GANNON UNIVERSITY

Undergraduate Catalog 2012-2013

109 UNIVERSITY SQUARE ERIE, PENNSYLVANIA 16541
1-800-GANNON-U or 814-871-7240
www.gannon.edu

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ACCESSIBILITY STATEMENT

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

GANNON UNIVERSITY POLICY OF EQUAL OPPORTUNITY

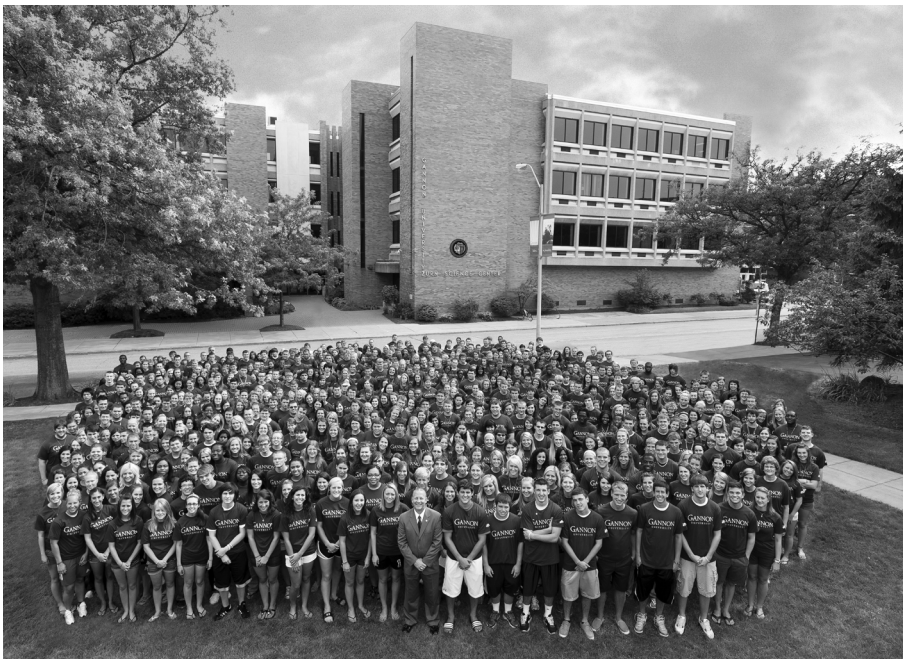
It is the policy of Gannon University to affirmatively implement equal opportunity to all qualified applicants and existing students and employees. In administering its affairs, the University shall not discriminate against any person on any basis prohibited by law. All aspects of employment including 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.

The information in this catalog is considered to be descriptive in nature. 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.

Gannon: A Closer Look

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.



ACADEMIC ACCREDITATION

Academic accreditation is based on accepted qualitative and quantitative standards of excellence for evaluating the quality of education offered at the institution. Evaluation and subsequent accreditation include such areas as the educational objectives and achievements, academic programs, admissions practices, student personnel and welfare services, institutional study, training and experience of instructional staff, financial stability, and laboratory and library resources.

Academic Programs of Gannon University are accredited by:

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

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

ABET, Inc.
Engineering Accreditation Commission
Computing Accreditation Commission
111 Market Place, Suite 1050, Baltimore, MD 21202-4012
(410) 347-7700, FAX (410) 625-2238, www.abet.org

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

Accreditation Review Commission on Education for the Physician Assistant
1000 North Oak Ave, Marshfield, WI 54449-5788
(715) 389-3785, FAX (715) 389-3131

Association of Collegiate Business Schools and Programs
7007 College Boulevard
Overland Park, KS 66211
(314) 872-8481, FAX (314) 872-8495, www.acbsp.org

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

Commission on Accreditation for Allied Health Educational Programs
35 East Wacker Drive, Suite 1970, Chicago, IL 60601-2208
(312) 553-9355, FAX (312) 553-9616, www.caahep.org

Commission on Collegiate Nursing Education
One Dupont Circle, NW, Suite 530, Washington, DC 20036-1120
(202) 887-6791

Commission on Accreditation for Respiratory Care
1701 W. Euless Blvd., Suite 300, Euless, TX 76040-6823
(817) 283-2835, FAX (817) 354-8519, info@coarc.com

Council on Social Work Education at the Baccalaureate Level
1600 Duke St, Suite 300, Alexandria, VA 22314-3421
(703) 683-8080 FAX (703) 683-8099, www.cswe.org

The Joint Review Committee on Education in Radiologic Technology
20 North Wacker Drive, Suite 2850, Chicago, IL 60606-3182
(312) 704-5300, FAX (312) 704-5304

Gannon University holds membership in the following associations:

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

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

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

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

Council of Graduate Schools
One Dupont Circle, NW, Suite 230, Washington, DC 20036
(202) 223-3791, www.cgsnet.org

ECONOMICS America
1140 Avenue of the Americas, New York, NY 10036
(212) 730-7007, FAX (212) 730-1793, www.economicsamerica.org

International Federation of Catholic Universities
C/o Institut Catholique 21, Rue D; Assass 75270, Paris Codex 6, France
0033 1 44 39 52 26, FAX 0033 1 44 39 52 58

Middle Atlantic Association of Colleges of Business Administration
LaSalle University, 1900 W. Olney Avenue, Philadelphia, PA 19141
(215) 951-1040, FAX (215) 951-1886

National Council on Economic Education
1140 Avenue of the Americas, New York, NY 10036
(212) 730-7007, FAX (212) 730-1793, www.nationalcouncil.org

National League of Nursing
61 Broadway, 33rd Floor, New York, NY 10006
(800) 669-1656

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

Pennsylvania Partnership for Economic Education
123 North Market Street
Selingrove, PA 17870
(570) 372-9997, www.economicsamerica.org

Gannon University is approved by:

American Bar Association
750 North Lake Shore Drive, Chicago, IL 60611
(312) 988-5000, www.abanet.org

State Board of Nursing of the Commonwealth of Pennsylvania
PO Box 2649, Harrisburg, PA 17105-2649
(717) 783-7142, www.st-nursecstate.pa.us

ACADEMIC PROGRAMS

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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 4000 audiovisual items. Special collections include the University Archives and a curriculum library to serve those in the School of Education. The library subscribes to 300 periodicals and provides online access to 58,000 more. The library's website provides access to the online catalog, online indexes and databases, electronic book and full-text electronic journal collections. Additionally, reference service and information literacy instruction are integral components of the library's educational mission. Interlibrary loan service is available.

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 – all with access to library resources. The full Microsoft Office productivity suite is available at most of these computers. The entire library is covered by Gannon's wireless network. Laptop computers are available to check out for in-library use.

LIBR 111: Library Research and Information Skills
A one-credit course focusing on understanding and utilizing a variety of information sources and formats, both print and electronic. It will include the skills of determining information needed, effective search strategies, critical evaluation of sources of information, using information effectively and the ethical and legal use of information. *1 credit*

Admission to the University

ADMISSION POLICY

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.

EVALUATION OF CANDIDATE CREDENTIALS

Admission decisions are based on a variety of factors. High school record, as demonstrated through course selection, grades, and class rank, is of primary importance. Less critical, although significant (depending upon the program a student is applying to), are the results of Scholastic Aptitude Tests (Critical Reasoning and Math) or ACT. Extra-curricular activities, recommendations, and personal statements also enter into the admission decision.

ADMISSION REQUIREMENTS

Candidates for admission must be graduates of accredited secondary schools, preparatory schools, or present a General Equivalency Diploma (GED). It is recommended that a candidate's preparation include 16 academic units distributed as follows:

Science & Engineering

English	4 units
Social Sciences	Any combination
Foreign Language	of 4 units
Mathematics	4 units
Including Geometry, Trigonometry, and Precalculus	
Science	4 units
Including Biology, Chemistry, and Physics with Labs	

Humanities

English	4 units
Social Sciences	
Foreign Languages	Any combination
Mathematics	of 12 units
Science	

Health Sciences

English	4 units
Social Sciences	4 units
Mathematics	2-4 units including Algebra
Science	2-4 units including Biology and Chemistry with Lab

Business Administration

English	4 units
Social Sciences	Any combination
Foreign Languages	of 7 units
Mathematics	3 units
Science	2 units

Education

English	4 units
Social Sciences	
Foreign Languages	Any combination
Mathematics	of 12 units
Science	

FRESHMAN APPLICATION PROCEDURE/PROCESSING

Completion of the application sequence includes the following:

1. Submission of a completed Application Form (paper, on-line, or common application) including a non-refundable $25 application fee.

2. Submission of an official secondary school transcript including senior class schedule, class rank and counselor recommendation. All transcripts become the property of Gannon University and cannot be returned, copied, or forwarded to a third party.
3. Submission of standardized test scores, either SAT or ACT. (It is recommended that you have test scores sent directly from the testing agency).
4. Submission of one additional letter of recommendation, personal statement, and a listing of extra curricular activities.

If there is a need for further information, the Office of Admissions will contact you. The Admissions Committee may require a personal interview.

While there is no deadline for filing the application*, it is recommended that resident students complete the application before April 15 for the Fall Semester and December 1 for the Spring Semester. Commuters should complete application before August 1 and December 15 respectively. Applications are processed as they are received and offers of admission are extended on a space available basis. In other words, some programs have maximum enrollment quotas that will be filled prior to the beginning of the academic year.

Notification of admission decisions occurs on a rolling basis. Students will be notified within 2-4 weeks once their application and transcripts have been received.

All students who plan to enroll must submit a final, official secondary school transcript verifying graduation.

*In processing applications for the Fall semesters, the following programs are to have an application deadline: LECOM 2 + 3, 3 + 3, and 4 + 3 partnership programs, The 2 + 4 Duquesne Accelerated Pharmacy Program, the LECOM 4 + 4 Medical Program, Charleston 2 + 3, Accelerated Pharmacy Program, Charleston 3 + 4 dual degree Pharmacy Program.

DEPOSITS

A deposit is requested when a candidate has been accepted. The deposit for commuters is $100, and the deposit for resident students is $200, which includes a $100 housing deposit. Some programs (Physician Assistant and LECOM 4 + 4 Medical Program) require a higher enrollment deposit.

Programs for the entering class are filled as the deposits are received. Room assignments are also made according to the date deposits are received.

The deposit is refundable until May 1 should a student choose not to enroll. We will delay admission for most programs for a semester or year upon receiving written request for delayed admission. In these cases, the deposit is rolled over to the new admission date.

ADVANCED PLACEMENT

Applicants participating in the College Entrance Examination Board Advanced Placement Program will be considered for credit and placement if the appropriate test scores are sent. See Advanced Placement section.

TRANSFER STUDENTS

General Requirements

Students in good standing (generally defined as a 2.0 average or better on a 4.0 scale) at regionally accredited institutions may qualify for admission, depending upon various aspects

of the entire academic record. Several programs require a grade point average above a 2.0. Of primary interest to the Admissions Committee is the college performance, although the high school record may carry weight in some instances. Additionally, transfer students will be asked to submit a college clearance form (Transfer Applicant Evaluation Form) from the Dean of Students at the current or last college attended. Receipt of this form is required in order for students to complete final registration.

Official updated transcripts from each college/university/institution attended are required before a final admission decision is made. Transfer students with fewer than 30 credits must also provide an official copy of their high school transcript. All students must show proof of high school graduation.

Students on notice of dismissal are not eligible to apply for admission to Gannon University until after the lapse of one academic year. At that time, the Admissions Committee will determine whether or not the student may be admitted.

Applicants on probation or whose records show less than a 2.0 average at their current or most recent school are advised that they will not, except in extraordinary circumstances, qualify for admission to Gannon University.

A grade of "incomplete" is not acceptable on a transcript from a previous college. All "incompletes" must be resolved prior to being reviewed for admission.

Courses taken previously which have relevance to the program to be followed at Gannon University, and in which grades of "C" (2.0) or better have been earned, are eligible for transfer. (Several Programs require grades of "B" or better to be considered for transfer.) The Associate Dean of the college in which the student intends to enroll completes the formal evaluation of transfer credits.

UPPER DIVISION TRANSFER PROGRAMS (for Associate degree graduates)

Next-Step Program

Transfer students may be eligible to use the Next-Step Program in order to expedite the completion of a bachelor's degree from Gannon. Students holding the Associate of Arts or the Associate of Science Degree from another Regionally Accredited institution may qualify for Gannon's Next-Step Program. The program enables students to make an easy transition from a two or four year college to Gannon. The program guarantees acceptance of up to 64 credits and allows students to enter Gannon with junior level status. Only courses in which grades of "C" (2.0) or better have been earned are eligible for transfer. At least two years of upper-division full-time study are required to obtain the Baccalaureate Degree.

Next-Step Programs

- Accounting
- Biology
- Business Administration
- Chemistry
- Communication Arts
- Criminal Justice
- English
- Entrepreneurship
- Finance
- International Business
- Management
- Marketing
- Nursing BSN
- Nursing RN-BSN
- Occupational Therapy** (for OTAs only)
- Political Science
- Psychology
- Risk Management and Insurance
- Science
- Social Work

**May require summer courses.

Curriculum for each major is listed in the Academic Program section of the catalog. (i.e., Accounting-Next-Step, See Accounting).

Persons who are interested in receiving general information or making application to Gannon should write or call:

Office of Admissions
Gannon University
109 University Square
Erie, Pennsylvania 16541-0001
(814) 871-7240
1-800-GANNON-U
admissions@gannon.edu
www.gannon.edu

INTERNATIONAL STUDENTS

1. International students should apply as soon as possible for visa issuance purposes. Gannon recommends July 1st for the next fall intake and December 1 for the next spring intake to ensure for the proper time frame.

   International students need to send the following:
   a. A completed International Undergraduate Admission Application with the required application fee.
   b. Transcripts and final exam results from all secondary (high school) and/or postsecondary schools attended; English translations are required.
   c. TOEFL (Test of English as a Foreign Language) IELTS (International English Language Testing System), or other evidence of English proficiency if native language is not English. A minimum TOEFL score of 550 (paper test) or 213 (computer test) or 79 (Internet based - iBT) or a 6.0 on the IELTS is required – *for exemption from on-campus ESL testing and placement.* We also accept L.I.F.E. program level 12 and ESL Language Center level 112 in lieu of TOEFL.
   d. Applicants who meet the academic requirements for a specific program, but who do not satisfy the English-language requirement, may be offered admission to the university. These students will be required to complete testing for English-language proficiency upon arrival and participate in our English as a Second Language (ESL) Program if necessary.
   e. A completed Affidavit of Support Form along with a bank statement showing appropriate funds in U.S. dollars. Gannon University is required by United State immigration law to verify financial resources available for a student's educational and related expenses.
   f. All undergraduates must live on campus prior to the age of 21 and submit a $100 deposit in order to reserve a room. Without the deposit, Gannon cannot guarantee a room.
   g. All transfer students must submit the International Transfer Applicant Form. This form is to be completed by the International Student Advisor or designated equivalent at the applicant's current school.

2. Residency - All unmarried international students, under 21 years of age, are required to live in our University housing until they have completed four regular semesters of University study.

   Gannon University does not provide off-campus housing. However, the International Student Office will assist students in finding suitable housing in the area. Students must notify the Registrar's Office of their local address once they attain housing in the area.

RE-ADMISSION TO THE UNIVERSITY

Students who have withdrawn or been separated and wish to return should complete the Undergraduate Re-Admission Application. These applications can be picked up at the Office of Admissions or the Center for Adult Learning. Applications may also be mailed upon request and can be printed from www.gannon.edu/apply. The Re-Admission application requires a personal statement and a review by the Re-Admission Committee.

Students who wish to return as part-time students should submit their application to the Center for Adult Learning. Students who wish to return as full-time students should submit their application to the Office of Admissions.

Students who left in good standing (2.0 GPA or better) should be eligible to return. Students who were academically dismissed must wait one full year before being eligible to return.

Academic Forgiveness is a way to encourage capable, mature students who were previously academically unsuccessful with an opportunity for a fresh start in completing their bachelor's degree. Students wishing to apply for academic forgiveness should complete the Re-Admission Application and follow the appropriate directions. For more information about Academic Forgiveness, see that section of the catalog.

SPECIAL CONDITIONS WITH PROBATIONARY ACCEPTANCE

The Admissions Committee may require specific course(s), earned grade point average, and/or an academic contract as a condition of admission/readmission in addition to the minimum requirements of the University. Special terms of admission/readmission will be outlined in the acceptance letter. Students who do not fulfill the special admission conditions will be subject to separation from the University.

HIGH SCHOOL DUAL ENROLLMENT PROGRAM

The High School Dual Enrollment program is an opportunity for high school juniors and seniors to enroll in college courses while in high school. To apply for High School Dual Enrollment status, students must submit the High School Dual Enrollment Application, official high school transcripts, School Authorization Form from his/her high school and a check (made payable to Gannon University) for the full cost of courses. All documents must be submitted together for consideration. There is no application fee for the High School Dual Enrollment Program. To ensure that a student's experience at Gannon University will enhance his/her high school performance, we ask that students work with their high school guidance counselor or principal to avoid any conflict with regular schoolwork while attending classes at Gannon University.

Admission Criteria

Seniors with at least a 3.25 cumulative GPA on a 4.0 scale, 1050 SAT and/or 22 ACT and a rank in the top 25% of his/her graduating class may be eligible for admission as a High School Dual Enrollee. Students applying to take classes starting in their senior year must submit at least five semesters of coursework for review.

Juniors with at least a cumulative 3.50 GPA on a 4.0 scale and a rank in the top 25% of his/her graduating class may be eligible for admission. Students applying to take classes starting in their junior year must submit at least three semesters of coursework for review.

In order to enroll in subsequent semesters as a High School Dual Enrollee, students must attain a 2.0 GPA in each class from Gannon University. Students must also submit a new School Authorization Form to the Office of Admissions for each semester.

The tuition cost for High School Dual Enrollees is $100 per credit hour in addition to any applicable fees and books. This tuition is subject to annual increases.

Registration will be coordinated by the Office of Admissions in conjunction with the Registrar's Office, once a student is accepted as a Dual Enrollee and has paid tuition in full.

Students applying for the Fall term must apply by the end of May, for the Spring Term by the end of November and the Summer term by the end of March. However, keep in mind that Gannon courses are available on a first-come, first-served basis.

For more information about the High School Dual Enrollment Program, contact the Office of Admissions at (814) 871-7240 or admissions@gannon.edu.

The application, supporting materials and overview can be found on-line at the High School Dual Enrollment web site: www.gannon.edu/admiss/undergrad/dualenroll.asp.

CENTER FOR ADULT LEARNING

The Center for Adult Learning at Gannon University is a student-centered office where individuals have the opportunity to take care of a variety of functions (apply for admission, meet with an enrollment counselor, register for classes) in one location. This service-oriented office came out of the realization by the Gannon administration that adult part-time students, already extremely busy with career and family responsibilities, need a streamlined process for obtaining their education.

ADMISSION THROUGH THE CENTER FOR ADULT LEARNING

PART-TIME ENROLLMENT

Those individuals who desire to attend Gannon as part-time students will apply for admission through the Center for Adult Learning. This office is fully equipped to assist students who plan to enroll part-time as a freshman, transfer, summer transient (guest), or returning student.

Part-time study for undergraduate students is considered less than 12 credits per semester (generally taking fewer than four courses per semester).

Admission as a part-time adult student requires verification of high-school graduation or successful completion of the GED. An entrance exam is required of all students unless they have taken the SAT or ACT. Part-time transfer students should review the catalog section regarding policies on academic standing, probation, and dismissal to determine eligibility to apply for admission to Gannon University. Admission applications can be completed and in many cases processed in one visit to the Center for Adult Learning.

A copy of transcripts is sufficient for evaluation. However, before a student is accepted, the University must receive an official transcript, mailed directly from the institution of record to the Center for Adult Learning at Gannon. High school records, GED scores, and/or college transcripts (if applicable) must be sent in this manner. A form to facilitate the process is available in the Center for Adult Learning.

Contact the Center for Adult Learning for more information.

