family coping mechanisms, communication style, interface with the community, interpersonal coping style, identity, and history.

### GEDU 519 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/Practicum

3 credits

A study of various theories and research in Second Language Acquisition, and practice of the various methods and approaches to teaching ESL. This course requires a 15 hour integrated practicum.

**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 Educational Research Methods**

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**

1 credit

The final development, presentation and evaluation of the portfolio project.

**GEDU 603 Current Issues in Education**

3 credits

This course provides the opportunity for graduate students to explore current education topics in depth.

**GEDU 604 Educational Tests and Measurements**

3 credits

This course explores the various statistics and assessments that teachers utilize in their classrooms.

**GEDU 605 NBPTS Candidate Preparation I**

3 credits

This course is designed to provide support in the spring or summer as teachers begin their work toward National Board portfolio submission the following spring. This course is a foundation for understanding the National Board concept of master teaching. Students will explore the 5 Core Propositions and how their content area specific National Board Standards relate to the Propositions. Students will also define the three different writing requirements (Descriptive, Analytic, and Reflective) for the National Board process and analyze and critique writing as practice. It is expected that students will apply the three writing styles in their drafts of Portfolio Entry 4: Documented Accomplishments.

**GEDU 606 NBPTS Candidate Preparation II**

3 credits

This course is designed to provide support as teachers prepare their National Board portfolio entries or study for their National Board certificate area examinations. After completing a self assessment of their teaching practice, writing skills, and certificate area knowledge against National Board expectations, students will work in consultation with their advisor and the Director of the Center for Teaching Excellence to choose an appropriate graduate course, to design an independent study, or to establish a mentorship with an expert in their certificate area.

**GEDU 607 NBPTS Leadership**

3 credits

This course is designed for National Board for Professional Teaching Standards candidates who have submitted their National Board Portfolio. Students will apply their learning from the process of preparing for National Board Certification, from the M.Ed. in Curriculum and Instruction core courses, and from additional leadership study in this course as they prepare and implement a plan for leadership in their school, community, and/or region. Students will also develop a plan for certificate renewal and continuing professional learning.

**GEDU 608 NBPTS Candidate Preparation III**

3 credits

This course is designed to provide continuing support in the fall as National Board candidates complete their National Board portfolio entries for submission the next spring. Students will explore the decision making process in order to analyze their entry choices in relation to the NBPTS Standards and their practice of master teaching. They will also set personal goal calendars and are expected to prepare classroom-based portfolio entries to analyze, self-score, and share. Submitting completed portfolios to NBPTS is a final course requirement.

**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

This course examines the theory, history, purposes, and evolution of curriculum. Knowledge, understanding, and the skills necessary to analyze and generate school curriculum and to take a leadership role in curricular changes are emphasized.

**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 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 Leadership and Current Issues/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 650 Advanced Educational Computing**

3 credits

This course will focus on the assessment and planning stages of the instructional design process. Students will engage in applied learning activities, which stress the use of computer productivity tools for making presentations, technology assessment, and planning. This course has an online component that requires students to have computer and Internet access.

**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 and Instruction Supervisory Certificate Internship**

3 credits

This course is designed to be the capstone experience of the Curriculum and Instruction Supervisory 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 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 724 Technology Applications for Administration**

3 credits

This course provides a review of different levels of computer literacy and the administrator's role in integrating technology into the educational setting. Possible topics include scheduling, curriculum management systems, online educational programs, management information systems, databases, data analysis, and personnel screening.

**GEDU 725 Principal Introductory Internship**

1 credit

**GEDU 726 Finance Developmental Internship**

1 credit

**GEDU 727 Legal Developmental Internship**

1 credit

**GEDU 728 Principal Mastery Internship**

3 credits

This course is taken in conjunction with GEDU 721 Principal as Instructional Leader, the capstone leadership course in the principal preparation program. The internship is a 235 - hour mastery level internship. The internship action plan will be developed as part of the leadership course. The internship will require 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 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 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 taken in conjunction with GEDU 741 Superintendent as Strategic System Leader, the capstone leadership course in the superintendent preparation program. The internship is a 235-hour mastery level internship. The internship action plan will be developed as part of the leadership course. The internship will require 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 550-654 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 (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.