FULL-TIME ENROLLMENT

Students 21 years of age or older who have not previously attended a college and are interested in attending Gannon on a full-time basis should apply through the Center for Adult Learning.

Admission as a full-time student requires verification of high school graduation or successful completion of the GED. An entrance exam is required of all students unless they have taken the SAT or ACT.

A copy of transcripts is sufficient for evaluation. However, before a student is accepted, the University must receive an official transcript, mailed directly from the high school. GED students must submit an official transcript showing all years of high school completed as well as a copy of the GED scores.

Several full-time programs have application deadlines and specific entrance requirements. Contact the Center for Adult Learning for more information.

OPTIONS FOR THE ADULT LEARNER

The Center for Adult Learning is available to individuals who are interested in starting or returning to college for a variety of individual reasons: career change, job advancement, re-entry into the labor market, professional development, personal enrichment and/or a desire to obtain a college degree. The Center for Adult Learning specifically works with individuals who are pursuing college for the first time (age 21 and over) or part-time undergraduate students. Gannon University does not offer specific adult learning courses, however individuals are welcome to apply to any of the academic programs offered by the university.

DAY CLASSES

Those students who are able to pursue their education full-time must often attend Day classes. Also, those working second- or third-shift hours wishing to attend college part-time often elect Day classes to meet their needs. Day classes generally follow Monday/Wednesday/Friday or Tuesday/Thursday combinations.

EVENING CLASSES

Evening classes generally follow Monday/Wednesday or Tuesday/Thursday combinations, although some evening classes meet just once a week for three hours. A student working daytime hours could elect to attend classes one, two, or four nights a week, depending on personal preference and time constraints. A majority of programs do require students to attend during the day.

SUMMER SESSIONS

While summer class attendance is not required in most programs, students may elect to earn additional credits during this time of year. Courses are of varying lengths, with start dates staggered from early May through mid-July. Students may attend classes while still taking vacations and spending time with their families over the summer.

Financial Facts

UNIVERSITY EXPENSES

UNDERGRADUATE TUITION

A **flat rate** for 12 to 18 credits is charged. Students wishing to enroll in more than 18 credits must have written approval from their Academic Dean and are charged a per credit rate for each additional credit.

	Per Semester Flat Rate 12-18 Credits	*Per Credit Rate*
Programs		
Business	$ 12,990	$ 625
Education	12,990	625
Humanities	12,990	625
Science	12,990	625
Engineering & Computer Science	13,775	675
Health Sciences	13,775	675

SPECIAL FEES AND EXPENDITURES:

APB/SGA Activities Fee	$ 58	/semester
Application Fee	25	
Audit Fee	150	/credit
CLEP/Challenge	50	/credit
English as a Second Language (ESL)	800	/per course
General Studies Fee	300	/semester
Graduation Fee	80	
High School Dual Enrollment/ Cathedral Prep-GU Scholars Program	100	/credit
Late Fee	50	-100
Non-scheduled course Fee	100	/credit
NSF Check Fee	25	
Program for Students with Learning Disabilities	300	/semester
Student Insurance (optional)	Contact Gannon Health Center	
University Fee	215	/semester/Full-time
	18	/credit/Part-time

COURSE FEES:

Alpine Skiing/Snowboarding Fee	200	
Biology Lab-(1 credit)	179	
Biology Lab-(2 credit)	221	
Chemistry Lab-(1 credit)	179	
Chemistry Lab-(2 credit)	221	
Comm Arts Equipment Fee	55	-194
Computer Lab	194	
Computer Usage Fee (charged on certain courses)	33	-105
Criminal Justice Course Fee	15	-60
Dietetics Lab	55	
Engineering Lab	194	
Environmental Science Lab-(1 credit)	179	
Environmental Science Lab-(2 credit)	221	
Experiential Learning Fee	20	
Expressive Arts Materials Fee	50	

Language Lab	83	
Nursing Assessment Testing Fee	80	-110
Nursing Lab	55	
Nursing NCLEX Prep Fee	325	
Nursing Portfolio Fee-(3 credit)	210	
Nursing Portfolio Fee-(5 credit)	315	
Occupational Therapy Lab	55	
Photography Lab	50	-75
Physician Asst Course Fee	55	
Physics Lab-(1 credit)	179	
Physics Lab-(2 credit)	221	
Radiologic Sci Lab	55	
Respiratory Care Lab	55	
Respiratory Care NBRC Exam Fee	140	
Social Work Placement Fee	15	-25
Sports & Exercise Course Fee	25	
Student Teaching Fee	150	-300
WestLaw Access Fee	50	

HOUSING RATES (per semester)

GU Connect Fee		165
Finegan Hall	Single 3,120	Double 2,600
Wehrle Hall	Single 3,000	Double 2,500
North Hall	Single 4,055	Double 3,850
Alpha Gamma Delta House		2,340
Alpha Sigma Tau House		2,340
Catholic House	Single 3,485	Double 2,955
Crispo Hall		2,955
Delta Sigma Pi House		2,340
Freeman Hall		2,955
Harborview Apartments	Single 3,815	Double 3,240
Kenilworth Apartments		Double 2,955
Lubiak Apartments		2,955
Phi Sigma Sigma House		2,340
Walker Hall	Single 3,485	
Wickford Apartments	Single 3,485	Double 2,955
202, 204, 210 West 8th Street		3,485
301 West 5th Street		3,485
West Hall		3,000
632 Sassafras Street		2,955

HOUSING DEPOSIT 100

The Housing Deposit less any damages is refunded at the end of the lease period. The credit will be applied to any outstanding balance before being refunded.

MEAL PLAN RATES (per semester)

Any student (except a freshman resident student) can choose from any plan listed.

Freshmen Resident Plan

277 Meals per semester + 5 guest passes	2,525
227 Meals per semester + 3 guest passes	2,150

Other Plans

150 Meals per semester + $150 GU Gold Funds	1,580
75 Meals per semester + $150 GU Gold Funds	865
50 Meals per semester + $150 GU Gold Funds	627
25 Meals per semester + $150 GU Gold Funds	388

PAYMENT

All tuition, fees, room and meal plan charges are due one week before the start of the semester. The following payment options are available:

- Cash or Check
- E-Check
  On-line payment using a checking or savings account is available at 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. Only MasterCard, Discover and American Express are accepted. A 2.65% convenience fee is assessed on all transactions.
- Payment Plans
  Annual Plan
  A TuitionPay Plan is available through Sallie Mae which enables you to pay all or part of your annual costs in ten interest-free payments for a minimal processing fee. More information regarding this plan can be found at tuitionpay.salliemae.com.
  Semester Plan
  A Deferred Payment plan is available through Gannon's Cashier Office which enables you to defer up to $2,500 per semester in three interest-free payments for a minimal processing fee. More information regarding this plan can be found on the back of the semester bill.

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.

REFUND POLICY

Tuition & Fees:

For 14 week semesters, a percentage of tuition charged will be refunded as follows: 100% during the first week; 80% the second week; 60% the third week; 40% the fourth week; and no tuition refund thereafter. For fees, 100% refund will be given during the first week; and no fee refund thereafter.

There is no financial adjustment for credits dropped between the flat rate (12-18 credits).

After the first week of the semester, there is no financial adjustment when a student drops from full-time to part-time.

For semesters less than 14 weeks, a percentage of tuition charged will be refunded as follows: 75% of tuition only will be refunded for drops completed within the first five days of the start of the course; and no refund thereafter.

Housing:

A 100% refund will be given during the first week of the semester; and no refund thereafter.

Meal Plan:

A meal plan dropped during the first week of the semester will be refunded the full cost of the plan less the equivalent cost of meals consumed prior to dropping the plan. After the first week, a percentage of the meal plan cost will be refunded as follows: 80% the second week; 60% the third week; 40% the fourth week; and no refund thereafter.

Federal:

The Financial Aid Office is required by federal statute to determine how much financial aid was earned by students who withdraw, drop out, are dismissed, or take a leave of absence prior to completing 60% of a payment period or term.

For a student who withdraws after the 60% point-in-time, there are no unearned funds. However, a school must still complete a Return calculation in order to determine whether the student is eligible for a post-withdrawal disbursement.

The calculation is based on the percentage of earned aid using the following Federal Return of Title IV funds formula:

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

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

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

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

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

The institution must return the amount of Title IV funds for which it is responsible no later than 45 days after the date of the determination of the date of the student's withdrawal.

Refunds are allocated in the following order:

- Unsubsidized Federal Stafford Loans
- Subsidized Federal Stafford Loans
- Unsubsidized Direct Stafford Loans (other than PLUS loans)
- Subsidized Direct Stafford Loans
- Federal Perkins Loans
- Federal Parent (PLUS) Loans
- Direct PLUS Loans
- Federal Pell Grants for which a Return of funds is required
- Federal Supplemental Opportunity Grants for which a Return of funds is required
- Other assistance under this Title for which a Return of funds is required (e.g., LEAP)

GU GOLD FUNDS

The student ID card also acts as your GU Gold card. GU Gold funds can be used for a variety of purchases on and off campus. Details can be found at www.gannon.edu/gugold. Deposits can be made any time during the year. Once funds are deposited they cannot be withdrawn as cash, or used to pay balances on a student's tuition account. Funds remain on account from one semester to the next until the student graduates or withdraws. At that time, a refund can be requested. The credit will first be applied to any outstanding balance on a student's tuition account before being refunded.

FINANCIAL AID AND STUDENT EMPLOYMENT

In order to bring a Gannon education within the reach of qualified students who could not otherwise afford it through either their own or their families' reasonable efforts, Gannon offers an integrated financial aid program of scholarships, loans, and employment.

The Gannon Early Version Award Application (EVA) for financial aid should be filed concurrently with the application for admission. Accepted students who submit a completed EVA will receive an Estimated Award letter containing estimated amounts of all financial aid (including grants, loans, scholarships, and/or employment) for which they may be eligible.

Gannon's Financial Aid program is open to all students attending classes during the nine month period from September through May. Financial aid is not available for summer term courses, although the Financial Aid Office can help students secure outside loans to help with expenses during this period.

Application Procedure

All students seeking need based financial aid should file financial aid applications no later than March 15.

Need based financial aid is awarded on the basis of established financial need. Need is defined as the difference between the family's relative financial strength and the cost to attend Gannon. All students must file the **"Free Application for Federal Student Aid"** (FAFSA) available on-line at www.fafsa.ed.gov, from guidance counselors, or the Financial Aid Office. The Expected Family Contribution (EFC) is determined by an analysis of the data submitted. The EFC measures a family's financial strength and determines eligibility for federal student aid. Upon determination of the EFC, a student's need is derived and an aid package is put together.

Types of Assistance

Financial Aid is generally awarded in the form of a package including grant, scholarship, employment, and loan funds. The amount of each type of aid varies according to the University's funds and the student's need. During 2011-2012, about 90 percent of Gannon's students who applied received financial assistance. The financial aid budget including athletics, was over 28 million dollars. Aid awards range from $100 to the full cost of tuition, fees, room and board. In addition, many Gannon students receive scholarship funds from outside the University.

Loans

Long-term loans are an important financial aid resource available to students who need help and who are willing to pay for part of their current education with their future earnings.

Federal Student Loans
All students are eligible to apply for a Federal Direct Student Loan. Under this program a student may borrow a maximum amount from $5,500 to $7,500 per year subject to a total

undergraduate borrowing limit of $31,000. The interest rate is fixed, and the principal may be deferred while a student is enrolled at least half-time. Repayment may be made over a ten-year period which begins six months after less than half-time enrollment. Interest may accrue immediately.

Alternative Loans
Alternative loans are loans that can be obtained to help pay for the cost of education. These loans are in the student's name and in most cases require a creditworthy co-signer. This type of loan can also be deferred until after graduation, but interest accrues upon disbursement.

Federal Perkins Loans (formerly NDSL)
Gannon University awards Perkins Loans on a limited basis. The interest rate on this loan is five percent. Interest and principal payment begins nine months after less than half-time enrollment.

Nursing Student Loan Program
The Nursing Student Loan Program is patterned after that of Perkins' loans but applies only to those who have been accepted in the nursing program. The program is intended to assist full-time students to achieve careers in nursing by providing long-term, low-interest loans to help meet the costs of education.

Parent loans
Federal Parent PLUS (Parent Loan for Undergraduate Students) loans can be used to cover college expenses, including tuition, room, board, and fees, minus any other financial aid received. The PLUS loan is not need-based and has a fixed rate.

Student Employment

The Federal Work-Study Program
The majority of the employment opportunities on campus are reserved for students eligible to participate in the Federal Work-Study Program. This federal program provides students with many interesting opportunities to work with faculty, staff and administrators. Students work limited hours a week and are able to set up their work schedule around the times they attend classes.

Other Employment Opportunities
Career Development and Employment Services Office maintains a file of non work-study off-campus jobs available to Gannon students and will assist students in finding employment.

Scholarships and Grants

General Scholarships
Gannon awards scholarships to freshmen and transfer students who meet eligibility standards. The University offers a variety of scholarships, grants and awards in recognition of students' academic and athletic accomplishments, demonstrated need and outstanding talents. In addition, need based aid is considered for students who demonstrate financial need by filing the required applications and adhering to deadlines. Award packages are renewed each year to students that remain in academically good standing and continue to meet the required eligibility standards for both academic and need based aid. Students need not apply for specific scholarships since they will automatically receive consideration for all funds for which they may be eligible when they submit the FAFSA.

Outside Scholarships

Candidates for Gannon scholarships are urged also to apply for national, state, and local scholarships for which they may be eligible and which may be used at the institution of their choice. These include National Merit Scholarships and scholarships offered by local foundations, clubs or business organizations. The high school guidance office should be consulted about these awards. All outside scholarships received and applicable at Gannon

should be reported to the Financial Aid Office, even if they are received after the FAFSA is submitted or after a Gannon award is made. Federal regulations mandate all resources, including outside scholarships, must be considered in determining need.

Gannon University reserves the right to adjust all University grants, scholarships, or funds if the student recipient receives additional grants, scholarships, or tuition assistance from any other internal or external source that exceeds regular billable charges and books.

The brochure "Important Information Regarding Financial Aid," accompanies all final award notifications and should be reviewed regularly.

Federal Grants

Federal Pell Grant
The FAFSA must be filed in order to determine if a student would be eligible for a Federal Pell Grant. Eligibility varies and is based on parent and student income and asset information.

The Teacher Education Assistance for College and Higher Education (TEACH Grant)
Current conditions and eligibility requirements are listed at the Dept. of Education web site at: https://teach-ats.ed.gov/ats/index.action

Federal Supplemental Educational Opportunity Grants (FSEOG)
The FSEOG program was established by Congress to help universities enroll qualified students with exceptional financial need. Gannon has a limited amount of funding to award to undergraduate students who fall into certain need categories.

How to Apply for Financial Aid

Prospective students who are candidates for financial aid at Gannon University must take the following steps:

1. File a formal application for admission with the Admissions Office.
2. File the Gannon Early Version Award Application (EVA).
3. File the Free Application for Federal Student Aid (FAFSA).
4. Pennsylvania residents must file the FAFSA no later than May 1st in order to be considered for State Grant funds. Students from other states should file the appropriate state required form for state grant purposes only.

Army ROTC Scholarships

The Army ROTC program awards two, three, and four year campus based scholarships to qualified applicants. These scholarships pay full tuition, a book stipend, plus a monthly stipend for 10 months per school year.

GU/ROTC Room and Board — Gannon University offers Room and Board scholarships to all cadets receiving FULL ROTC Scholarship funding.

For additional information, contact the Gannon University Department of Military Science, Beyer Hall, Room 408, or telephone (814) 871-ROTC.

POLICY STATEMENT ON ACADEMIC ADVANCEMENT

A minimum of 24 credits is required to academically advance one academic year. This progress will be checked each term you are in attendance. If you have not progressed a minimum of 12 credits in any one term of the academic year, you will be considered on Financial Aid Probation. Your aid will be continued for the next term but you will be required to make up any deficiency prior to the next awarding of funds.

Failure to comply with academic advancement will result in the loss of aid for any subsequent term. Students are reminded that progressing at the rate of only 24 credits per year, while meeting the minimum progress requirement, will utilize all of their eligibility for financial aid before completing their program of study.

Part-time students who are eligible for aid will also be required to academically advance in the same manner as mentioned above, except at a reduced rate of 6 credits per semester (12 credits per year) at half-time and 9 credits per semester (18 credits per year) at three-quarter time. A similar probationary period of one semester will also apply in the case of part-time students. Prior to the receipt of a 3rd year of financial aid the student must have a 2.00 Cumulative Grade Point Average.

Federal Grant recipients may be given an additional two semesters of assistance on financial aid probation beyond the above policy. A formal request must be made to the Financial Aid Office.

VETERANS ASSISTANCE

In an effort to provide veterans with personal support and multiple services, Gannon University maintains an Office of Veterans Affairs. The Veterans Affairs representative offers the veteran current information on the assistance available primarily in the areas of higher education, vocational and technical training. Assistance is also available to explain the wide range of VA benefits accruing to veterans and their dependents as well as guidance in filing the appropriate VA forms.

Benefits currently available to the veteran under the GI Bill can range from $200 a month to tuition and fees. Many opportunities such as tutoring, counseling, and remedial programs can be explained to the veteran by contacting the Gannon Veterans Affairs Office.

Pennsylvania Veterans' are offered maximum state grant awards. Federal grants and loans are additional sources of financial aid to the veteran.

The Veterans Affairs Office additionally provides a referral service to veterans for federal, state, and county services which are not a part of any veteran's program but are available to the veteran.

Gannon University will take veteran status into consideration in making decisions regarding admission. Up to 6 credits of Military Science can be awarded to the student for his military training. Additionally, many schools attended and training given while in the service allow for the granting of credit for corresponding university courses.

Student Life and Support Services

The Gannon Experience
The learning environment at Gannon extends beyond the formal classroom. We believe that the time students spend involved in programs and activities outside the classroom can significantly reinforce the academic experience. We strive to provide opportunities and an environment that helps each student answer the fundamental questions, "Who am I?" and "How shall I live my life?

At Orientation and Preview GU you will be introduced to the 'LIFECORE of Discovery' and P.R.O.M.I.S.E. initiatives which provide the basis from which all Student Development departments at Gannon offer programs to you as students. These programs encourage you to explore your values, beliefs and attitudes as related to nine lifestyle dimensions - Spiritual, Political, Intellectual, Life-Planning, Social, Physical, Emotional, Sexual and Cultural. As a student, you will be challenged to make healthy, responsible decisions and develop healthy habits for living a well-rounded and balanced life.

We will help you expand your understanding of the impact your co-curricular experience has on your life by encouraging you to participate in a variety of experiences. Examples include Leadership programs, Golden Harvest food drive, Intramural sports, a lecture series, and programs dealing with issues of alcohol use and sexual assault. These interactive and educational programs help create a practical "learning laboratory" for life.

Graduate / professional schools and employers want to know how you have developed your "whole" self through your college experience. A co-curricular transcript records significant actions you have taken to develop yourself outside the classroom. Gannon's co-curricular transcript is described in more detail in the Student Organizations and Leadership Development (SOLD) section of the catalog.

We encourage you to take advantage of our co-curricular programming. Our experience tells us that your involvement in the total university experience will make a positive difference in your life. These experiences will help you to:

- Clarify your values
- Expand your aesthetic and cultural appreciation
- Develop your leadership skills
- Develop your understanding of community living
- Express your commitment to community service
- Develop healthy patterns of recreational and social activities
- Clarify career, employment, and educational goals
- Develop a personal health and wellness plan

Gannon offers a full spectrum of support services through the newly created Student Success Center (SSC). We encourage you to visit the SSC for assistance with tutoring, advising, math and writing skills, study skills or career and major exploration. The services provided through the SSC are designed to assist you in taking an active role in your success.

CHAPLAIN

The Office of the University Chaplain celebrates the rich heritage of the Roman Catholic tradition through its ministries of pastoral care, sacramental celebration, evangelization and service to the Gannon community.

The University Chaplain guides Campus Ministry and the Center for Social Concerns as partners who invite personal response of students to the grace of God. This grace forms them in faith, hope and love in the context of their academic, cultural and social experience of the University.

In addition to its programs and activities the Office of Chaplain team members maintain a lively pastoral presence to the entire Gannon community whenever community and individual support is necessary, including pastoral counseling, spiritual direction and hospital and bereavement visits.

Campus Ministry

The mission of the Chaplain's office is furthered by Campus Ministry through a wide variety of programs that are open to individuals of the various faith traditions in our diverse world. Our team works to develop a community of faith through daily and weekend Masses, monthly ecumenical services and luncheons, retreats, inter-collegiate leadership workshops, faith-sharing groups and a week-long mission trip to Kentucky in May. We seek to empower our students to share in the responsibility of their life in the Church through being active at Masses as Altar Servers, Eucharistic Ministers, Lectors and Music Ministers.

Additionally, the Kirk House and the Catholic House offer Gannon students (sophomores and up) the opportunity to live in and experience Christian community through faith-sharing, community-building and service.

The Campus Ministry team embraces an ecumenical dimension enhanced by the Coalition for Christian Outreach. Our team consists of full-time professionals and resident Campus Ministers.

Center for Social Concerns

The Center for Social Concerns, inspired by Catholic Social Teaching, empowers students to make community service, education for peace and justice and civic engagement for social change an integral part of Gannon education. Students are encouraged to reflect critically on their experiences to understand their personal responsibilities in the creation of a more compassionate, just and peaceful world.

The Center for Social Concerns sponsors and supports co-curricular community service activities including a regular tutoring program for inner-city children, Gannon's Invitation to Volunteer Everywhere, United Way's Day of Caring and five Alternative Break Service Trips to domestic and international locations. Post-graduate volunteer service opportunities are advertised, encouraged and celebrated by the Center. In addition, the Center provides leadership opportunities for students to address local and global issues through Hunger and Homelessness Awareness Week, Pizza with a Purpose (a dinner and discussion group) and Take Back the Night rally to draw attention to domestic abuse and sexual assault violence. Resources are available to students, staff, and faculty interested in learning more about Catholic social teaching and modern social issues.

COMMUTER LIFE OFFICE

The Office of Commuter Life provides a “home away from home” for commuter students with a large lounge complete with a sink, microwave, refrigerator and coffee pot for your use. There are also two study rooms attached to the lounge and lockers you can sign out. The

lounge is a place to meet other students, receive guidance and information from the Commuter Advisers, and learn about opportunities for involvement and leadership on campus. Programming focuses around the LIFECORE dimensions and allows students to grow and become more connected to Gannon. Commuter Life also oversees a parking lottery in the summer for all commuters in the ramps around campus.

COUNSELING SERVICES

Counseling services are available to support students in their personal development. Students seek counseling for a variety of reasons, including stress, family issues, depression, anxiety, relationship concerns, eating disorder or body-image concerns, and many other reasons. Goals of counseling include increased awareness about personal values, needs, attitudes, and related behavioral changes. Counseling Services utilizes a brief treatment approach and referrals to community resources are made as needed.

Individual, couples, and group counseling services are provided by a licensed psychologist, counselor, or graduate intern. Counseling Services also provides programming for various groups and organizations on campus. Counselors are also available for consultation to faculty and staff regarding student concerns.

HEALTH CENTER

The Gannon University Student Health Center is a minor care facility. Our work within the field of higher education is to promote wellness and conserve the time of the students for their class work and studies by preventing and treating minor illnesses and injuries. A physician is available at the Health Center at scheduled hours during Fall and Spring semesters. The Health Center is staffed by registered nurses.

A University Health Examination Form **must be on file** at the Health Center Office in order to receive physician services. Students who do not file this required form will be referred to other local health care facilities for services. New students should receive their Health Examination Form in an admission packet after their deposit is paid. Any student who does not receive this form can pick it up at the Health Center or call 814-871-7622 to request a form be mailed to them. Each student properly registered may, as needed, receive such medical care as the Health Center is equipped to provide at the discretion of the medical staff.

Please note that students who are enrolled in Health Science majors may receive a separate health form from their department. It is necessary for these students to have both the departmental form and Health Center form filled out and returned to the appropriate offices.

Student Medical Insurance Plan

Students should be aware of their health insurance plan and the scope of the coverage. If you are covered by your parents' health insurance, coverage may be impacted if you change your academic status from full-time to part-time or withdraw from the University.

NOTE: Gannon University has a policy that mandates that all enrolled **INTERNATIONAL** students must have Health Insurance coverage. Therefore, there will be a charge on their semester bills for the insurance that Gannon has contracted with an independent insurance carrier to provide. If the International student can provide proof of insurance, then they will be permitted to sign a waiver and remove this charge.

This plan is **Optional** for all other enrolled students. Students who go on internships, rotations, clinicals, etc. need to check with their academic departments to see if there is a requirement to show proof of insurance before going on site. This is particularly true for Health Science majors.

Details relating to Gannon Health Insurance coverage, cost, and enrollment instructions can be obtained from the Health Center office.

Mandatory Meningitis Vaccine Policy

All incoming freshmen and transfer students who will reside in University owned housing which includes residence halls, apartments, and sorority houses on campus are required by Pennsylvania state law to obtain a meningitis vaccine before admission to housing will be allowed. A student may waiver and request an exemption from this mandate if the student (or parent if the student is a minor) provides a signature as to the reason, i.e. religious, medical, or other. Enrolled students are encouraged to obtain the vaccine from their primary care provider/clinic and provide the information on the MANDATORY UNIVERSITY MENINGITIS VACCINE/EXEMPTION FORM prior to obtaining the room key to their housing unit. Information regarding meningitis and the vaccine may be obtained from the Health Center.

INTERCOLLEGIATE ATHLETICS

Gannon University is dedicated to fostering the harmonious development of the physical, social, intellectual and spiritual faculties of its students. This concern prompts the University to conduct a well-rounded program of intercollegiate, intramural club and free-play activities based upon sound educational principles and practice. This practice functions as a proper part of the educational mission of the University and meets the NCAA and PSAC guidelines. The overall welfare of the participant is of primary concern.

The University is committed to provide an athletic program for student-athletes, and to promote and develop educational leadership, sportsmanship, physical fitness, sports participation as a recreational pursuit, and athletic excellence. In order to appeal to individual interests, Gannon provides athletic facilities and maintains a complete schedule of intercollegiate events in basketball, baseball, cross country, football, golf, swimming, water polo, soccer and wrestling for men; and basketball, cross country, golf, lacrosse, swimming, softball, water polo, volleyball and soccer for women. These activities afford a healthy social outlet, and their publicity is a stimulus to school spirit and pride.

INTERNATIONAL STUDENT OFFICE

The International Student Office (ISO) strives to foster an environment in which international students and their families might thrive intellectually, emotionally, spiritually, physically, professionally, and socially. ISO staff seeks to serve the international community through counseling, advocacy, immigration advising for F-1 and J-1 students and their dependents, and cultural programming, as well as to engage the members of the wider community in cross-cultural dialogue and learning.

ISO Programs and Services

- Pre-Arrival Correspondence and International Student Orientation Sessions
- ISO Web Site, Monthly Newsletters, and Weekly Listserv
- International Student Information Sessions
- Conversation Partners Program; Host Family Program
- Cultural Programming, including International Night
- Field Trips and Shopping Shuttles
- International Club Support and Advising
- Advocacy, Referral, and International Student and Family Resources

Maintaining Immigration Status

Staff members of the International Student Office serve as Gannon University's Designated School Officials (DSOs) and Responsible Officers (ROs). They are responsible for student and University compliance with U.S. immigration regulations, as well as reporting required data to the Department of Homeland Security (DHS) through SEVIS. DSO and RO responsibilities include, but are not limited to, the following:

- General Immigration Advising for Students and Dependents
- SEVIS Record Maintenance
- CPT (Curricular Practical Training) Authorization
- OPT (Optional Practical Training) Applications
- Changes to Degree Program Date Authorization
- Address Changes in SEVIS
- Reduced Course Load Authorization
- Reinstatement of Immigration Status Petitions
- Status Form Travel Signatures

Enrollment Requirements: International students are required to enroll each semester in a full course of study, making steady academic progress toward completing their program of study by the end date on their I-20 or DS-2019. For most undergraduates, this is 12 credits per semester. For most graduates, this is 9 credits per semester. If a student needs to drop below a full course load, he/she must consult with the International Student Office prior to dropping a course, or his/her immigration status may be terminated.

Employment under F-1 Status:

On-campus employment: F-1 students are permitted by the Department of Homeland Security to work on campus no more than 20 hours per week while school is in session. F-1 students may work full time during break periods, including summer.

CPT (Curricular Practical Training): CPT authorization may be granted for work done on or off campus but only if it is an established curricular requirement of a degree program or track within a degree program. For example, nursing students may participate in a required practicum *for pay* as long as the position is authorized in advance by a Designated School Official in the International Student Office. F-1 students are eligible for CPT after completing one academic year, unless otherwise required by their degree program. At Gannon, students may work no more than 20 hours per week on CPT while school is in session, but may work full time on CPT during break periods, including summer.

OPT (Optional Practical Training): The International Student Office assists students in applying to the United States Citizenship and Immigration Services (USCIS) for OPT authorization to work in the U.S. off campus during official breaks and after graduation. Students must attend an information session to learn more about OPT options and regulations before scheduling an application session with an ISO advisor.

Note: Spouses and dependents in F-2 status may not work in the U.S. under any circumstances.

Employment under J Status:
Students and their dependents in J status must meet with a staff member of the ISO in order to discuss authorization for both on- and off-campus employment.

Address Changes:
F-1 and J-1 students are responsible for submitting a physical address and any changes to the International Student Office within ten days of arrival or a move. The ISO updates the address in SEVIS in order to comply with reporting requirements. Failure to update the address in SEVIS can result in a termination of immigration status, incarceration, or fine. Students must also report address changes to the Registrar, Human Resources, the Post Office, and any other governmental agencies, in addition.

Additional Regulatory Requirements for J-1 Students and Scholars

Health Insurance:
All international students and dependents in J status are required by the Department of State (DOS) to maintain health/medical insurance that meets (DOS) requirements as outlined in the DS-2019. The insurance must cover the entire time period of the exchange experience in order to meet regulatory requirements.

Cultural Participation:
The International Student Office, in compliance with the Department of State, requires students and scholars in J status to participate in cross-cultural activities that allow exchange visitors to share their own culture while learning more about the host culture.

MULTICULTURAL AFFAIRS

The Office of Multicultural Affairs is dedicated to the enhancement of multicultural awareness and sensitivity through educational, cultural, and social activities. The Office of Multicultural Affairs strives to foster growth, development, awareness, and sensitivity among students, faculty, and staff.

NEW STUDENT SERVICES

Gannon recognizes that new students undergo a unique experience and the Office of New Student Services was established to assist them during this period of transition. This office provides supportive programs and services for new students that enable them to experience a successful academic and personal adjustment to the University environment.

Orientation programs are held to accommodate the needs of a diverse student population. These programs enable new students and parents to explore the programs, services, and opportunities available at Gannon. The most extensive sessions are held during the summer months for traditional incoming Fall freshmen and their parents. Nontraditional (adult) students are included in the Fall orientation program and a special orientation program is provided for transfer students in June. Also, a Spring Welcome/Orientation program for new students is held in January prior to the start of the semester.

Once the semester begins, the Office of New Student Services continues to provide support for students through programs involving academic advising, freshman four week grades, a self development first-year seminar, academic progress, registration follow up, and other first-year experiences.

First-Year Experience

Gannon University recognizes the importance of connecting all students to the University community during the first year and to laying the developmental foundation for their success both in and out of the classroom. Student success depends upon their effective use of available services and meaningful engagement in the life of the University. First year students who are constructively engaged will have a holistically rewarding experience at the University.

The mission of the First-Year Experience is to assist new students in making a successful transition to the University and to provide them with the foundations for lifelong learning, personal development and engagement in a global community.

Some of the major components of the First-Year Experience include: Summer Orientation, Preview GU, Welcome Mass, Convocation, First-Year Seminar courses, Learning Communities, LIFECORE, College Student Inventory, Freshman Four Week Grades/Fall Advisor Meeting, leadership development and service learning opportunities.

Self Development Seminar

The Self Development first-year seminar was designed to provide study skills assistance and career/life planning strategies for academically at-risk freshmen admitted to the university. Enrollment in the course requires a recommendation from the Admissions Committee and/or permission of the Program Director.

Self Development provides theory and practical application in an effort to enhance a student's academic, career and personal development. Credit earned fulfills the first-year seminar requirement.

FRSH 110: First-Year Seminar Self Development
The course focuses primarily on study skills development, personal growth, and career/life planning. Students will examine their own interests, values, skills and abilities in relation to future career/life direction. *2 credits*

RECREATION AND INTRAMURAL SPORTS

The recreation and intramural sports department is dedicated to offering a wide variety of competitive sports for both men and women of all ability levels, free play opportunity for life-time sports, and providing the ability for special interest groups to achieve their sports objectives. The Carnivel Athletic Pavilion provides drop in and free play opportunities in most areas of the facility. Activities including basketball, volleyball, racquetball, tennis, swimming, running and weight lifting are all available everyday. A cardio area complete with the latest treadmills, elliptical machines and spinning bikes provide the opportunity for a total fitness experience. A wide range of activities are offered from fitness classes to Club Sports.

Friendly intramural sports with student, faculty, staff, and alumni take place throughout both semesters of the school year. Intramural and recreational sports provide specific benefits, which include enhanced educational outcomes, heightened sense of accomplishments, improved health, higher self-esteem, stress release, great interaction and lifetime physical benefits.

RETURNING TO EDUCATION ADULT PROGRAM (REAP)

The Returning to Education Adult Program (REAP) recognizes that adult students face many challenges in balancing their multiple roles and responsibilities and is there to provide support to help make the transition into the classroom easier for non-traditional students. There is a lounge for adult students which is complete with many amenities such as a microwave, refrigerator and couches. Many students feel the lounge is a "home away from home" and enjoy socializing, studying, and attending programs there. A non-traditional Commuter Adviser is there to provide support, plan activities, and connect students to events going on around campus.

SCHUSTER ART GALLERY

Schuster Art Gallery, located on the third floor of Nash Library, offers a unique opportunity for regional artists to display their work. Exhibits change six times each year, displaying a variety of media. An Annual Faculty/Student Show is held, allowing students to showcase their work. The gallery is free and open to the public during regular library hours.

SCHUSTER PROGRAM FOR THE ARTS

The Schuster Program for the Arts has several components, including: the Music Scholars, Patron Scholars, a Re-Grant Initiative, Studio Art Classes, "Arts Outings", and the Schuster

Fund. Music Awards are available through an audition process and Patron Scholarships are available through an application process. For more information concerning these opportunities, students should contact the Financial Aid Office. The Schuster Re-Grant Initiative is a program Gannon administers, granting funds to local non-profit organizations engaging in cultural activities.

Programming initiatives of the Schuster Program for the Arts encompass a non-credit studio art class program and the "Arts Outings" program. Studio Art classes are offered each semester in the evening on campus. For a nominal fee, students can enroll in these hands-on classes with professional artists. In the past, classes have been offered in photography, clay, mosaic glass, linoleum block print, painting, drawing and much more! "Arts Outings" is a program where Gannon acquires tickets to local and regional arts events and underwrites the costs to students. For a nominal charge, students can attend theatre, dance, symphony, Broadway shows and visual art events.

The Schuster Fund is another funding opportunity at Gannon. Twice a year, faculty and staff can apply to the fund with an idea for an arts opportunity on campus. Students will have direct impact through the fund from coursework to APB Cultural Events. The fund is open to all full-time employees to apply for support.

SERVICE-LEARNING

When community service is done in an academic context, it is called service-learning. As an experiential teaching method, service-learning connects three main constituencies: students, faculty, and the community. Many Gannon professors, across a wide range of disciplines, use service-learning because it challenges students to translate classroom lessons into the “real world,” while providing a tangible benefit to the community. For example, Gannon nursing students provide health screenings at senior residences, accounting majors help with income tax preparation at a local community center, and biology students can do marine research for the national government of the Bahamas during Spring Break. In addition, all first year students are required to do service-learning as part of their First-Year Seminar class. Service-learning supports the University mission for a value-centered education, through socially relevant courses that prepare students for lifelong community participation.

STUDENT LIVING

Living Accommodations

Gannon University believes that there are important educational and social interaction benefits in residence halls/on-campus housing program. Because of this conviction, all undergraduate students whose home address is located outside a 25-mile straight-line radius of campus are required to live in Gannon University operated housing as specified below.

As a student progresses through college study (progress is determined by regular semesters of study completed), housing accommodations and programs widen. The following description of housing facilities and policies is presented on a semester-completed basis as an overview for prospective students and a guide for enrolled students at any point in their years of study. The following represents the most common policies but is not all inclusive.

The following should be remembered:

- There is a two year housing obligation for students entering the University. Essentially, the University requires a four semester commitment. College credits taken in high school do not apply. Transfer students will have a commitment unless they can prove 60 attempted credits or four semesters at another institution(s).

- The University reserves the right to move any student from one room/apartment to another at any time. All housing vacancies will be filled at the University's discretion.
- Any student contracting for Gannon University operated housing, contracts for a nine month housing commitment agreement.
- There is a five hundred dollar ($500) termination fee if a student signs a housing commitment form and then does not reside in that spot for the length of the commitment agreement. This fee applies to all students fifth semester and beyond who sign the housing commitment form.
- Resident freshmen who do not return to the University for a second semester will not be billed the termination fee.
- Resident Freshmen who sign a housing commitment agreement for their sophomore year and do not return will be billed the termination fee.
- Commuter freshmen, inside the 25-mile radius, who chose to reside in housing the first semester and choose to commute from home the second semester will be billed the termination fee.
- Any sophomore-senior commuting student who signs the housing commitment form and does not reside in housing will be billed the terminations fee.
- Any third or fourth semester student enrolled at the University, who lives outside the 25-mile radius and does not live in University housing as prescribed by policy, will be billed for room charges for one or both semesters. They will be billed the termination fee if they do not return as a student after signing the housing commitment agreement.

Freshmen and sophomore commuter students must be living at their parent's permanent home address.

Freshmen

Residence Hall Living

All students in their first and second semester of study, reside in one of Gannon' s three residence halls. Finegan Hall, Wehrle Hall and North Hall are each staffed by a Resident Director, Resident Campus Minister, as well as upper-class students who serve as Resident Assistants on each floor. The staff has participated in extensive training and strives to establish a sense of community among the residents as well as contribute to the development of a living-learning environment which espouses the mission of Gannon University. The Student Living staff contributes to the growth of each individual student by offering many co-curricular opportunities that are related to the nine dimensions of the LIFECORE Program. The staff strives to ensure that a safe and secure environment exists.

Students living in the residence halls will enjoy the convenience of study lounges, TV rooms, vending machines and laundry facilities. A typical room includes a desk, chair, closet/ wardrobe, dresser and bed for each student. Double occupancy is the preferred mode of living although a limited number of quad rooms and singles are available.

Resident freshmen are required to sign a housing commitment agreement and purchase a freshman meal plan.

Exemptions to the above mandatory housing requirements are granted to:

1. Married students
2. Veterans
3. Students who are 21 years or older before the first day of classes for the fall semester

Sophomores

On-Campus Apartment Living

The mandatory housing regulation continues for students through their third and fourth semesters. However, students may at this point choose from the three options open to them. There may be a limited number of spaces available to sophomores in the Residence Halls and a student may choose to continue residency as space allows. On-campus apartments are the choice of most sophomore students. The Crispo, Freeman, Lubiak, Kenilworth, Walker, Harborview, Catholic House, Wickford Apartments, and North Hall, along with the University's small housing units, total 944 spaces and are managed by the Student Living Office as integrated housing units. Each of these apartment units is fully furnished, housing one through five students each, with living and dining areas, multi-bedrooms, bath and kitchen. Gannon now offers suite style living for upperclassman in North Hall.