### 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

#### Summer second Session

Intro to Embedded Systems  
Orientation and Curricular  
Practical Training (CPT)

#### Fall First Semester

Engineering Analysis I#\*  
Requirements Engineering\*  
Adv Digital Design  
CPT

#### Spring Second Semester

Engineering Analysis II\*  
Embedded Kernel\*  
Embedded Systems Design\*  
CPT

#### Summer

CPT

#### Fall Third Semester

RTOS Applications+  
Hw/Sw Co-design  
Personal Software Process\*  
CPT

#### Spring Fourth Semester

Project/thesis  
Elective  
Elective  
CPT

### Systems and Modeling

Intro to Embedded Systems  
Orientation and Curricular  
Practical Training (CPT)

Engineering Analysis I#\*  
Requirements Engineering\*  
System Modeling\*  
CPT

Engineering Analysis II\*  
Adv Programming in C/C++  
Electric Machine Modeling\*  
CPT

CPT

Control of Electric Drives  
Power Electronics  
Elective  
CPT

Project/thesis  
Digital Control  
Elective  
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 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 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 electrodynamics. 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

*Director: 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  
Two 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-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**

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.

**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 exchangers. 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

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 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. The Department of Environmental Science & Engineering offers two master's degrees (M.S. in Environmental Health and Engineering, and M.Ed. in Natural and Environmental Sciences). Both of the programs can be completed on a part-time or full-time basis.

## 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 can choose to specialize in one of two areas of concentration depending on their area of preparation and interest: Environmental Quality or Industrial Hygiene (Occupational Health and Safety). 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

Additional electives approved by the program director to satisfy the program requirements of 36 credits.

The following areas of concentration are recommendations for students interested the areas of environmental quality, industrial hygiene, or environmental management.

### Environmental Quality:

For those who would like to gain greater competence and understanding in the areas of water quality, water/wastewater treatment, air pollution control, water quality modeling, and/or waste-management.

GENV 520	Environmental Site Assessment	2
GENV 522	Wetlands Science & Engineering	2
GENV 535	Water Quality Modeling	3
	and/or GENV 565 Soil & Groundwater Pollution	3
GENV 551	Water/Wastewater Treatment Engineering	3
	and/or GENV 555 Air Pollution Control Engineering	3
GENV 694	Thesis:	6-9
	<i>a thesis (6-9 credits) involving original research is required of full-time students in the Environmental Science &amp; Engineering</i>	

*concentration. Part-time students who are employed full-time may, with the permission of the program director, prepare a research paper (3 credits) instead of undertaking a thesis project.*

Additional Environmental Electives to satisfy degree requirements.

### Industrial Hygiene:

This concentration prepares students in occupational health and safety and environmental issues in the workplace, particularly in a manufacturing setting. For full-time students, an internship and a literature-based research paper is required rather than a thesis.

For all students who have not worked in a position related to environmental health and safety, an internship experience is deemed to be a desirable component of this educational program. The student and advisor will determine exactly if and how an internship, especially for part-time students who work full-time, will be incorporated into the individual student's program.

GENV 540	Industrial Health I	3
GENV 541	Industrial Health II	3
GENV 546	Industrial Sampling Techniques	2
GENV 549	Industrial Safety	3
GENV 694	Internship	3

or an additional elective for those employed full-time

Additional Environmental Electives to satisfy degree requirements.

### 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

Master of Education Degree in Natural and Environmental Sciences

The master’s degree in natural and environmental sciences is designed primarily for professional educators who are interested in building skills and gaining competencies in environmental science. Most students pursue their graduate degrees on a part-time basis.