Housing commitment agreement in the University operated housing facilities is a nine month contract. Resident students are required to sign a housing commitment agreement for University Housing and are bound to the length/term of that contract. Students who sign a housing commitment agreement for University Housing and do not return to the University will be required to pay a Housing Commitment termination fee of $500 and will forfeit their housing deposit. Board plan agreement is optional.

As is the case with the Residence Halls, most units are staffed with a Resident Director and when possible, a Resident Campus Minister. The staff is highly trained and strives to provide a safe living-learning environment for all residents.

A third choice for students who are active members in a fraternity or sorority that offers housing to its members is to live in the recognized off-campus organizational houses they provide. Permission to reside in these houses is granted by the Student Living Office. In addition, the off-campus housing must be documented by March 1st as being current with the City of Erie housing codes (housing and occupancy permits). This option also applies to the Kirk House, which is affiliated with the Church of the Covenant. The Kirk House provides a selection for those students who prefer a Christian community opportunity.

Junior, Seniors, Graduate Students

On-Campus

Juniors, Seniors, and Graduate students may elect to live in On-Campus Apartments by participating in the housing selection process each Spring prior to the start of the next Academic Year. Any student signing a housing commitment agreement is bound to the length/terms of that agreement. Breaking of the housing commitment agreement will require the payment of a Housing Commitment termination fee of $500 and the forfeiture of the housing deposit. (Students who graduate in December are excluded from this stipulation).

Off-Campus

Available apartments in the downtown area may also provide housing for those students beyond the mandatory housing policy category. Students contracting housing with area landowners enter into legal obligations in all aspects of rental and at their own risk.

Dining Facilities

The University, through its food service, offers a number of meal plan options to the student body:

1. Freshmen resident students must purchase option 1 or 2.
2. There are a possible 277 meals during the course of the semester. For students who do not eat breakfast, the 227 meal plan would be the best option.
3. These plans are non-transferable.

4. Students can eat at other campus venues using a limited cash equivalency.
5. GUGold Funds can be used in addition to cash equivalency or for guests.
6. Students may use their three meals at anytime in a one day period.
7. Upperclassmen can pick from options 1-6.

Resident Freshmen or Upperclassmen Full Board Plans

Option #1 - 277 Meals per semester
Includes any combination of meals equaling 277 meals over the semester
This equals to three meals per day. Three meals can be eaten at any time during a 24 hour period, but do not carry over to another day.

Option #2 - 227 Meals per semester
Includes any combination of meals equaling 227 meals over the semester
This equals to two meals per day. Two meals can be eaten at any time during a 24 hour period, but do not carry over to another day.

Upperclassmen Plans Only

Option #3 - 150 Meals per semester + $150 GU Gold Funds
Includes any combination of meals equaling 150 meals over the semester

Option #4 - 75 Meals per semester + $150 GU Gold Funds
Includes any combination of meals equaling 75 meals over the semester

Option #5 - 50 Meals per semester + $150 GU Gold Funds
Includes any combination of meals equaling 50 meals over the semester

Option #6 - 25 Meals per semester + $150 GU Gold Funds
Includes any combination of meals equaling 25 meals over the semester

Food Service is offered in Doc's Landing and Knight's Cove in the Waldron Center; InterMetzo in the Palumbo Academic Center; and in the Morosky Academic Center. There is a convenience store and sub shop in North Hall.

The last scheduled meal that is served before a break is lunch on the last day of classes. The first meal back will be dinner on the day before classes start.

All meal plans are non-transferable.

Parents and students should be aware that eating in the main dining hall is the best value for the money paid. Using the meal equivalency is a more expensive option.

STUDENT ORGANIZATIONS AND LEADERSHIP DEVELOPMENT

The Office of Student Organizations & Leadership Development (SOLD) complements the mission of the University by creating involvement opportunities and environments that inspire students to become active members of the campus and community. Areas of responsibility for the office include: leadership development, Greek letter organizations, campus programming, Co-curricular Transcript, club and organization recognition, and student organization assistance.

Staff efforts are intentional and focused upon enhancing student learning and personal development. Specifically we assist students to: develop life skills; become a good citizen; discover self worth and dignity; develop a pluralistic perspective; gather, evaluate, analyze, and interpret information; form and express conclusions; make sound value based decisions.

We serve as advocates for students, their environments, and the learning process. In order to foster student learning and success, we encourage the holistic development of all students;

celebrate and affirm diversity in all of our efforts; create an inclusive and welcoming environment for all members of the community; support the mission of Gannon University and the division of student life; seek innovative and creative solutions to issues and concerns; promote a team spirit within our staff and the campus community; understand that our goal is to add value to the lives of students and the community.

The SOLD office also assists with the development, promotion, and production of University-wide activities and performing events through the advisement of various student programming and governing organizations. The student organization's professional staff, along with University faculty and administration, provides advisement and support to all registered clubs and organizations. There is a club or organization for almost any interest. If you have an interest in forming your own organization, the SOLD office will provide you with the necessary paperwork and guidelines.

Activities Programming Board (APB)

The Activities Programming Board (APB) provides a wide variety of educational and social activities for the student body. This board is completely student-run, derives its funding from the activities fee, and is comprised of 13 student representatives who plan various activities throughout the year. Programs are presented throughout the year to try to meet the interests of all students which include, but are not limited to, Homecoming, Family Weekend, movies, comedians, hypnotists, speakers, trips, cultural and social events. Come and visit us in the APB office which is located in Keim Commons.

Clubs and Organizations

Gannon University houses approximately 73 recognized clubs and organizations, which offer a wide variety of opportunities to its students. Gannon has clubs in each of the following categories: Academic & Profession-Related Organizations; Governing & Programming Organizations; Media Organizations; Greek Letter and Honor Societies; Special Interest Clubs; and Social Fraternities and Sororities.

Co-Curricular Transcript

The Co-curricular Transcript is an official record of activities and accomplishments of undergraduate students. Official copies of the transcript are used to complement your resume and academic transcript for applications to graduate school and prospective employers. Your involvement in co-curricular activities is a statement of commitment just as your diploma is a measure of your ability to learn. You may also place a copy of the transcript in your senior file in the Office of Career Services and Cooperative Education.

The Co-curricular Transcript is divided into four sections:

a. Leadership activities: includes any leadership role in any organization, activities, or program of any duration, i.e. Fraternity president, Student Government member, Activities Programming Board, committee chairperson, athletic team captain, etc.
b. Professional or educational development: includes participation in any extracurricular learning experience, such as workshops, seminars, conferences, training programs, campus organized volunteer service experiences generally related to personal or professional development, non-credit co-op/internship, SGA Leadership Conferences, Resident Adviser, etc.
c. Honors, awards, recognition: includes any type of formal recognition bestowed on you individually or as part of a group such as Founders' Day, Senior Awards, NCAA recognition, etc.
d. Participation: includes membership in any organization, activity, athletic team, community service, GIVE day, Hooked on Books, or theater production.

You may access your Co-curricular Transcript through GU Express. To request additions or changes to your Co-curricular Transcript or to receive a copy of your official Co-curricular Transcript, you may access the Entry and Validation form or the Co-curricular Transcript Request form at http://www.gannon.edu/life/sold/cocurricular.asp.

Fraternities and Sororities

There are six inter/national fraternities and five inter/national sororities on Gannon University's campus, which comprise what is commonly known as the "Greek Community". Dating back to the first chartered organization in 1953, fraternities and sororities have played an integral part in developing both leadership and social skills in Gannon University students. While students attend college ultimately to attain a degree that will aid in their future employment, students also learn lessons outside the classroom. Interaction with peers through involvement in fraternities and sororities provides scholarship programs, leadership activities, community service, and social events. Additionally, fraternities and sororities offer a variety of other channels through which a student can get involved including the Gannon University Interfraternity or Panhellenic Councils, regional leadership events, and national conferences. Students in fraternities and sororities are campus leaders, academic scholars, and contribute thousands of hours of community service each year at Gannon and in the greater Erie-area.

Student Government Association

The Student Government Association (SGA) is a student-run governing body that represents all full-time undergraduate Gannon students and acts as a liaison between the students, faculty, and administration. It strives to maintain a healthy academic and co-curricular student environment through: a) serving in an advisory capacity on all administrative levels; b) providing a forum for students to voice their concerns on existing university policies, procedures, and practices; c) addressing issues and concerns of students; and d) supporting recognized student clubs and organizations.

The SGA General Assembly consists of an eight member executive board, nine representatives elected from each class, and representatives from other student governing boards and councils. Throughout the year the SGA actively participates and has voting rights on most University standing committees to ensure that student needs are addressed. For example, there is SGA representation on the Board of Trustees and University committees, such as Academic Affairs, Liberal Studies, and Budget Advisory Committee.

The SGA encourages students to voice their concerns about University policies, facilities and events by getting involved. There are several SGA committees in which students can participate such as GUTS (Gannon University Team Spirit) and LDP (Leadership Development Program.) Students may also give input by attending the Students' Voice section of any SGA General Assembly meeting and visiting the SGA office located in Keim Commons.

In addition to being the main voice for the students, the SGA allocates funding of the student activities fee to recognized clubs and organizations and co-sponsors a Merit Scholarship for involved students.

THEATRE PRODUCTIONS

For theatre goers, Gannon offers a diverse main-stage season in the Schuster Theatre. Enjoyed by both students and the general public, Theatre productions are open to participation by anyone in or associated with Gannon. Open auditions are held for all productions.

Those who show outstanding achievements and ability in the theatre arts may be eligible for election to the Kappa Beta Chapter of the national dramatic honor fraternity, Alpha Psi Omega. Membership is awarded on the basis of merit points accumulated.

Each year, the theatre presents a variety of classical and modern plays, including musicals. The theatre is also host to guest troupes from other colleges and universities, and guest artists from the professional world.

WALDRON CAMPUS CENTER

The Waldron Campus Center, named for Dr. John E. Waldron, provides a wide variety of programs and services that give students an outlet for relaxation, recreation, and co-curricular education. The Waldron Campus Center, opened in the fall of 1999, is home to mailboxes for recognized clubs and organizations, and offices for the Panhellenic/Interfraternity Council, Activities Programming Board (APB), Student Government Association (SGA), Leadership Lab, and the Waldron Campus Center (WCC) and Student Organizations and Leadership Development Staff (SOLD) staffs. The Center boasts several lounges, food courts, mailroom, ballroom, meeting rooms and a computer lab which is also a late night study room. The game room has been expanded in cooperation with the SGA, and plasma screens have been added to the main lobby, courtesy of the APB, so that students can check out national news as well as what's happening on campus for events and student programs.

In addition to supporting University events and department functions, the Campus Center also serves as a vital resource for campus programming, including meeting space for Clubs & Organizations, APB events, Late Night Study, MidKnight Madness, and Waldron Weekends. Waldron Weekends is a new program designed to provide a healthy and fun social alternative to students each weekend, including games, card tournaments, pool tournaments, dances and entertainment. MidKnight Madness is a finals week program co-sponsored with SGA to provide comfort to students in the form of extended hours, free food, and quiet study space. The Waldron Campus Center also supports "Late Knight" special events, and many other annual University events. Built into all of the programs and events is a connection to LIFECORE, so as to encourage the holistic development of Gannon students.

The Waldron Campus Center also hosts summer conferences Alumni events, and other special events as a resource for the Erie community.

STUDENT SUCCESS CENTER

The Student Success Center (SSC) includes: the Academic Advising Center, Career Development and Employment Services, Commonwealth Academic Achievement Program (CAAP)/Act 101 and Tutorial Services, Disability Support Services (ADA/504), Experiential Education, Math Center, Student Support Services Program (SSS), and Writing Center. Each of these areas offers specific support services offered in an integrated team approach. The SSC is located on the first floor of the Palumbo Academic Center (PC 1025). The Math and Writing Centers have extended evening hours and all of the other departments offer services from 8:00 a.m. to 4:30 p.m., Monday through Friday, but will make appointments for students that cannot meet during normal business hours.

Academic Advising Center

At Gannon University we utilize the faculty-based advising model. Utilization of this model allows for the advisor and advisee to develop a deeper rapport. The advisor can assist the advisee in course selection, career planning and furthering their academic studies. By successfully implementing this model, we hope to achieve greater student satisfaction and retention.

The Academic Advising Center (AAC) has three main functions. First we collaborate with several groups of students to assist them in reaching their academic goals. We serve as a supplement to the student's advisor in assisting those students who have received some form of academic action (probation or caution). We use the College Student Inventory (CSI) with all

freshman students in assisting them with their transition to college. We coordinate the use of the Early Alert Referral System (EARS) which helps identify students that have issues preventing them from attaining their goals. We coordinate the use of Academic Contracts and the AAC conducts all undergraduate student withdrawals and exit interviews. Also, we coordinate the General Studies Program.

Our second function is assisting faculty to increase their knowledge of advising through a variety of workshops, webinars, and guest speakers.

Our third function is to collaborate with the Student Success Committee in providing direction and oversight to the undergraduate retention effort. We are responsible for communicating to the campus community as it pertains to retention of undergraduate students. We review retention data and research that is used in the development and modification of the undergraduate retention plan and effectively communicate this information to the campus community.

General Studies Program
Gannon University established the General Studies Program in recognition of the diversity of students and the importance of providing them academic/personal support. The General Studies Program provides an opportunity for students who do not meet admission requirements, but who demonstrate that they have the motivation and determination to be successful, an opportunity to receive developmental assistance in preparation for admission to one of the degree-granting schools of the University.

Assistance to General Studies students is provided for math and writing skills, as well as, study skills and tutorial assistance. Students are advised by the Director of the Advising Center, whose primary responsibility is to assist them in the areas of career development, personal development, academic advising related to curriculum concerns and course scheduling.

Students remain in the General Studies program for a minimum of one semester or a maximum of three semesters. Students are permitted to enroll in their academic major after achieving the prescribed GPA, demonstrating competency in related courses, and being recommended by the Program Coordinator, with final approval by the College Dean. The General Studies Program is designed to enable students to complete degree requirements within the standard time frame for their major. Bachelor degrees may be completed in four years. However, some students may take longer based on their needs and the length of time spent with the program. Course requirements and sequencing of the program in which the student intends to major may also affect graduation dates. Most students will graduate with their class, and others are not expected to take more than an additional semester or two.

The purpose of the General Studies Program is to develop the skills necessary to assure academic success and make college a positive experience. The Program is uniquely designed to further the University's mission by fostering the holistic development of all students through opportunities for personal growth and intellectual development. Furthermore, the program helps motivate and empower students with the knowledge that they are capable of college work and endeavors to inspire them with confidence in their ability to become contributing members of their community, society and church.

FRSH 020: General Studies Seminar
The course focuses primarily on developing solutions on how to overcome the issues and concerns that many first-year students encounter in their transition to college.

Career Development and Employment Services

Gannon University stresses the importance of the individual. Students come to Gannon with varying abilities and interests, with different hopes and values. Therefore, only a person-to-person approach assures the greatest personal, academic, and vocational adjustment and growth.

Career and Employment Services
The career planning services are designed to prepare students for entering the work world or for continuing their education upon graduation from Gannon. This process begins when the students are freshmen and builds to the senior year and is available to alumni. Counselors assist students in identifying and exploring career options and in developing and carrying out career objectives, in translating the academic experience into meaningful career options, and in developing the skills necessary to seek and obtain satisfying employment or to pursue graduate programs. Career Development workshops, employment services, individual testing and assessment, occupational information, and the Graduate School Fair are some of the resources available to students through this office. The On-Campus Recruiting Program, the resume referral service, annual career fairs, and web pages aid students in their job search.

Testing services afford students the opportunity to take various tests, including College Level Examination Program, Miller Analogies Test, as well as career/interest profiles.

Undeclared Program

The Undeclared Major Exploration Program at Gannon University is a student advising centered program that offers students the flexibility to take courses of interest to them when they are not sure which major to choose at the beginning of their college career.

Undeclared Major Exploration students represent a significant proportion of the entering student body at Gannon University as well as at other universities and colleges. Many other students who begin their university studies in declared majors will change their majors at least once before they graduate.

Making a decision about a major without adequate knowledge of course content and career options can hinder the student's progress in the long run. If in doubt about major selection, it is better to remain flexible during the first few semesters so the student can learn more about him/herself and what opportunities are available at Gannon University.

To assist in career exploration and college major selection, students may be enrolled in an Undeclared Student First-Year Seminar or meet regularly with their advisor. Students will meet with their advisor to address questions about curriculum, degree requirements, and course selection. Liberal Arts courses are mingled with professional courses in the student's area of interest and will provide the right mix for a successful transition into the correct choice of major during the freshman or early sophomore year.

Center for Experiential Education

Experiential Education programs provide students with the opportunity to gain valuable career-related experience while pursuing their undergraduate degree. Shadowing, mentoring, internships, co-op placements (alternating and parallel), and company visits are programs designed to connect students to professionals and alumni in the working world.

Approved, academically focused internship and co-op placements exist in local, regional, national and international organizations. Students can earn academic credit, make professional contacts, and earn a salary. During a typical semester, seventy to eighty percent of the students completing a placement receive compensation.

Co-op students registered for full-time placement at zero to nine credits are considered to be full-time students. Requirements for internship and co-op placement include completion of the co-op seminar (1 credit, offered both fall and spring), completion of 30 credits, a cumulative GPA of at least 2.5, and good standing within the university. For further details regarding co-op and internship requirements and process, students are asked to contact the Center for Experiential Education located in the Student Success Center.

Commonwealth Academic Achievement Program/ACT 101

The Commonwealth Academic Achievement Program/ACT 101 (C.A.A.P./ACT 101) is a state funded program designed to provide academic support services to students who have been identified as meeting financial and academic eligibility requirements.

Counseling and tutorial services are available throughout the academic year to program eligible students.

Tutorial services offers free peer tutoring to Gannon undergraduates during the academic school year. Students who need tutoring should come to the Student Success Center anytime between 8:00 a.m. and 4:30 p.m., Monday through Friday, to complete an application. In general, private and group tutoring are available on a first- come/first-served basis to students. CAAP students, first semester freshmen, and undergraduates with GPAs lower than 2.0 receive high priority for tutoring.

The program also provides academic assistance to students in the form of Helping Classes in specific subject areas. The subjects offered may vary from semester to semester but generally include math, biology, chemistry, and the core of discovery. Students should look for the schedule for each term, which is posted at strategic places around campus. These sessions are neither formal classes nor are they 'cram' sessions for exams. They are designed to help students with specific questions on a drop-in basis. Students who would like more information or a copy of the Helping Class schedule should contact the C.A.A.P/Act 101 Program office, which is located in the Student Success Center (PC 1025).

Disability Support Services (ADA/504)

Students with disabilities who require information or assistance regarding accessibility, accommodations of facilities, programs, or services of the University should contact the ADA/504 Coordinator at 814-871-5522. Students may also come to the Student Success Center in the Palumbo Academic Center (PC 1025) and make an appointment with the Coordinator.

Math Center

The Mathematics Center provides tutorial assistance to Gannon undergraduate and graduate students enrolled in mathematics-intensive courses, including those offered outside the Mathematics Department. The Mathematics Center also assists Gannon students with developing mathematics studying and test-taking strategies, as well as preparation for proficiency exams, required in certain majors. The Mathematics Center is staffed by a director and trained peer consultants. The Mathematics Center has extended hours Monday through Thursday.

Program for Students with Learning Disabilities

Special support services are provided for students who enroll in the Program for Students with Learning Disabilities (PSLD). Eligible participants must have been diagnosed as having a Learning Disability (LD) or Attention Deficit Hyperactivity Disorder (ADHD). Support services include individualized weekly sessions with PSLD staff, tutors, and a writing instructor. In addition, PSLD students who have been accepted for the General Studies program, or as “conditional accept” students, enroll during their freshmen year in the First-Year Seminar Self Development course. Extended test time, and readers/scribes, as needed for exams, are resources that also are available through PSLD. Interested students are encouraged to contact the PSLD for further information as well as for requirements and admission procedures.

FRSH 110: First-Year Seminar: Self-Development
The course focuses primarily on study skills development, personal growth and career/life planning. Students will examine their own interests, values, skills and abilities in relation to future career/life direction. *2 credits*

Student Support Services Program

The Student Support Services (SSS) Program, a federally funded program, is designed to enhance students' skills and foster success in higher education. Working in collaboration with other offices at Gannon University, the program aims to provide opportunities for academic assistance in navigating and managing other aspects of college life.

A student needs to be officially admitted and enrolled at Gannon University, a citizen of the United States, and meet at least one of the following criteria:

- Low-income student: a student whose family meets federal income eligibility guidelines
- First generation student: a student whose parent(s) did not receive a Bachelor of Arts (BA) or Bachelor of Science (BS) degree
- Student with a documented disability

Each student involved with the program is assigned a Student Support Services Advisor. Students will meet with their SSS Advisor on a regular basis to address concerns and monitor progress through implementation of an Individual Student Success Plan (ISSP).

Tutorial Services Program

The Tutorial Services Program offers free peer tutoring and study skills assessment to Gannon undergraduates during the academic school year. Students who need tutoring should come to the Student Success Center anytime between 8:00 a.m. and 4:30 p.m., Monday through Friday, to complete an application. In general, private and group tutoring are available on a first-come/first-served basis to students. CAAP students, first semester freshmen, and undergraduates with GPAs lower than 2.0 receive high priority for individual tutoring.

The program also provides academic assistance to students in the form of Helping Classes in specific subject areas. The subjects offered may vary from semester to semester but generally include math, biology, chemistry, and the core of discovery. Students should look for the schedule for each term, which is posted at strategic places around campus. These sessions are not formal classes nor are they 'cram' sessions for exams. They are designed to help students with specific questions on a drop-in basis. Students who would like more information or a copy of the Helping Class schedule should contact the Coordinator at 871-7448.

Writing Center

The primary purpose of the Writing Center of Gannon University is to engender more effective, confident writers regardless of experience, learning style, disability or mother language. We believe that writing is an essential communicative tool employed to express ideas and formulate new ones across our vast curriculum. Not only is writing essential for a successful academic career and beyond, but its process is crucial to the organization of thought and to the expansion or modification of a concept. The Writing Center is staffed by members of the English Department and trained peer consultants who reflect our respect for the individual writer, whose talents, voice and goals are central to all our endeavors. The Writing Center, which has both day, evening and Sunday hours, provides one-on-one conferencing directed toward a stronger comprehension of the writing process, and also language arts software tutorials.

Degree Requirements, Academic Awards

GRADUATION

Degrees are conferred three times per year, in 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. An undergraduate student is eligible to participate in the May ceremony if all requirements are expected to be completed in May or August of the same year. An undergraduate student is eligible to participate in the December ceremony if all requirements are expected to be complete in December of that year. December graduates are also invited to participate in the ceremony the following May.

Prospective graduates must complete an application for graduation by November 15 for May or August graduation and by May 31 for December graduation. The application, which is available in the offices of the Dean, Registrar, Center for Adult Learning and on GUXpress, must be submitted to the Registrar's Office. Prior to the deadlines, the Dean will audit the student's record to determine eligibility for graduation on the date indicated, and will supply a copy of the audit to the student. No application will be accepted without the Dean's verification of eligibility. If the application is completed by the appropriate deadline, the graduation fee will appear on the fall bill for December graduates and on the spring bill for May and August graduates.

Failure to apply for graduation by the appropriate deadline may result in the loss of such privileges as participation in the ceremony, senior awards, and name listed in the commencement program. Payment of the graduation fee must accompany late applications.

It is the student's responsibility to apply for graduation at the appropriate time and to meet all requirements for graduation.

Bachelor Degree Requirements

The following list indicates minimum University requirements for the baccalaureate degree. Please note that some programs specify additional requirements beyond these minimums. See descriptions of individual programs for any additional requirements.

1. At least 128 hours of academic work must be completed by the student, with an overall quality point average of not less than 2.0. Courses numbered below 100 are not used to meet the requirement.
2. The specific course requirements must be fulfilled as stipulated in each academic program. A cumulative grade point average of 2.0 in the field of concentration is required. A cumulative grade point average of 2.0 is also required for a successful completion of the minor.
3. At least two thirds of the upper level courses in the field of concentration, including required seminars, and the final thirty credit hours of degree requirements, must be taken at Gannon University. Exceptions to these specific requirements have been granted to students who are enrolled in approved accelerated programs. Other students with special circumstances may request a waiver of these degree requirements, with the approval of the Academic Dean and Provost of Gannon University.
4. All courses specified for the fulfillment of requirements for the field of concentration and cognate fields must be completed within a time span not to exceed ten years.

5. A course failed in the field of concentration may be repeated once. If not successfully passed, the student is not permitted to continue in that field of concentration.
6. A student is not permitted to continue in a field of concentration in which ten or more semester hours have been failed, or in which more than six semester hours have been failed in one semester.

Dean's List

To honor excellence in academic performance, Gannon University names to the Dean's List **students who have completed 12 credits or more with a letter grade for each and a grade point average of 3.50 or higher for the semester.** A student who makes a failing grade is disqualified in that semester for the Dean's List. Dean's list is not awarded to a student with an incomplete grade.

Academic Honors

Students who have consistently achieved academic distinction receive the following graduation honors:

Cum Laude — a cumulative grade point average of at least 3.50.

Magna cum Laude — a cumulative grade point average of at least 3.70.

Summa cum Laude — a cumulative grade point average of at least 3.90.

With Academic Honors — Associate Degree students with a cumulative grade point average of at least 3.50.

No student with a failing grade in his/her field of concentration will receive honors at the time of graduation.

Transfer students to be eligible for honors at graduation must have completed 64 semester hours (32 semester hours for Associate degree majors) at Gannon University. Their average will be computed on the basis of their four or two year program. No higher honors will be given than are earned by the semester hours completed at Gannon University.

Senior Awards

Notable accomplishment of all-inclusive nature or in a specific field is recognized by the following awards:

The Gannon University Medal of Honor
Presented to the graduating Senior who in the opinion of the faculty and the student's own classmates has done the most to further the interests of the University, to foster loyal college spirit, and to carry out the ideals of the Christian life.

The Archbishop John Mark Gannon Award
For general scholastic excellence including transfer courses.

Individual Achievement Awards:

The Monsignor Wilfrid J. Nash Award
For Excellence in Christian Service

The Reverend Charles Drexler Award
For Outstanding Leadership in Faith, Worship, Community, and Service

The Doc Beyer Award
For Outstanding Achievement in Scholarship and Athletics

The Joe Luckey Award
For Dedication to the University

The Educational Opportunity Program Award

Academic Awards for Excellence may also be awarded in each of the undergraduate disciplines.

Academic Policies and Procedures

ACADEMIC FORGIVENESS POLICY

Gannon University's undergraduate Academic Forgiveness policy applies to former Gannon students whose prior academic performance was unsatisfactory. Gannon University students who apply for readmission as undergraduates through the Office of Admissions after at least five years away from Gannon may request Academic Forgiveness. The policy allows the student to have all previous grades dropped from the cumulative grade point average. Courses with grades of C or higher will be treated as transfer courses and can be used toward a degree.

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. Each student will receive the *Code of Academic Integrity* publication of Gannon University during Freshman Orientation or entrance into the University. Upon review of the publication, the students will be invited to sign a pledge to uphold the Academic Integrity of their work and the work of their peers.

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)

1. Whenever one quotes another person's actual words.
2. Whenever one paraphrases another person's idea, opinion or theory; and
3. Whenever one borrows facts, statistics, or other illustrative materials, unless the information is common knowledge.
4. 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)

1. Citing information not taken from the source indicated.
2. Listing sources in a bibliography not used in the academic exercise.
3. Inventing data or source information for research or other academic exercise.
4. 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.
5. 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. If the sanction involves an "F" for the course or a recommendation that the Dean suspend or separate the student(s) from the University, a written statement of the infraction will be forwarded to the student'(s') academic advisor(s) by the Academic Dean.

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.

ACADEMIC PROBATION AND SEPARATION POLICY

Academic Probation is a serious warning that the student has failed to meet the University's minimum academic standards. Students are expected to work well above the minimum, both for their individual benefit and for the good of the entire academic community. In fact, students are expected to achieve the highest quality of academic work of which they are capable.

Probationary status is a conditional permission for a student to continue studying at the University until he or she regains good academic standing or is separated from the University for having failed to regain good standing. The Academic Probation and Separation Policy is as follows:

1. All full-time students who fail to achieve a minimum 1.00 semester grade point average will be separated.
2. Full-time freshmen (less than 24 credits attempted) who have failed to achieve a semester grade point average of 1.80 (but greater than a 1.0) will be placed on academic probation for the subsequent semester and assigned to a mandatory academic advisement program. If the student achieves a semester GPA of a 2.0 but less than a 1.8 cumulative GPA in the subsequent semester they will be placed on continued academic probation and continue on a mandatory academic advisement program.
3. Full-time freshmen (less than 24 credits attempted) who have greater than a 1.80 semester GPA but less than a 2.0 semester GPA will be issued a cautionary letter and be assigned to a mandatory academic advisement program.
4. Students who have earned more than 24 credits, after matriculation to the university, must have a semester GPA of 2.0 and an overall cumulative GPA of greater than 2.0. Students

with less than a semester GPA of 2.0 will be placed on probation, and must participate in a mandatory academic advisement program. Students will be granted no more than two consecutive semesters of probation at end of which they must have a both a semester and a cumulative GPA of 2.0

5. Students who have earned more than 24 credits, after matriculation to the university, must have a minimum cumulative GPA of 2.0. Students with less than a 2.0 cumulative GPA will be placed on probation and must participate in a mandatory academic advisement program. Students will be granted no more than two consecutive semesters of probation. If the student achieves a cumulative GPA of a 1.8 but less than a 2.0 in the subsequent semester they will be placed on continued academic probation and continue on a mandatory academic advisement program. If the following semester the cumulative GPA is less than a 2.0, the student will be separated.
6. Part-time students will be evaluated after attempting their first six credits. Students with greater than 6 credits that achieve a cumulative grade point average of 1.8 but less than a 2.0 will receive a cautionary letter and will be assigned to a mandatory academic advisement program. Part-time students with less than a 1.0 grade point average after attempting 6 credits will be separated.
7. Part-time students who have attempted their first 12 credits will be reviewed following the same policies as full-time students. Subsequent reviews and academic action will be taken upon completion of each additional 12 credits.

The Admissions Committee may require specific course(s) and/or an earned grade point average as a condition of admission/readmission in addition to the minimum requirements of the University. Special terms of admission/readmission will be outlined in the acceptance letter. Students who do not fulfill the special admissions conditions will be subject to separation from the University.

For the implementation of this policy, a full-time student is defined as any student who is taking 12 credits or more at the conclusion of the first two weeks of classes. Classes dropped before this are not reflected on the student's transcript. Dropping a course(s) after the second week of classes does not exempt a student from being evaluated under the Academic Probation and Separation policy.

Appropriate College Deans will notify students who have been placed on academic probation. With follow-up from the student's academic advisor and the Student Success Center, these students will be expected to engage in the mandatory academic advisement program and concentrate their energies on their studies so that they can bring their work up to the required standard.

Except with the written permission of both the Vice-President for Academic Affairs and the Dean of Student Development, students on probation may not hold office in any University organization, participate in any intercollegiate events or programs, or otherwise represent the University lest they further jeopardize their academic standing.

With the permission of the appropriate College Dean, students may use the summer session at Gannon to restore their good academic standing provided that they complete the equivalent of a full semester's work, e.g. 6 credits in a five-week term.

Students who are separated from the University may not enroll in any University credit course for one full year. Applications for readmission will not be reconsidered until the expiration of one year. Readmission is not a right. The Admissions Committee will take favorable action only when it is satisfied that the factors which led to the failure have been rectified. It is the student's responsibility to demonstrate to the committee that he or she has a reasonable prospect for academic success at Gannon. Any student readmitted will be on probation and assigned to a mandatory special advisement program for the first semester

following his or her return. If the student is separated a second time, he or she will not be readmitted.

Students who are separated may appeal that separation to their College Dean. Such an appeal would need to cite extraordinary circumstances that adversely affected academic performance. The College Dean will review all such appeals.

THE ACADEMIC YEAR

Gannon University operates on semester academic calendar. This plan divides the academic year into two four-month semesters. Typically, the fall semester begins late in August and ends before Christmas, and the spring semester begins in early January and ends with Commencement in early May.

Day Sessions

Classes in the Day Sessions are held five days a week, beginning with the 8 a.m. period. Three credit classes meeting on a Monday, Wednesday and Friday (MWF) sequence meet for 55 minutes each day. Those courses meeting on a Tuesday and Thursday (TTh) sequence meet for 80 minutes each day. There is a ten minute break between each class period.

A one credit course meets 55 minutes once a week. A four credit course meets on the MWF or TTh sequence as mentioned above and also meets 55 minutes on an extra class day. A six credit course meets five days a week on MWF for 55 minutes and TTh for 80 minutes.

Laboratories in the day sessions are held five days a week, beginning with the 8 a.m. period. One credit laboratories meet once a week; two credit laboratories meet twice a week. One laboratory credit normally requires not less than three hours of student work. Instructors will determine the best use of laboratory time.

Evening Sessions

Classes in the Evening Sessions are held Monday thru Thursday with additional classes on Saturday. These classes meet in sequences of one or two evenings per week. Classes held on Saturday usually meet from 9:00 a.m. to 12:00 noon. Those classes meeting Monday thru Thursday begin at 4:30 p.m., 6:00 p.m., and 7:30 p.m.

Laboratories in the evening sessions are held Monday through Thursday, beginning with the 4:30 p.m. period.

Weekend Sessions

Classes in the Weekend Sessions are held Friday evening through Sunday afternoon. Classes meet for three hours every other weekend in the fall and spring semesters and on consecutive weekends during the summer. The summer term begins after the May commencement and concludes the second or third week in July.

Summer Sessions

Gannon offers undergraduate summer courses beginning in May. Students may thus enroll in more than one course, and spread out or overlap their courses during the summer months, depending upon the courses they select from the summer session schedule.

Day classes meet five days per week for ninety-five minutes each meeting when offered over five weeks. Evening classes offered for five weeks meet three days per week from 6:00 p.m. to 8:50 p.m.

Courses offered during the summer session cover the same content as those offered during

the fall and spring semesters. However, the summer schedule is limited in the variety of courses offered, and students should check GUXpress for the exact courses being taught each summer. Although concentrated into two, five, or ten weeks, the courses meet for the same amount of time and have the same credit value as semester courses.

ADVANCED PLACEMENT PROGRAM

Credit will be given to those students who complete the formal College Board Advanced Placement Courses, with a grade of 3 or higher on the exam. Grades 1 and 2 will be given neither credit nor placement.

Please note that Gannon does not accept the Calculus A or B test or the Computer tests. A grade of at least 4 is required in Physics B or Physics C to receive credit. A grade of 3 in the Physics B or Physics C test will be considered by the Physics chairperson on an individual basis.

Students who complete Calculus AB or BC test with a score of 3 or higher will receive credit for MATH 140, Calculus I.

The list of courses accepted is on Gannon's website under Admissions.

AUDITING POLICY

Interested persons may audit most lecture courses offered at Gannon University if there is space available in the course on the first day of class and until the end of the second week of class. Audit forms may be obtained in the Registrar's office after the first day of class and only with the written permission of the instructor. Laboratory courses may not be taken as an audit. Students who enroll in a course for credit may only change to an audit grade during the first two weeks of a semester. Courses that are taken for audit may be changed to credit only during the first two weeks of the semester. After these two weeks no changes are allowed (see note below). Audit applications and registration forms may be obtained in the Office of the Registrar.

Refer to the Financial Facts section for the cost.

Records of the course will be noted on a student transcript with a a grade of AU which carries neither credits nor grade points.

NOTE: A student who enrolls in a course for credit may withdraw from that course and after withdrawal may continue to attend classes. The grade for such students will be an 'X' and in no case will be assigned an 'AU' grade.

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 for upper-class students as well as freshmen. The following policy statements are to assist in a uniform class attendance expectation.

Certain University events, such as athletics or particular extracurricular activities, in which the students represent the University in an official capacity, necessitate excused absences from classes. In such cases, it is inappropriate to penalize a student as a result of their absences

resulting from their function as University representative. Faculty then have a responsibility to provide the opportunity to complete any tests, assignments, or other work.

Students should be aware that in the Junior and Senior years of study of some majors such as health science and education majors, it may be extremely difficult for extensive athletic or other types of extra-curricular participation. Students should discuss this with appropriate University officials before selecting a major.

The primary function of Gannon University is the education of its students. Consequently, it is judged to be inappropriate for any arm of the University to request that students excessively absent themselves from regularly scheduled classes in order to function as representatives of the University. Except in emergency situations (e.g., illness or accident), the student is expected to notify the faculty of scheduled course absences one (1) week in advance. Faculty may require verification from appropriate University staff.

Freshmen who absent themselves, *whether it be excused or unexcused,* from a particular course in excess of twice the number of credit hours assigned to that course may be withdrawn from the course, upon recommendation by the faculty member to the Dean of the student's college. This request would typically result from unexcused absences, but a student with excused absences should also try to adhere to this limit. Although the student may not be penalized for excused absences as defined earlier, a combination of excused and unexcused may result in the same requested withdrawal. The faculty member would need to show the Dean that the student, because of the combination of absences, has not been able to show competency in the course and has no chance of doing so. Students who are active in athletics or co-curricular activities must be responsible for their learning and minimize unexcused absence in times such as sickness or emergencies. Missing an 80-minute class period is counted as one and one-half absences. In addition, the Office of New Student Services is interested in knowing which freshmen accumulated the maximum number of absences allowable. The office is prepared to undertake an inquiry aimed at helping the student. Reports on freshmen attendance must be initiated by faculty members, by means of direct contact with the Office of New Student Services.

COLLEGE LEVEL EXAMINATION PROGRAM (CLEP)

Gannon University serves as one of the National Test Centers for the College Level Examination Program (CLEP). Transfer students and others with advanced preparation who wish consideration for credit may take these tests which are administered monthly.

COURSE LEVELS

Catalog #	
000-099	Credit earned may not be included in the total credits required for a degree.
100-199	Lower division, undergraduate. Designed as basic introductory courses for freshmen.
200-299	Lower division undergraduate. Designed as intermediate courses to be taken primarily in the sophomore year of a major but may be taken by upper level non-majors.
300-499	Upper division, undergraduate. Designed as junior and senior courses.
500-599	Upper division, and graduate. For graduate students primarily but including courses with some seniors.

600-799	Designed for graduate student only.
800-899	Doctorate students only.
900-999	Doctorate students only (beginning 2001).

COURSE NUMBERING

Each course number consists of 7 to 10 characters. The letters refer to the Department. The first three numbers refer to the catalog number and course level. The last two numbers or letters refer to the section.

FULL-TIME STATUS

To be considered a full-time student, a person is required to be enrolled for 12 credit hours in the current fall or spring semester. These credit hours may be undergraduate or for seniors in their final semester the 12 credits may be a combination of undergraduate and graduate courses. This policy accords with current practice of admitting graduating seniors to certain graduate courses during the final semester of undergraduate study.

Students are half-time if they are enrolled for 6-11 credits, they are less than half-time if they are enrolled for 1-5 credits.

GRADES

Description of Grades and Grade Point Average

A+	Excellent	4.0 grade points	C+	Average	2.3 grade points
A	Excellent	4.0 grade points	C	Average	2.0 grade points
A-	Excellent	3.7 grade points	C-	Below Average	1.7 grade points
B+	Good	3.3 grade points	D	Below Average	1.0 grade points
B	Good	3.0 grade points	F	Failure	0.0 grade points
B-	Good	2.7 grade points			

A grade point average (GPA) is calculated by dividing the algebraic sum of the grade points earned by the sum of the credits to calculate.