OBJECTIVES

- To enhance the ability of secondary teachers to incorporate the scientific, economic, social and legal aspects of environmental problems into the school curriculum
- To present up-to-date concepts and technology in the areas of environmental compliance and pollution management, and public health and safety for workers and the general community

- To instill in teachers and other graduate students the concept that the best approach to teaching and learning environmental science involves hands-on activities in scientific research through laboratory and field experiences, and through the use of appropriate computer and instrumental technologies
- To provide a firm foundation concerning the nature of the scientific method to define problems, gather relevant information, analyze data and consider critically the status of the information relative to the original question

CURRICULUM

Graduate course requirements are distributed among the following areas:

Professional Education (15 credits)

GEDU 601	Research Methods in Education	3
GEDU 600	Graduate Statistics	4
GEDU 621	School Curriculum	3
GEDU 696	Directed Research	2
Plus one of the following courses:		
GEDU 611	Philosophy of Education	3
GEDU 614	Sociology of Education	3
GEDU 615	Urban Education	3
GEDU 637	Learning Theory	3

Environmental Science & Health (21 credits)

GENV 500	Environmental Research Methods	3
GENV 520	Environmental Site Assessment	2
GENV 522	Wetlands Science & Engineering	2
GENV 536	Environmental Chemistry	3
GENV 542	Environmental Toxicology	3
GENV 544	Environmental Law & Regulations	3
GENV 643	Principles of Environmental Science & Engineering	3
Plus any additional	Environmental Course	min 2

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 &amp; 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 statutes, 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 NO<sub>x</sub>, SO<sub>x</sub>, 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 educator, 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.
- Provide three letters of recommendation.
- 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 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 in a rural setting. 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 examination of the 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. GNURS 587 offered spring semester; GNURS 588 offered fall semester.

### **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 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, otolaryngologic, 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.

# Occupational Therapy

*Director: Bernadette Hattjar, Dr. O.T., 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](http://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.

## 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, P.O. Box 31220, Bethesda, MD 20824-1220; (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

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: David B. Barker, Ph.D.**Curriculum Coordinator: 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 social organizations and leadership. As such, the program prepares students to identify, analyze, and affect myriad issues of organizational process 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.

The Ph.D. is an academically rigorous program designed to accommodate the schedules of full-time working professionals. The program utilizes a classroom seminar format that combines instruction with the concrete experiences and intellectual contributions of faculty and students. Students and faculty share responsibility for providing contributions to the learning process.

Curricular requirements for the Organizational Learning and Leadership Program includes three components; 1) Foundations, 2) the Multidisciplinary Core/Research Cohort, and 3) the Doctoral Dissertation. The Cohort (42 credits) consists of multidisciplinary coursework pertaining to organizations and leadership and a course sequence devoted to the process of social research. The Foundations (18 credits) is a combination of elective courses germane to leadership, learning, and social organizations. The Doctoral Dissertation (6 credits) consists of faculty advisement and guidance for completion of the doctoral dissertation.

**PHILOSOPHY**

The Doctor of Philosophy in Organizational Learning and Leadership is an interdisciplinary program devoted to the academic exploration of theory and research devoted to social organizations and leadership. The program is designed to prepare practitioners who can effectively analyze organizational and leadership processes, conduct research, address challenges and enhance effectiveness in formal organizations.

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 the 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 development for themselves and for the formal 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 in traditional classroom settings with the use of the ANGEL Course Management System. 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 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 as per 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 value of the doctoral study for 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.

Please contact the Program Director should you have any questions regarding admissions requirements.

## DISSERTATION

The doctoral dissertation is the capstone element for the Ph.D. The doctoral dissertation is an original piece of research 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 Cohort portion of the program. The Cohort experience will help to facilitate students in their articulation of a topic for research. Each student will work closely with a member of the Program's faculty who, as their dissertation chair, will provide guidance in the development of a viable research question, a plan of inquiry and analysis, and the articulation of their findings.

## 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. Students enrolled in the Organizational Learning and Leadership Program will be expected to meet this requirement following enrollment in the program (i.e., when 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. 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.

## 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 Foundations portion of the doctoral program. No credits may be transferred for the Cohort or Dissertation portions of the program. Approval of all transfer credits is at the discretion of the Program Director.

## THE CURRICULUM

### I. Foundations: Learning, Leadership, and Cognates. (18 credits)\*

- **Learning** (6 credits) - This set of coursework focuses on curriculum, instruction, assessment, research methodology, evaluation methodology, dynamics of learning, and human development.
- **Leadership** (6 credits) - This set of coursework focuses on the dynamics of leadership and organizational context, organizational culture and issues of organizational ethics.
- **Cognates** (6 credits) - This includes post-masters course work relevant to the student's career plans or dissertation.