I	Incomplete. This grade indicates failure on the part of the student to measure up to minimum requirements on account of absence for sickness or for some other weighty reason. A student who fails to remove the grade of 'incomplete' within 30 days after the grades are due will automatically receive a failure for the course.
P	Pass. This grade is not calculated in the GPA.
X	This grade indicates withdrawal from a course prior to the cut-off date listed in the academic calendar.
AU	Audit. This grade indicates that the course was not taken for credit.

INTERNATIONAL BACCALAUREATE PROGRAM

Gannon University awards credit for courses completed in the International Baccalaureate Program under the following conditions:

1. Three credits will be awarded for each Higher Level course successfully completed.
2. Successful completion is defined as receipt of a grade of "four" or above.

LEAVE POLICY

Gannon University recognizes that a student may need to temporarily interrupt their education and has a procedure to facilitate this situation. The following are examples of categories that might qualify a student for temporary leave:

study abroad

co-op/internship

military (involuntary)

medical/psychological

family/personal

The above categories are not meant to be an inclusive list nor do they guarantee that a student will be granted a temporary leave. The student who feels that they have a legitimate reason to request a leave should request a form from the Counseling office. The request will be reviewed by appropriate officials of the University.

Temporary leave may be granted for a period of one or two semesters following the student's current enrollment. If a student applies for leave in the first two weeks of the semester then the current semester is counted as one of the two eligible semesters of leave.

MAJOR-CHANGE/DECLARATION

Students wishing to declare or change their major field begin the process with their advisor or the Student Success Center. After consultation about a major change, the student obtains the signature of their advisor on the Change/Declaration of Major form. Alternatively, the Chair/Director or Dean of the student's present major can sign the form in place of the advisor.

The student takes the form to the Chair/Director of the requested major for approval. The form is then sent to the appropriate Dean's office for final approval. A completed and approved form will be sent to the Registrar's Office for changing official records.

If necessary, the student can be referred to the Student Success Center at any step in the process.

MINOR DECLARATION POLICY

Curriculum for available minors are listed in this catalog after the curriculum for each major. In order to declare a minor, a student must fill out a "Declaration of a Minor" form in their Dean's office.

A minor will not be printed on the transcript until the student is certified for graduation by their Dean. Student must be pursuing a baccalaureate degree.

PASS—FAIL OPTION

Students have the option of taking one free elective course per semester on a pass-fail basis. The option excludes required courses in the major or minor field of study, cognate courses and Core of Discovery courses. The student is limited to twelve credits of pass-fail courses that count toward the student’s degree. If a student elects to take a course on the pass-fail basis, the student must so state to the student’s advisor and dean by the date designated in the Academic Calendar. If the dates of the course are different from the regular semester dates, the student must submit the pass-fail form before 60% of the course is complete. Forms are available in their dean's office. The student shall have the option of converting to a letter

grade until the date designated in the academic calendar. In any event, the instructor submits a letter grade. The grade is stored in the Registrar's files for future referral. In ascertaining eligibility for inclusion on the Dean's List, a student must present a minimum of 12 credit hours of letter grade courses. A "P" (passing) grade will not be reflected in the grade point average; an "F" (failing) grade, however, will be reflected. Any exception to the rule of one course per semester can be allowed only with the approval of the student's dean.

Courses taken beyond those needed for degree requirements may be taken pass-fail in addition to the twelve credits allowed.

REPEAT COURSES

A student may repeat a course. The student is required to submit written notice of a repeated course to the Registrar's Office if he or she wishes to have the repeat noted on the transcript. Forms are available in the Registrar's Office. When a student elects 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 grade point average (GPA). This policy is limited to 15 credits of course work. Each repeat registration is counted as a course. This policy does not cover the situation when the "repeat" (or subsequent) course was completed prior to fall 1972 semester unless the student is readmitted. Courses repeated beyond 15 credits will have both grades calculated in the GPA. Repeated courses can only be included once in all degree requirements for graduation.

A student may be granted permission to repeat a failed Gannon course at another institution. However, since credits transfer but not grades, it is not advantageous to take the course elsewhere.

Refer to Bachelor Degree Requirements under the Degree Requirements section of this catalog for additional regulations about failed courses. Some Academic Programs have a more restrictive repeat policy. Contact the Program Director for more information. A course failed in the field of concentration may be repeated once. If not successfully passed, the student is not permitted to continue in that field of concentration.

STUDENT ACADEMIC GRIEVANCE POLICY

Scope and Purpose:

1. This policy addresses academic grievances only. An academic grievance is defined as a complaint brought by a student regarding the University's provision of education and academic (only) services affecting their role as a student. Complaints or grievances connected to assigned grades represent a special case to the grievance process. Grading reflects careful and deliberate assessment of a student's performance by a faculty member. As such, the substance of grading decisions may not be delegated to the grievance process. Nevertheless, the University recognizes that in rare cases the process of grading may be subject to error or injustice. Therefore, a student who alleges an error or injustice in the grading process would follow this policy toward resolution.

2. This policy does not apply to student complaints regarding employment or alleged violations of other policies in the student handbook.

3. It is the intent that this policy to provide an efficient process, allowing for both informal and formal resolution of grievances related to academic concerns, complaints or allegations.

4. A student must initiate a grievance as close as possible to the date of the occurrence of the incident and no later than 45 days after the end of the semester in which the alleged grievance occurred. The three summer sessions are considered as one semester.

General Guidelines

Academic grievance procedures should be kept as informal as possible based on principles of mediation and conciliation. Every reasonable effort should be made to resolve any academic grievance at the lowest organizational level possible. In the event that it cannot be resolved informally, the student may seek resolution at the next higher level according to the Formal Resolution procedure.

In the event that the faculty member is no longer employed by the University or is not available within the timelines specified in these general guidelines, the student is to initiate the complaint with the faculty member's immediate supervisor.

The student filing a grievance may have a third-party advisor, such as the University Ombudsperson; attend any meeting at which the student appears. The faculty member involved in the grievance may also have a third-party advisor approved by the University attend any meeting at which the faculty member appears. Legal counsel shall not be used by either party in this grievance process.

Informal Resolution Phase

All academic grievances begin with the informal resolution phase. This first step toward resolution of an academic grievance should begin at the lowest organizational level. The student and the faculty member or University colleague involved should meet to discuss and work toward resolution of the concern. The student should address the grievance to the faculty member or University colleague involved as soon as possible. The student should follow the established protocol regarding the levels of appeal. Formal resolution shall not occur without occurrence of the informal resolution phase.

The student may contact the University Ombudsperson for assistance in initiating the academic grievance process or at any time during the process.

Formal Resolution Phase

The formal resolution phase is used by the student when a satisfactory informal resolution has not occurred.

1. The first step in the formal resolution of an academic grievance is to submit a formal written account of the grievance to the appropriate immediate supervisor. Students may consult the Human Resources office to determine the appropriate supervisor.
   a. The written account must be submitted to the immediate supervisor within two weeks after the last meeting of the informal resolution phase.
   b. The written account should include: identification of the grievant, the respondent, the incident - date, time, place, names of witnesses, the existing rule/policy/established practice claimed to be violated and a brief statement of the desired outcome.
   c. Within three weeks of receipt of all written materials, the appropriate immediate supervisor will fact-find from involved parties and render a decision in writing via registered mail to the parties involved.

2. The second step, if needed, in the formal resolution phase occurs when and if the faculty or student is not satisfied with the immediate supervisor's resolution of the grievance. The student or the faculty member or University colleague involved may then appeal to the next level of the organizational chart by providing a written account of the grievance process and decision.
   a. A written account must be submitted to the next level of the organizational chart within two weeks of receipt of the decision rendered by the immediate supervisor (Step 1).
   b. The written account should include: identification of the grievant, the respondent, the incident - date, time, place, names of witnesses, the existing rule/policy/established practice claimed to be violated, a copy of the decision of the immediate supervisor and a brief statement of the desired outcome.

c. Within three weeks of receipt of all written materials, the next level of the organizational chart will fact-find from involved parties and render a resolution in writing to the parties involved.

3. The third step, if needed, in the formal resolution process is to appeal to the appropriate College Dean.
   a. The College Dean shall be given a written account of the grievance process to date. This must be submitted within two weeks of receipt of the resolution decision rendered by the next person on the organizational chart (Step 2).
   b. The College Dean shall render a decision in writing to the parties involved within three weeks.
   c. In the event the Dean's resolution of the alleged academic grievance is not satisfactory to either party, the appeal shall be directed to the Provost and Vice President of Academic Affairs.

4. The fourth step, if needed, in the formal resolution process is to appeal to the Provost and Vice President of Academic Affairs. This step must be initiated within two weeks of receipt of the College Dean's decision.
   a. The Provost and Vice President of Academic Affairs shall review the written appeal and response(s) to make a determination whether or not there are sufficient grounds to hold an appeal hearing.
   b. If there are insufficient grounds to hold an appeal hearing, the decision of the College Dean will be upheld.
   c. If there are sufficient grounds to hold an appeal hearing, the Provost shall establish an ad hoc grievance appeal panel.
      i. A grievance appeal hearing panel would be established on an ad hoc basis and consist of five members for each case. The grievance appeal hearing panel shall be convened by the Provost and Vice President for Academic Affairs. The panel shall be composed of the Provost and Vice President for Academic Affairs, or her/his designee (serves as Chair), two faculty representatives chosen from the Faculty Senate Academic Grievance Group, and two student representatives chosen from the Student Government Association Academic Grievance Group. The Provost and Vice President for Academic Affairs, or her/his designee shall have a vote only in event of a tie.
         1. The panel members shall conduct the business of the appeal in strict confidence, and in private. The meetings and deliberations of the panel shall be closed.
         2. The panel members shall have access to the written appeals and each person involved in the grievance.
         3. The panel decision shall be communicated in writing to the student, faculty member, College Dean and program director.
         4. The decision of the grievance appeal panel must be submitted in writing by registered mail to both parties. This communication should include an opportunity for a member of the panel or the Provost and Vice President for Academic Affairs to debrief or otherwise provide further assistance to either party.
         5. The decision of the grievance appeal panel is final.

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 signature and the school seal. The envelope is sealed and has the Registrar’s signature. 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. This also applies to high school transcripts.

Transferred credit is not added to the Gannon University transcript unless it is applicable toward a degree at Gannon University. Transfer grades are not put on the Gannon transcript.

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. Grade reports, 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.

WITHDRAWAL FROM THE UNIVERSITY

Students who find it necessary to withdraw from the University must fill out a withdrawal form available in the Student Success Center. Students can complete a temporary (2 semesters or less; includes study abroad, military, other) or complete withdrawal. The withdrawal process includes an exit interview with the Student Success Center, Student's Advisor, Cashier's Office, Registrar's Office, and when applicable with the Student Living Office and Financial Aid Office. Failure to comply with this regulation may result in the assignment of a grade of "F" for all courses for which the student is enrolled in the current semester, and in forfeiture of rights to readmission. Refer to the Academic Calendar for the last day to receive withdraw (X) grades when withdrawing from the university.

Students who withdraw for a medical reason must fill out a medical withdrawal form in the Counseling Office. The student must present medical documentation at the time of withdrawal. The withdrawal process includes an exit interview with the Counseling Office, Student’s Advisor, Cashier’s Office, Registrar’s Office, and when applicable with the Student Living Office and Financial Aid Office. Failure to comply with this regulation may result in the assignment of a grade of “F” for all courses for which the student is enrolled in the current semester, and in forfeiture of rights to readmission.

Special Programs

UNIVERSITY HONORS PROGRAM

MICHAEL E. DeSANCTIS, Ph.D., *Director*

Catalyst for Achievement

The University Honors Program provides a challenging and exciting educational experience for the academically talented and highly motivated student. Honors classes are small in size and staffed by Gannon's best instructors. The seminar setting encourages close contact between students and teachers and challenges participants to take an active role in their learning. The Honors Program further seeks to build a sense of community among students and faculty, one whose members love learning and are committed to growing intellectually, culturally, and socially. The University Honors Program challenges students to achieve their best and provides them with the support to meet that challenge.

The program is open to students in all majors. Participation in the Honors Program does not increase the number of credits required for graduation, nor does it involve extra cost. Participation in the program is entirely voluntary, and a student may withdraw from the program at any time without penalty.

Student Advisory Board

Students are actively involved in the governance of the program through the fifteen-member Student Advisory Board (SAB). The board makes recommendations on policy and is responsible for assisting the director in running the program. The SAB evaluates teachers and courses and helps to develop new courses. The board also oversees the committees that are responsible for providing a variety of social and cultural events as well as opportunities for involvement in service activities.

Application Requirements

Admission to the program is based on academic achievement and potential. The following criteria are considered:

- SAT/ACT scores
- High school grade point average
- Class rank
- Participation in extracurricular and co-curricular activities
- Letters of recommendation
- Essay

Admission to University Honors for students already enrolled at Gannon University is based on an evaluation of:

- Cumulative Grade Point Average
- Faculty letters of recommendation
- Interview with the Director of the University Honors Program

Recognition at Graduation

At graduation students are designated as Honors Scholars if they have maintained good standing in the University Honors Program, have earned 24 credits in honors courses, and have taken six credits of a foreign language. Students are recognized as Associate Honors

Scholars if they have maintained good standing in the program and have earned 18 credits in honors courses. Students receive Honors Recognition if they have maintained good standing in the program, have earned 12 credits in honors courses and have been active in the program over their four years at Gannon.

The Honors Center

The Honors Center functions as a hub for the activities sponsored by the program. It features a study lounge and a seminar room and lounge. The center is a comfortable place to study, meet people, and relax between classes.

University Honors Curriculum

The program's curriculum is composed primarily of courses drawn from the Liberal Studies Core offerings to which all Gannon University students are introduced. The "Honors" versions of these required courses differ significantly from their counterparts in the general curriculum, however, in three, significant ways:

1) They are presented in seminar settings that typically boast a 15/1 student-to-instructor ratio.

2) They are facilitated by members of the instructional faculty chosen from among the University's finest.

3) They employ a time-honored, "dialogical" approach to learning based on the freest and most informed dialog between students and their instructors.

Every student is likewise required to complete a 1-credit hour Honors Freshman Seminar taught by the director, which, by means of selected readings and group discussion, introduces them to the program's unique culture. In this and every other Honors setting, students are treated as young scholars who, in the words of the program's originators, are "ultimately responsible for their own education."

SAINT MARK'S SEMINARY

Rev. Michael T. Kesicki, *Rector*
Rev. Nicholas J. Rouch, *Vice-Rector*

In cooperation with the Diocese of Erie, Gannon University offers a variety of academic degree programs to students training for the diocesan priesthood in the Formation Program of St. Mark's Seminary. The immediate aim of the college level formation for the candidate for the priesthood is to help him to mature as a liberally educated human person, committed to Christ and to the service of his neighbor.

Bishop Donald W. Trautman, Ordinary of the Erie Diocese, responding to the aims and objectives of the United States Conference of Catholic Bishops, continues a 62 year tradition begun by the University's founder, Archbishop John Mark Gannon. The seminarian's academic life at the University is complemented by programs of personal and spiritual development in residence at St. Mark's Seminary.

College seminarians matriculate as full-time students in one of the three colleges of the University. The wide-range of academic programs enables the seminarians to have close contact with their peers and University professors.

Academic Requirements

A. Seminarians must be full-time students in good standing at Gannon University in a bachelor's degree program or in the two-year pre-theology studies program.

B. While Philosophy remains a highly recommended major for preparation for graduate studies in theology, most other majors offered by Gannon University are deemed appropriate. The choice of an undergraduate major as well as a change from one to another must have specific approval of the St. Mark's Faculty.

C. Regardless of major, all seminarians beginning as freshmen are required to include in their four-year programs of study the following courses.

1. Philosophy .....30 credits required as a minimum

Introduction to Philosophy (LPHI 131)
Philosophy of God (LPHI 233)
History of Medieval Philosophy (PHIL 273)
Logic (PHIL 210)
Philosophy of Knowledge (LPHI 235)
Philosophy of Ethical Responsibility (LPHI 237)
Introduction to Metaphysics (PHIL 350)
History of Ancient Philosophy (PHIL 271)
History of Modern Philosophy (PHIL 280)
History of Contemporary Philosophy (PHIL 286)

Total: 30 credits

2. Theology .....12 credits

(a.)	Sacred Scripture (LTHE 121)	3
(b.)	The Catholic Tradition (LTHE 223)	3
(c.)	Theology of Moral Responsibility (LTHE 227)	3
(d.)	Theology Elective (one course)	3

Total: 12 credits

3. Latin .....12 credits

(a.)	Introductory Latin I (LATN 111)	3
(b.)	Introductory Latin II (LATN 112)	3
(c.)	Intermediate Latin I (LATN 121)	3
(d.)	Intermediate Latin II (LATN 122)	3

Total: 12 credits

D. All students pre-register twice per year after consulting with the St. Mark Academic Advisor.

E. All students must be full-time to a maximum of nineteen (19) semester hours unless specific approval for more than nineteen (19) hours or less than fifteen (15) hours is secured from the St. Mark's Academic Advisor. A fifteen (15) hour load is the norm for seminarians.

F. Students are not permitted to take late afternoon or evening classes without the specific approval of the St. Mark's Academic Advisor. The normal time for all classes to be finished is 3:00 p.m.

Two Year Pre-Theology Program

A program of studies is designed for each man entering the two year pre-theology program. Consideration is given to his undergraduate degree and any graduate work which he has done and his needs in preparation for theological studies, especially with regard to the minimum hours of philosophy and theology.

Spiritual Formation

The Formation Program through seminary life at St. Mark's might best be described as both a place and a process for men to explore the possibility that Christ might be inviting them to make a lifelong commitment to priesthood. This decision cannot be made alone. It is the decision of the individual but it is also the decision of the Church. The individual comes together with others who understand and share in that search in a directed way called the Formation Program.

Information/Application

Inquiries for additional information and/or to apply for seminary status may be directed to:

Rector, St. Mark Seminary
P.O. Box 10397
Erie, Pennsylvania 16514-0397
Day Phone: (814) 824-1200
Evening: (814) 824-1201

Vocation Director
P.O. Box 10397
Erie, Pennsylvania 16514-0397
Day Phone: (814) 824-1135

STUDY ABROAD

Study Abroad Initiative

Gannon University has developed an initiative designed to encourage study abroad at Saint Edmund Hall College of Oxford University or Catholic Studies in Rome via St. Thomas University. For those students accepted into these programs, most university aid will apply; all state and federal funding, as well as student loans, can be used toward tuition, room, board, and fee expenses.

The Oxford Study Abroad Program is open to students with a GPA over 3.6. Students are encouraged to apply for this prestigious and life-changing program.

Students interested in Study Abroad should contact Dr. Carlos Mamani. His office is PC 2218. Short-term summer and break programs are also available to such destinations as China, France, and Panama. Additional language study opportunities can be explored through the Foreign Language Department. As the world becomes more and more a global village, students are encouraged to embrace opportunities to experience life in new and different cultures.

Liberal Studies Core Curriculum

The Liberal Studies Core Curriculum is one reflection of Gannon University's commitment to its Catholic identity. The Core's design offers students a defined, integrated, shared experience as the foundation for their undergraduate program. The Core balances choice and flexibility with breadth of exposure to multiple disciplines as well as interdisciplinary learning; in-depth cross-cultural understanding through service learning and other activities; a rich first-year experience, including participation in a learning community and engaging in LIFECORE events; the opportunity to develop their leadership skills informed by ethical and moral reasoning; and a culminating senior capstone course featuring an experiential dimension. Thus, the Core provides a sense of immediacy and relevancy of their learning to students' lives.

Learning Outcomes

Through Gannon's Liberal Studies core curriculum, students will achieve two overarching goals. First, they will apply to their personal and professional lives Gannon's core values—respect, service, community, sacramentality, and the dialogue between faith and reason—as expressed in the Gannon University document, *On Catholic Identity.* Second, they will be engaged learners now and throughout their lives, demonstrating intellectual curiosity and holistic academic skills. In order to meet these goals, students:

1. Synthesize their learning in academic disciplines with their learning outside the classroom and apply the knowledge gained to their personal and professional lives.

   The Liberal Studies Core Curriculum is designed to assist students as they answer the question, "How shall I live my life?" To do so, students should synthesize rather than compartmentalize their learning. The learning in one academic discipline should be connected to their learning in others and their in-class experiences linked to their out-of-class lives. The LIFECORE Program helps students understand that people are multidimensional by addressing nine areas: spiritual, intellectual, cultural, political, social, emotional, sexual, physical, and life-planning.

2. Read and listen actively and write and speak with clarity, originality, and persuasiveness across a variety of contexts.

   In order to become more effective communicators, students should strengthen their skills in reading, writing, speaking, <u>and</u> listening. They should identify, find, understand, evaluate, and use information from a variety of sources and convey that information to others effectively and responsibly.

3. Reason aesthetically, quantitatively, and scientifically.

   Students should develop a range of approaches for analysis and evaluation. They should appreciate beauty and develop criteria for making aesthetic judgments both about works traditionally considered "artistic" and about works not traditionally considered "artistic." They should understand how others quantify information and be able to do so themselves. They should understand and apply scientific approaches used in a variety of disciplines.

4. Demonstrate appreciation for and apply their understanding of diverse religions, cultures, societies, and individuals.

   Students should go beyond simply recognizing that difference exists and reciting characteristics that distinguish one group or person from another. Instead, they should

engage with and appreciate multiple personal, cultural, and social perspectives regarding such issues as race, nationality, spirituality, gender, age, sexual orientation, and disability. They should understand that appreciation in this context does not imply unqualified approval; rather, it means seeking the expressions of truth, goodness, and beauty found in diverse religions, cultures, societies, and individuals.

5. Collaborate effectively to practice leadership based on principles of ethics and social justice.

   Students should develop a repertoire of leadership skills and learn to use those skills responsibly in the various communities to which they belong. Ethical and social justice teachings provide rich traditions from which students can draw lessons about responsible leadership.

These competency-based learning outcomes derive from the development and demonstration of knowledge. Students know:

1. Fundamental terms, theories, principles, and concepts of the following types:
   a. Theological
   b. Philosophical
   c. Cultural/interpersonal
   d. Scientific
   e. Historical/political

2. Vocabulary and strategies related to the following activities:
   a. Communicating
   b. Analyzing and evaluating art
   c. Determining a need for, locating, evaluating, and using information
   d. Mathematical reasoning
   e. Developing strategies for personal well-being
   f. Leadership
   g. Using technology effectively

Overview of Liberal Studies Core Curriculum

The Liberal Studies Core Curriculum consists of three primary components: the Foundational Core, the Developmental Core, and the Intensive Core. The Foundational Core provides students with knowledge and competencies appropriate to Catholic higher education and serves as the basis for their learning in other courses and in their lives outside the classroom. The Developmental Core courses are linked to foundational courses and thus provide students with a sequence of coherent, integrative learning experiences designed to foster analysis and synthesis. The Intensive Core provides students with breadth of learning across multiple disciplines.

Foundational Core

6 credits: Theology
- Introduction to Sacred Scripture (LTHE 121)
- Second course chosen from multiple options (see list below)

6 credits: Philosophy
- Introduction to Philosophy (LPHI 131)
- Second course chosen from multiple options (see list below)

3 credits: Theology or Philosophy ethics course (LTHE 227, LPHI 237, or met in major)

3 credits: History of the West and the World (LHST 111)

6 credits: Writing
- College Composition (LENG 111)
- Critical Analysis and Composition (LENG 112)

Developmental Core

2 credits:	First-year Seminar (may be met in major)
1 credit:	Leadership Seminar (may be met in major)
3 credits:	Senior Capstone (LBST 383 or met in major)

Intensive Core

3 credits:	Speech (SPCH 111 or met in major)
3 credits:	Fine Arts (see list below or met in major)
3 credits:	Literature (see list below or met in major)
3 credits:	Social Science (see list below or met in major)
3 credits:	Mathematics (see list below or met in major)
3 credits:	Science (see list below or met in major)

Literature Series Options/LENG

LENG 241	Prose Literature
LENG 243	Drama
LENG 245	Poetry
LENG 247	Introduction to Literature
LENG 249	Women Writers
MLED 201	Adolescent Literature/Practicum

Fine Art Series Options/LFIN

EDCR 302	Expressive Arts
ENGL 250	Introduction to Photography
FINA 390	American Architecture
LFIN 250	Theatre and Culture
LFIN 251	Introduction to Music
LFIN 252	Women in Photography
LFIN 253	Introduction to the Visual Arts
LFIN 254	Art of Film
LFIN 310	Music in Medicine
MUSC 231	Beethoven and Influence
MUSC 250	Music and Psychology
MUSC 251	Music in Advertising and Mktg.

Philosophy II Series Options/LPHI

LPHI 233	Philosophy of God
LPHI 235	Philosophy of Knowledge
LPHI 239	Philosophy of Science
LPHI 240	Philosophy of Education
MGMT 360	Ethical Social Responsibility
PHIL 210	Logic
PHIL 225	Philosophy of Communication
PHIL 233	Philosophy of God
PHIL 235	Philosophy of Knowledge
PHIL 238	Business Ethics
PHIL 239	Philosophy of Science
PHIL 240	Philosophy of Education
PHIL 271	History of Ancient Philosophy
PHIL 273	History of Medieval Philosophy
PHIL 280	History of Modern Philosophy
PHIL 286	History of Contemporary Philosophy
PHIL 290	Philosophy & Law
PHIL 295	Oriental Philosophy
PHIL 345	Philosophy of History
PHIL 350	Introduction to Metaphysics
PHIL 365	Modern Existentialism
PHIL 383	American Philosophy
SPCH 225	Philosophy of Communication

Theology II Series Options/LTHE

LTHE 223	Catholic Tradition
LTHE 225	Protestant Tradition
THEO 240	Faith, Revelation and Theology
THEO 320	Hebrew Bible I: Torah
THEO 321	Hebrew Bible II: Prophets
THEO 322	Hebrew Bible III: Writings
THEO 333	The Synoptic Gospels
THEO 334	The Theology of John and Paul
THEO 342	Jesus Christ: Yesterday, Today and Forever
THEO 344	The Theology of Church
THEO 345	The Theology of Worship
THEO 346	Women and the Pilgrim Church
THEO 347	The Theology of Marriage
THEO 361	Christianity & World Religions: Western Tradition
THEO 362	Christianity & World Religions: Eastern Tradition

Theology/Philosophy III Series Options/LTHE or LPHI

LPHI/PHIL 237	Philosophy of Ethical Responsibility
LTHE 227	The Theology of Moral Responsibility

Social Science Options

ARCH 201	Archaeology and History of Ancient Near East
BCOR 111	Principles of Microeconomics
BCOR 112	Principles of Macroeconomics
ECON 101	Basic Economics
ECON 285	Project Economics
EDCR 101	Psychology of Learning and and Teaching
HIST 221	or higher
MGMT 316	Organizational Behavior
POLI 111	U.S. Government and Politics
POLI 122	Public Policy Analysis
POLI 133	Introduction to International Relations
PSYC 111	Introduction to Psychology
SCWK 212	Social Problems, Services and Solutions
SCWK 221	Human Behavior Social Environment I
SOCI 110	Basic Sociology
SOCI 120	Individual, Culture and Society
SOCI 292	Cultural Anthropology
WMST 201	Introduction to Women's Studies

Science Options

ARCH 202	Archaeology Methods and Lab
BIOL 103	Environmental Issues
CHEM 102	Introduction to Organic and Biochemistry
CHEM 103	Chemistry of Life I
CHEM 111	General Chemistry I
CHEM 121	Introduction to Nanotechnology
CHEM 166	Issues in Science and Technology
ENG 201	Engineering and Biological Wonders of Panama

Mathematics Options

CRJS 360	Criminal Justice Statistics
MATH 103	Quantitative Literacy
MATH 105	Fundamentals of Mathematics
MATH 110	Mathematics in Human Progress
MATH 111	College Algebra
MATH 112	Trigonometry
MATH 114	Business Algebra
MATH 115	Business Calculus
MATH 135	Precalculus
MATH 140	Calculus 1
MATH 141	Calculus 2
MATH 213	Applied Statistics
PSYC 211	Psychological Statistics I
SOCI 351	Statistics for the Social Sciences

COURSE DESCRIPTIONS

Liberal Studies/First-Year Seminar

The First-Year Seminar is a discussion/experience-based course intended to orient the new student to Gannon University, to introduce the Liberal Studies Core and LIFECORE, to assist in the transition from high school to university life, and to encourage development of academic, personal and spiritual aspects of the student's life. Each seminar is unique, depending upon the instructor and/or program in which it is offered.
(Freshman are expected to complete the First-Year Seminar during the first semester at Gannon. If not, the student must complete the requirement prior to the sophomore year.)

2 credits

Liberal Studies/Leadership Seminar

The Leadership Seminar introduces students to a three-dimensional model of leadership, including a repertoire of leadership skills and means of using those skills responsibly in the various communities to which they belong. In addition, the course helps students explore the relevance of leadership skills in the leadership process. Ethical reasoning and Catholic social justice teaching serve as the basis for students' leadership development as reflected both in this course and in the co-requisite Theology or Philosophy III course. *1 credit*

Liberal Studies/BCOR 111: Principles of Microeconomics

This course focuses on an understanding of basic economics from a microeconomic standpoint. The specific topics explored will be scarcity, supply and demand, cost-production decision making, the operation of the firm in the product market under varying assumptions

of competition, monopolistic competition, monopoly, oligopoly and the operation of the firm in the factor market.
Prerequisite: High School Algebra *3 credits*

Liberal Studies/BCOR 112: Principles of Macroeconomics
This course seeks to develop an understanding of macroeconomic issues and theory and their application to current problem areas such as unemployment, economic growth and inflation. Additionally, the role of money, financial institutions, and the effectiveness of economic policy regarding control of the macroeconomy are explored.
Prerequisite: High School Algebra *3 credits*

Liberal Studies/MGMT 316: Organizational Behavior
This course examines human behavior within the organization. Leadership, motivation, communication, participation and stress are topics of study.
Prerequisite: BCOR 251. *3 credits*

Liberal Studies/BIOL 103: Environmental Issues
This course is a study of our environment and some of the interactions between humans and their surroundings. The course analyzes through an interdisciplinary approach how humans and their social institutions interact with physical and biological systems of the environment. The course surveys the most urgent environmental health problems facing humanity today. *3 credits*

Liberal Studies/CHEM 166: Issues in Science and Technology
Designed to present the principles of science, particularly chemistry, to enable one to better understand the world. It is also designed to not only improve the student's ability to understand current problems, but also provide the basis for understanding future developments in the area of science and technology as they relate to the environment. *3 credits*

Liberal Studies/ECON 101: Basic Economics
The main objective of the course is to interest students in economic issues and the application of economic methods to the study of these issues. Each semester the topics may include the following: the environment, the emerging global economy, poverty, unemployment, inflation, health care, crime, urban blight and labor productivity. Basic Economics meets the Social Science requirements for the Liberal Studies Core.
Prerequisite: High School Algebra *3 credits*

Liberal Studies/ECON 285: Project Economics
This course develops the techniques necessary for understanding economic price theory, the time-value of money, and the basic issues surrounding organizational architecture. These include issues surrounding supply and demand, cost-production, decision making and market models. In particular, the course focuses on the application of these economic theories to projects, including issues surrounding risk analysis and triage, budgeting, planning, and scheduling necessary to the successful completion of a project.
Prerequisite: High School Calculus (MATH 140 or MATH 115 or equivalent) *3 credits*

Liberal Studies/LBST 383: Senior Seminar
The Liberal Studies Program includes an Integrating Seminar to be taken in the senior year. The primary objective of the seminar is to provide the student with an opportunity to integrate the concepts and methodologies presented in earlier Liberal Studies courses. *3 credits*

Liberal Studies/LHST 111: History of the West and the World
The most important ideas, issues, problems, and developments that mark the changing fortunes of the West's interaction with the world from the Seventeenth Century to the present. *3 credits*

Liberal Studies/LENG 111: College Composition
The principles of logic, rhetoric, and language and their use in written discourse. Application of these theories to numerous reading and writing assignments. Much attention to basic writing skills. *3 credits*

Liberal Studies/LENG 112: Critical Analysis and Composition
Development of the reading, research, and writing skills needed to use library resources to solve problems in a variety of disciplines, and relate these solutions to appropriate audiences.
Prerequisite: Liberal Studies/LENG 111 *3 credits*

Liberal Studies/LENG 241: Prose Literature
This course helps students develop an appreciation, understanding and evaluation of prose literature as it reflects human experience in diverse cultural contexts.
Prerequisites: Liberal Studies/LENG 111, 112 *3 credits*

Liberal Studies/LENG 243: Drama
This course helps students develop an appreciation, understanding and evaluation of drama as it reflects human experience in diverse cultural contexts. It includes an examination of tragedy, comedy, and tragicomedy from their cultural origins to the present.
Prerequisites: Liberal Studies/LENG 111, 112 *3 credits*

Liberal Studies/LENG 245: Poetry
This course helps students develop an appreciation, understanding and evaluation of poetry as it reflects human experience in diverse cultural contexts.
Prerequisites: Liberal Studies/LENG 111, 112 *3 credits*

Liberal Studies/LENG 247: Introduction to Literature
This course helps students develop an appreciation, understanding and evaluation of literature as it reflects human experience in diverse cultural contexts. The course focuses on the essential elements of prose, drama, and poetry.
Prerequisites: Liberal Studies/LENG 111, 112 *3 credits*

Liberal Studies/LENG 249: Women Writers
This course helps students develop an appreciation, understanding, and evaluation of literature written by women as it reflects women's experiences in diverse cultural and historical contexts. The course focuses on the essential elements of prose, drama, and poetry.
Prerequisites: LENG 111, LENG 112 *3 credits*

Liberal Studies/LFIN 250: Theatre and Culture
An exploration of theatre as an art form. Particular attention is given to examining the role of theatre in culture, focusing on the human being as the creator and consumer of the theatrical experience. *3 credits*

Liberal Studies/LFIN 251: Introduction to Music
The aim of this course is to guide the student to a more perceptive and meaningful enjoyment of the art of music. After having been acquainted with musical materials and procedures, the student will be introduced to selected works characteristic of different style periods. *3 credits*

Liberal Studies/LFIN 252: Women in Photography
This course examines photography by women in a variety of photographic genres and critical perspectives written by women about photography. Concentration will be on the historical, cultural, stylistic, and aesthetic aspects of selected works. *3 credits*

Liberal Studies/LFIN 253: Introduction to the Visual Arts
An introductory examination of the nature and history of the Visual Arts (i.e., painting, sculpture, and architecture). The goal of the course is twofold: (a) to increase the student's appreciation of the intrinsic elements found in works of art, and (b) to make the student more conscious of the various extrinsic conditions which have had an influence on the long history of the visual arts. Class sessions will be devoted to analysis of projected images of selected artworks. *3 credits*

Liberal Studies/LFIN 254: Art of Film
The components of film art, primarily as seen in short films; analysis of techniques and meaning of experimental, documentary, animation, and other types of film. *3 credits*

Liberal Studies/LFIN 310: Music in Medicine
This course explores the impact of music in the area of medicine and the ways that music can be and is used as a benefit to the patient's medical treatment. Reasons for responses to various types of musical elements and stimuli used in treatment(s) will also be discussed and researched. *3 credits*

Liberal Studies/LPHI 131: Introduction to Philosophy
An introduction to the study of philosophy. Beginning with the dawn of philosophical awareness among the ancient Greek philosophers, the course surveys both traditional and modern approaches to the philosophical understanding of the human condition. *3 credits*

Liberal Studies/LPHI 233: Philosophy of God
An introduction to the philosophical study of religion, based largely on the tradition of Christian philosophy. Some of the topics include: the concept of God; the evidence for God's existence; the meaningfulness of religious language; analysis of God's attributes, such as omnipotence and omniscience; the possibility of miracles; life after death; the problem of reconciling divine foreknowledge and human freedom; and the problem of reconciling the existence of a loving God with the world's evils.
Prerequisite: LPHI 131 *3 credits*

Liberal Studies/LPHI 235: Philosophy of Knowledge
A study of the possibility and validity of human knowledge, together with the criteria of truth.
Prerequisite: LPHI 131 *3 credits*

Liberal Studies/LPHI 237: Philosophy of Ethical Responsibility
The subject matter of ethics is "the good life and how to live it." Students will examine a variety of influential approaches to ethics, and will gain skill in applying ethical theory both to practical ethical issues in daily life, and to some of the urgent ethical issues in contemporary society.
Prerequisite: LPHI 131 *3 credits*

Liberal Studies/LPHI 239: Philosophy of Science
A historical and philosophical survey of the various understandings of science and scientific method from ancient times to the present. Students will examine the role philosophy has played in formulating and critiquing models of scientific investigation, and will pay attention to the impact science has had in each historical period on religion, society, and views of human nature.
Prerequisite: LPHI 131 *3 credits*

Liberal Studies/LPHI 240: Philosophy of Education
A critical examination of the goals and methods of education, especially as they relate to ethics and politics. Readings will be drawn from historical philosophers, such as Plato, Aristotle, Rousseau and Dewey as well as contemporary philosophical analysis of educational institutions. *3 credits*

Liberal Studies/PHIL/SPCH 225: Philosophy of Communication
An analysis of the epistemological foundations underlying all forms of communicative processes from individual gestures to the electronic world-wide media. The course considers philosophical theories used to analyze, describe, and interpret the process of communication. Basic philosophical assumptions of traditional and contemporary philosophers of communication are examined. This course emphasizes the nature of persons, consciousness, and social exchange related to human communication.
Prerequisite: LPHI 131 *3 credits*

Liberal Studies/LTHE 121: Introduction to Sacred Scripture
A study of the Christian concept of God's self-revelation in the history of Israel and climactically in the person and redemptive work of Jesus Christ. *3 credits*

Liberal Studies/LTHE 223: The Catholic Tradition
A study of some of the basic Roman Catholic beliefs concerning Jesus Christ, the Church, Worship and Sacrament.
Prerequisite: LTHE 121 *3 credits*

Liberal Studies/LTHE 225: The Protestant Tradition
A study of the development of Christianity with special emphasis on the Protestant Reformation and the thinking of significant contemporary Protestant theologians.
Prerequisite: LTHE 121 *3 credits*

Liberal Studies/LTHE 227: The Theology of Moral Responsibility
A study of Christian ethical response based on God's Word in Revelation and in the teachings of the believing community.
Prerequisite: LTHE 121 *3 credits*

Liberal Studies/MGMT 360: Ethical and Social Responsibility
This course explores the nature of various interrelationships within the environment of the firm, particularly the relationship with societies and governments, including the effects of globalization of the firm. The responsibilities the firm has when pursuing its objectives and critically assessing the ethical issues associated with managerial decision making are the major focus of the course.
Prerequisite: Junior or Senior status *3 credits*

Liberal Studies/POLI 111: U.S. Government and Politics
The primary goal of this course is to help students understand politics and the political process of the American National Government. It covers the standard features of U.S. politics—the Constitution, federalism, interest groups, political parties, Congress, the presidency, the courts. Students also learn how to analyze political events and how to relate their own values to politics. *3 credits*

Liberal Studies/POLI 122: Public Policy Analysis
Designed to introduce students to public policymaking at the national level of government and acquaint students with the political dynamics of the policy process. Emphasizes the importance of political institutions and their formal procedures, with particular stress on the budget process and presidential agenda setting. Social justice, social welfare, and health and labor policies are also emphasized. *3 credits*

Liberal Studies/POLI 133: Introduction to International Relations
Introduction to the nature of international relations, focusing on the role of the state and international institutions; the role of ideology and culture in international affairs; and the nature of the world economy and the process of globalization. *3 credits*

Liberal Studies/PSYC 111: Introduction to Psychology
A survey of the use of psychological analysis to understand behavior in a variety of domains. Standard introductory topics include: Methodology; Physiological Foundations; Development; Sensation-Perception; Learning; Motivation/Emotion; Social Psychology; Personality and Abnormal Behavior. *3 credits*

Liberal Studies/SOCI 110: Basic Sociology
This course is intended as a general introduction to sociology, i.e., a scientific focus on society, groups, and social behavior. Its purpose is to develop in the student a greater capacity to interpret and evaluate the social world. *3 credits*

Liberal Studies/SOCI 120: Individual, Culture, and Society
The purpose of this course is to present students with conceptual and practical means for recognizing the roles of social structure, culture, and the individual as contributing elements of diversity. *3 credits*

Liberal Studies Component of Two Year Programs

	First-Year Seminar	2
LENG 111	College Composition	3
LTHE 121	Introduction to Sacred Scripture	3
LPHI 131	Introduction to Philosophy	3
SPCH 101	Introduction to Speech	1
	Social Science	3
Total		15

Liberal Studies Component of Next Step Program

Students admitted to Gannon with an Associate's degree, Bachelor's degree, or equivalent international degree will be required to complete the following Core courses:

LTHE 121 Sacred Scripture	3
LPHI 131 Introduction to Philosophy	3
LENG Literature Series	3
LFIN Fine Art Series	3
Leadership Seminar	1
LTHE/LPHI Theology/Philosophy III Series	3
LBST 383 Senior Seminar or approved capstone	3

Students may transfer courses equivalent to Sacred Scripture, Introduction to Philosophy, the Literature Series, and/or the Fine Arts Series. Students must take the Leadership Seminar, the Theology/Philosophy III Series, and the Senior Seminar or approved capstone at Gannon.