\* Transfer credits for the Foundations cannot exceed 15. Foundations courses to be taken at Gannon or from another college/university must be selected in consultation with the Program Director.

### II. Cohort: Multidisciplinary Core and Research. (42 credits)

- **Multidisciplinary Core** (27 credits)
  - GOLL 801 Advanced Organizational Theory (3 credits)
  - GOLL 802 Advanced Leadership Theory (3 credits)
  - GOLL 811 Psychosocial Dimensions of Leadership (3 credits)
  - GOLL 812 Organizational Analysis: Structure and Design (3 credits)
  - GOLL 813 Case Analysis of a Learning Group (3 credits)
  - GOLL 814 Leading Organizational Culture and Change (3 credits)
  - GOLL 815 Quality Management and the Learning Organization (3 credits)
  - GOLL 816 Developing Leadership Capacity (3 credits)
  - GOLL 817 Global Perspectives on Learning and Leadership (3 credits)
- **Research** (15 credits)
  - GOLL 818 Doctoral Statistics I (3 credits)
  - GOLL 819 Doctoral Statistics II (3 credits)

- GOLL 821 Research Methods I (2 credits)
- GOLL 822 Research Methods II (2 credits)
- GOLL 823 Research Methods III (2 credits)
- GOLL 896 Dissertation Seminar I (1 credit)
- GOLL 897 Dissertation Seminar II (1 credit)
- GOLL 898 Dissertation Seminar III (1 credit)

### III. Doctoral Dissertation. (6 credits)

- GOLL 899 Dissertation (1-3 credits)

## COURSE DESCRIPTIONS

### GOLL 799 Directed Readings

3 credits

Directed Readings is a literature review of a specified academic literature identified by the student in collaboration with the instructor. It is applicable for Foundations credits only.

### GOLL 801 Advanced Organizational Theory

3 credits

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. In addition, time will be spent examining the inside of the firm, with a particular emphasis on culture as a complement to formal structure and the roles leadership and motivation play in advancing the firm toward its goals. 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 seminar provides a context for the scholarly analysis, critique and synthesis of foundational theories of leadership, including classical, traditional, contemporary and emergent perspectives. The fundamental tenets of each theory 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 graduate 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 US 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

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

The Research Methods I course involves the systematic examination of the research process and the various quantitative and qualitative methodologies available to researchers. Focus is on the methods and processes of exploration, including critical analysis of existing research studies. This course provides students with the fundamental knowledge to conduct a literature review and formulate an appropriate research question. The major emphasis includes defining an area of research, identifying a research question, exploring the literature and critiquing literature relevant to the research area.

### **GOLL 822 Research Methods II**

2 credits

Prerequisite: GOLL 821: Research Methods I and GOLL 896: Dissertation Seminar I

Co-requisite: GOLL 897 Dissertation Seminar II

The Research Methods II course continues with the systematic examination of the research process and the development of the second discussion paper. Focus is on sampling, design, and measurement techniques. Emphasis is placed on the interrelationships among the various design, implementation, and evaluation components of research. The major emphasis includes determining the appropriate method to answer or address the research question.

### **GOLL 823 Research Methods III**

2 credits

Prerequisite: GOLL 822: Research Methods II and GOLL 897: Dissertation Seminar II

Co-requisite: GOLL 898: Dissertation Seminar III

The Research Methods III course continues with the systematic examination of the research process and the development of the third discussion paper, which will lead to an approximate dissertation proposal. Focus is on the application of the principles of ethics in research, the use of appropriate interpretative techniques in data analysis, and the reporting and communicating of the research findings. Upon completion of this course, students will have the skills necessary to develop a quality research proposal.

### **GOLL 896 Dissertation Seminar I**

1 credit

Co-requisite: GOLL 821 Research Methods I

The purpose of Dissertation Seminar I is to provide Multidisciplinary Core cohort members with the knowledge and skills necessary to move actively forward in their journey towards the dissertation. The understanding of research skills is important both for reading others' research and conducting one's own research. Through reading in their potential area of interest, exposure to collegial insights into the nature of research and annotated bibliography writing, participants will deepen their understanding of skills necessary to develop a good research question that is supported and referenced from the literature.

### **GOLL 897 Dissertation Seminar II**

1 credit

Prerequisite: GOLL 821: Research Methods I and GOLL 896: Dissertation Seminar I

Co-requisite: GOLL 822: Research Methods II

In Dissertation Seminar II students will learn how to complete a systematic review of the literature in their research area of interest. Each student will consider an array of research designs and approaches to research questions suggested by literatures reviews. Other learning opportunities will include seeking feedback from colleagues of student's own efforts and providing feedback on the efforts of colleagues. Students will blend the Second Discussion Paper completed in Research Methods II and systematic literature review in a presentation to their colleagues.

### **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

The purpose of Dissertation Seminar III is to not only prepare students for the dissertation process, but to progress them toward their dissertation proposal. In the previous two dissertation seminars the student has produced two discussion papers. While the Third Discussion Paper produced in this course will not by definition be a dissertation proposal, it is designed to more closely approximate

the dissertation proposal. The student will have the opportunity to both develop and critique presentations of a research problem, reviews of literature that justify the research problem and the methodologies that best address the research question(s). Other learning opportunities will include seeking feedback from colleagues of student's own efforts and providing feedback on the efforts of student's colleagues.

### **GOLL 890 Special Topics**

3 credits

### **GOLL 899: Dissertation**

1-3 credits

Prerequisite: 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 indispensable 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 (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 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 is 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 I (10 weeks)	5
Total		9

**4th Semester - Fall**

GDPT 821	Examination, Evaluation & Intervention for Cardiovascular & Pulmonary Dysfunction I	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.

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.

### 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 CAT format (critically appraised topic) 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 Initiative 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 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 Initiative 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, 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 human movement and motor control. 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 students to complete their research proposal including revisions to their systematic review of the literature, methods, introduction, and application to Institutional Review Board for their study. Students will be guided through this process under the direction of their research advisor and 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, and researcher bias. Development of project's methodology emphasizes appropriate selection of research design that is compatible with selected analysis of data.

#### **GDPT 856 Community Health Initiative 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 Initiative 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 a need or objective identified by the organization and 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, community member(s) and students, 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) neurological 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 capstone course will require the student to synthesize data from the healthcare environment with the research evidence to a clinical case in their area of interest. The format of the project may include a clinical case project that is specific to a patient or a clinical project related to a physical therapy diagnosis of interest. Within the structure of the course, the student is required to analyze the literature regarding the selected case/identified clinical interest, and present and discuss these findings with their colleagues. An additional intent of this course is preparation for the National Physical Therapy Examination (NPTE) through structured systems review.

**GDPT 890 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, introduce 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 curricula 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 limits to professional conduct as delineated by the State of Pennsylvania Rules and Regulations Governing Physician Assistants
- 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.

## 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
- A combination of electives to best meet the specific needs and career plans of the student

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
- evaluate 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)
- 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
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.

GMBA 502	Elements of Public Administration	3
GMBA 511	Administrative Decision Making Skills	3
GMBA 522	Ethics and Public Policy	3
GMBA 531	Administrative Law	3
GMBA 601	Strategic Planning	3
GMBA 631	Organizational Culture, Creativity & Change	3
GMBA 525	Statistical Analysis	3
GMBA 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
GMBA 741	Public Finance	3

### Organizational Leadership Track (12 credits)

Suggested courses from which to choose:

GMBA 632	Nonprofit Management and Leadership	3
GMBA 633	Program Development	3
GMBA 635	Community Power	3

GMBA 736	Human Resource Management	3
GMBA 745	Community Development Process	3
GMBA 763	Leadership and Environments of Administration	3
GMBA 790-794	Special Topics	3

### Additional MPA Electives

GMBA 746	The National Policy Process	3
GMBA 747	Human Services Administration	3
GMBA 761	Politics and Government in Metropolitan Regions	3
GMBA 796	Directed Readings	3
GMBA 798	Internship	3

### Special Topics Electives (3)

#### GMBA 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

#### GMBA 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.

#### GMBA 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.

**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.

**GMPA 534 Graduate Statistics**

3 credits

**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.

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