Students who have received an Associate Degree from Gannon must fulfill all Liberal Studies Core requirements and do not qualify for the Next Step Program.

College of Engineering and Business

MELANIE L. HATCH, PH.D., *Dean*

The College of Engineering and Business is composed of the School of Engineering and Computer Science and the Dahlkemper School of Business Administration. The curriculum of each program within the college builds upon strong analytical skills and emphasizes the application of theory and technology to problem solving in industry and society. Graduates have the necessary knowledge, skills, and values to compete in a global market. All of the programs within the college build upon the mission of Gannon University and provide the foundation for life-long learning.

Mission Statement

The College of Engineering and Business prepares our students to be leaders by teaching theory, problem-solving skills, and socially responsible decisions-making. Our students and faculty collaborate with external organizations in design projects, internships, and research projects to promote excellence in education, practical knowledge, and life-long learning.

Vision Statement

The College of Engineering and Business will be regionally recognized for its:

1) Outstanding faculty who are scholars as well as innovators in the classroom
2) Excellent and motivated students who excel through active and collaborative learning
3) Service to the local and global community through classroom projects, research, and internships
4) Cutting-edge curriculum that involves external partners to build practical skills with an emphasis on entrepreneurship, and renewable and alternative energy
5) Interdisciplinary research that contributes new knowledge to the field.

The CEB holds the following values:

1. Respect for others
2. Integrity and honesty in all actions
3. Commitment to continuous improvement
4. Creativity in finding solutions
5. Working collaboratively

DAHLKEMPER SCHOOL OF BUSINESS ADMINISTRATION

DONNA T. MOTTILLA, D.B.A., *Director*

DSBA Mission Statement

The Dahlkemper School of Business delivers a values-centered business curriculum that provides students with a broad knowledge of business organizations and an understanding of global and ethical issues within the complex relationships that exist among the business, government and non-profit sectors. By integrating cutting-edge theory with the latest business technologies, the Dahlkemper School prepares undergraduate and graduate students for successful professional careers.

DSBA Vision

The Dahlkemper School of Business will be the school of choice for motivated students seeking a values-based education. They will enroll in programs that are recognized for their integration of theory and practical business knowledge. They will be taught by faculty who are respected for their rigorous teaching, relevant scholarship and active involvement. They will become graduates who will have the knowledge and skills needed to make critical decisions in a dynamic complex global environment so as to have an immediate impact in any organization.

To achieve this the Dahlkemper School of Business will:

Work diligently to implement the goals of the University Strategic Plan.

Enroll students from the top 50% of college bound business majors.

Continually examine and update programs and curriculum.

Employ a diverse faculty that will include those both doctorally and professionally prepared.

Have a well developed and implemented outcomes assessment plan.

Having earned national accreditation from the Association of Collegiate Business Schools and Programs (ACBSP), the Dahlkemper School of Business Administration offers the Bachelor of Science in the following majors: Accounting, Advertising Communications, Business Administration, Entrepreneurship, Finance, International Business, Management, Marketing, Risk Management and Insurance and Sport Management and Marketing. Minors are offered in Accounting, Business Administration, Economics, Entrepreneurship, Finance, Human Resource Management, International Business, Marketing, Process Management and Risk Management and Insurance. In addition, students may study for the two-year Associate Degrees in Accounting and Business Administration. The B.S. in Advertising Communications is an interdisciplinary program offered by The School of Business and the Department of Communication Arts. The Bachelor of Science in Sport Management and Marketing is an interdisciplinary program offered by the School of Business and the Department of Sport and Exercise Science. Two accelerated five-year Bachelor of Science/Master of Business Administration and Bachelor of Science/ Master of Public Administration programs are also available as well as the Duquesne Law School 3/3 program in Business Administration or Accounting.

Curriculum

The education provided by the Dahlkemper School of Business prepares students for the challenges they will face in the business world. The strong foundation of business core courses supplemented by a set of courses in a selected major and complemented by the University's rich Core of Discovery enables a student to acquire and apply the knowledge and skills necessary to be a significant contributor to an organization, as well as their community and society. Business majors are prepared to pursue careers with major corporations, non-profit organizations, government, service organizations, small businesses or start their own business. We are committed to the teaching and learning process and students' development as professionals is our primary concern.

A student's education is a careful combination of curricular and co-curricular activities. Through a combination of participation in student organizations and working in the business community, students will develop the skills and knowledge necessary to succeed in the business world. Students have many opportunities at Gannon to learn more about the business world and their specific area of interest. Student organizations, class projects and working closely with a faculty advisor are all important parts of college life.

Business students graduating from Gannon University must meet the following requirements: a cumulative GPA of at least 2.0 in all courses, a cumulative GPA of at least 2.0 in the Business Core courses, and a cumulative GPA of at least 2.0 in the field of concentration.

The Faculty

Faculty members are dedicated teachers, mentors and advisors. Faculty members hold masters degrees, law degrees or doctoral degrees from graduate schools across the country. The students' classroom experience is enriched by the consulting, research and business experiences of the faculty. Personal attention and teaching excellence are hallmarks of the education provided by the Dahlkemper School of Business.

Opportunities for Additional Experiences

Gaining career related work experience enriches students' professional preparation and places them at a competitive advantage upon graduation; to that end all students take BCOR 450 Experiential Learning. To aid students with practical experience, cooperative education opportunities are available in all business majors. Students also have internship opportunities and can often work with real businesses that are clients of the Small Business Development Center or the Erie Technology Incubator, both located on the Gannon campus. Several student clubs and organizations, both in the School of Business and outside it, offer students opportunities for involvement and skill development. Additionally, some classes offer service-learning and students are always encouraged to volunteer their time and talent in the community.

The Accelerated BS/MBA and BS/MPA Programs

The accelerated Bachelor of Science/Master of Business Administration program and the Bachelor of Science/Master of Public Administration program are designed for qualified students to earn an undergraduate business degree and a graduate business degree in five years (five and one-half for MPA) rather than six or more.

Business Administration - Duquesne School of Law, 3/3 Early Admission Program

This Cooperative Program is designated for qualified students to earn an undergraduate and a law degree in six years rather than seven. Under the early admissions program students may receive a Bachelors Degree with majors in Business Administration or Accounting after three years of undergraduate work and the successful completion of the first year of full time study at the Duquesne School of Law. The student then receives a Law Degree after successful completion of two more years at Duquesne School of Law.

Dahlkemper School of Business Outcomes for the Undergraduate Core

The Undergraduate Core Curriculum of the Dahlkemper School of Business Administration is designed to provide a general broad-based business education with a balance of theory and practice.

After completing the Business Core students will have:

Top-level Outcome	Summary Description of Outcome
Integration	the ability to integrate functional business knowledge and skills
Application	the ability to apply academic experience to organizational settings
Communication	the ability to effectively communicate business-related ideas in organizational environments
Problem Solving	the ability to reason and think analytically to solve organizational problems
Ethical Decision Making	an understanding of ethical frameworks and how they apply to organizational decisions
Leadership	an understanding of the nature and characteristics of, and the skills needed for, effective leadership
Teamwork	the ability to work effectively as a team member
Respect for Others	an understanding of the unique and diverse skills, knowledge, abilities, backgrounds and contributions of the human element of the firm
Global Awareness	an understanding of the global business environment
Service	an understanding of the interrelationships between the firm and society through active participation in service
Technology	an understanding of the role and application of information technology in organizational settings

DAHLKEMPER SCHOOL OF BUSINESS ADMINISTRATION

Business Core Sequence

Freshman Year
BCOR 111 Principles of Microeconomics
BCOR 112 Principles of Macroeconomics
MATH 114 Algebra for Business Students
CIS 150 Business Technology I
BCOR 201 Financial Accounting

Sophomore Year
BCOR 202 Managerial Accounting
BCOR 203 Legal Environment of Business
BCOR 221 Business Statistics
BCOR 231 Business and Prof Communication
BCOR 241 Principles of Marketing or BCOR 251 Principles of Management

Junior Year
BCOR 251 Principles of Management or BCOR 241 Principles of Marketing
BCOR 306 Global Business
BCOR 311 Financial Management I

Senior Year
BCOR 450 Experiential Learning
BCOR 480 Business Policy

COURSE DESCRIPTIONS:

BCOR 111: Principles of Microeconomics
This course develops the techniques necessary for an understanding of basic economics from a microeconomic standpoint. The specific topics explored will include the fact of scarcity,

concepts of supply and demand, cost-production decision-making, the operation of the firm in the product market under varying assumptions of competition, monopolistic competition, monopoly and oligopoly, plus the operation of the firm in the factor market. This course is approved as a Social Science course for the Core of Discovery.
Prerequisite: High school algebra. *3 credits*

BCOR 112: Principles of Macroeconomics
This course develops tools for an understanding of macroeconomic issues and theory, including the application to current problem areas like unemployment, economic growth and inflation. Additionally the role of money and financial institutions are examined. The use of effectiveness of economic policy to control the macroeconomy is explored. This course is approved as a Social Science course for the Core of Discovery.
Prerequisite: none. *3 credits*

MATH 114: Algebra for Business Students
This course introduces the student to the business applications of linear and quadratic equations; inequalities and systems of equations; algebraic, exponential and logarithmic functions and their graphs; mathematics of finance; and matrix algebra.
Prerequisites: High school algebra. *3 credits*

BCOR 201: Financial Accounting
This course provides the student with an overview of both the demands for and uses of accounting information as it relates to the decision-making process. In addition, the course provides a thorough review of the accounting cycle and the operating areas of the balance sheet. Although the course focuses on the corporate form of business, sole proprietorship and partnerships will also be discussed.
Prerequisite: MATH 114 *3 credits*

BCOR 202: Managerial Accounting
This course provides an introduction to managerial accounting theory and practice and the use of managerial accounting information in decision making in support of Total Quality Management. The course will cover cost-volume-profit relationships, job costing, budgeting, standard costs and variances, and performance measurement techniques. Microcomputer applications will be integrated into the course.
Prerequisite: BCOR 201 *3 credits*

BCOR 203: Legal Environment of Business
This course explores legal issues as they relate to business including: the nature and ethical foundations of law, the judicial function and process, constitutional and administrative law, securities regulations, employment relationships, environmental issues, and alternative dispute resolution. *3 credits*

BCOR 221: Business Statistics
This is a course which will help the student develop the statistical tools used in business decision making. Course topics include determination and interpretation of measures of central tendency, variance, probability, regression and correlation analysis, hypothesis testing, frequency and probability distributions, and sampling issues. Students will also be introduced to graphical, tabular, and mathematical depictions of statistical information.
Prerequisites: MATH 111, MATH 114, MATH 115, or MATH 140 *3 credits*

BCOR 231: Business and Professional Communication
This is an intensive course in written and oral communication used within business and professional organizations. The written component will utilize a variety of rhetorical models in creating letters, reports, corporate publications and other forms of corporate communication. The oral component will involve technical presentations, interviewing, sales presentations, community presentations, and include the use of visual aids. (Note: cross listed with ENGL 212)
Prerequisite: LENG 112 Critical Analysis and Composition. *3 credits*

BCOR 241: Principles of Marketing
The course examines the basic components of marketing (such as consumer behavior, marketing research, and product, distribution, promotion and price planning) from a managerial perspective. Among the contemporary topics that are examined in this course are strategic planning/thinking, total quality, international marketing, service and non-profit marketing and marketing and society. *3 credits*

BCOR 251: Principles of Management
This course examines the fundamental managerial concepts that have proven significant in the successful running of various types of organizations. Subject matter will be covered in an operational way by relating to the managerial functions of planning, organizing, leading, and controlling. *3 credits*

BCOR 306: Global Business
This course investigates the international environment. Topics include multi-national organizations, international trade, effects of import/export on balance of trade, exchange rates, the international business environment, international financial markets, multi-national marketing, multi-national financial management. The course will also address the issue of cross cultural sensitivity.
Prerequisites: BCOR 111, 112 *3 credits*

BCOR 311: Financial Management I
This course introduces the financial and economic concepts necessary to understand, analyze and resolve corporate investment, financing and dividend decisions. The course also establishes the goal of the firm, the ethical behavior appropriate for the achievement of this goal, an elementary knowledge of financial markets and instruments and insight into the international aspects of the covered topics.
Prerequisites: BCOR 111, 112, 201 *3 credits*

BCOR 385: Advanced Business Technology.
An Advanced Business Technology Course is a value-added approach to traditional business courses. Each offering will integrate advanced instruction in the application of computer technology with the content of the specific courses. It will provide students with advanced knowledge, skills and abilities to use technology-based business applications to improve their academic and professional performance. Students completing a minimum of six Advanced Business Technology courses during their tenure at Gannon University will earn the ABT Certificate. Please see semester schedule for available offerings.
Prerequisite/co-requisite: Appropriate companion course *1 credit*

BCOR 450: Experiential Learning
This is an opportunity for students to put their classroom knowledge to practical use by working in the community. Internships, co-ops and volunteer opportunities qualify. There are academic requirements that enhance the working experience.
Prerequisite: Senior status. *3 credits*

BCOR 480: Business Policy
This is a comprehensive capstone course requiring students to integrate previous analytical skills in analyzing corporate problems. The course is one dealing with organizational strategy and policy and focuses on the responsibilities of senior management and the analysis of situations having significant impact on the organization. The emphasis throughout the course is that of top management and this emphasis takes an integrative, multi-functional perspective with emphasis on ethics and responsibility to society. The basic concepts studied apply to all forms of organizations, both public and private, but the major emphasis of the cases studied will be that of business organizations.
Prerequisites: Completion of all other business core courses. Senior status. *3 credits*

BUSINESS MINORS

ACCOUNTING MINOR (18 credits)
- Financial Accounting / BCOR 201
- Managerial Accounting / BCOR 202
- Accounting Information Systems / ACCT 350
- Intermediate Financial Accounting I / ACCT 210
- Intermediate Managerial Accounting / ACCT 302 or Intermediate Financial Accounting II/ACCT 310
- Income Taxes / ACCT 331

ADVERTISING/COMMUNICATIONS MINOR (18 credits)
- Introduction to Integrated Marketing Communications / ADVC 101 or Fundamentals of Advertising / MKTG 340
- Public Relations / ENGL 372 / ADVC 372
- Broadcast Copywriting / COMM 321
- Introduction to Sales Promotion and Direct Marketing / ADVC 350
- Advertising for Electronic Media / COMM 381
- Integrated Marketing Campaign Development / ADVC 400

***BUSINESS ADMINISTRATION MINOR** (18 credits) Only offered to non-business majors.
- Financial Accounting / BCOR 201
- Economics / ECON 101, BCOR 111 or BCOR 112
- Principles of Marketing / BCOR 241
- Principles of Management / BCOR 251
- Additional 6 credit hours in business or computer science

ENTREPRENEURSHIP MINOR (15 credits) Only offered to business majors.
- Organizational Innovation / ENTR 310
- Entrepreneurial Finance / ENTR 330
- New Venture Creation / ENTR 410
- And six credits from the following courses:
  - Consumer Behavior / MKTG 300
  - Professional Selling and Sales Management / MKTG 320
  - Marketing Research / MKTG 410
  - Legal Environment of Business II / MGMT 205
  - Making Teams Work / MGMT 220
  - Project Management / MGMT 330

FINANCE MINOR (15 credits)
- Financial Management I / BCOR 311
- Financial Management II / FINC 312
- Additional 9 credits in Finance at the 300 level or above

HUMAN RESOURCE MANAGEMENT MINOR (21 credits)
- Legal Environment of Business / BCOR 203
- Principles of Management / BCOR 251
- Human Resource Management / MGMT 211
- Labor and Employment Management / MGMT 213
- Compensation Management / MGMT 215
- Organizational Behavior / MGMT 316
- Ethical and Social Responsibility / MGMT 360

***INTERNATIONAL BUSINESS MINOR** (18 credits)
- Twelve credits of international business courses from the following:
- Global Business / BCOR 306
- International Economics / ECON 241

Comparative Economic Systems / ECON 243
International Financial Management / FINC 318
International Investments / FINC 419
International Management / MGMT 310
Principles of Exporting / MKTG 255
Global Sourcing / MKTG 357
International Marketing / MKTG 345
China Studies / IBUS 382
Independent International Business Seminar/Internship/ IBUS 377
International Business Internship / IBUS 376
Six credits outside the School of Business, planned with the student's advisor, from areas such as foreign languages, political science, geography, and history.

***MARKETING MINOR** (15 credits)
Principles of Marketing / BCOR 241
Twelve additional credits in Marketing

***PROCESS MANAGEMENT MINOR** (21 credits)
Principles of Management / BCOR 251
Application of Management Information / MGMT 320
Quantitative Business Analysis / MGMT 325
Project Management / MGMT 330
Quality Management / MGMT 350
Ethical & Social Responsibility / MGMT 360
Supply Chain Management / MGMT 410

RISK MANAGEMENT AND INSURANCE MINOR (18 credits)
Introduction to Risk Management & Personal Lines Insurance / RISK 220
Commercial Property and Liability Insurance / RISK 321
Life & Health Insurance / RISK 325
Risk Management / RISK 415
Employee Benefits / RISK 420
Insurance Operations / RISK 425

**Indicates minors that may be of particular interest to students majoring in an area outside of Business.*

ACCOUNTING PROGRAM

RENEE LIU, Ph.D., *Program Director*

FACULTY: *Professor:* James Miller. *Assistant Professors:* Jiangxia (Renee) Liu, Michael O'Neill.

Within the framework of the objectives of Gannon University as evidenced by its Core of Discovery requirements, the accounting program is as much concerned with the personal development of the individual as a member of today's society as with his/her technical competence. The program places emphasis on the concept that the business decision making process is not just a mere application of accounting theory and techniques but rather is a blending of this technical ability with sound ethical principles.

The faculty is student oriented. Faculty members are readily available and eager for student contact both within and outside the classroom. The faculty is interested in the students as individuals and is vitally concerned with their development. The aim of the program is to develop a sound basic understanding of accounting theory and practice, as well as the ethical principles necessary to prepare students for professional careers in public accounting, business, or government. The accounting program prides itself on bringing practical knowledge into the classroom based on personal professional experience. Applicants to the

Accounting program are strongly encouraged to consider enrolling in the Advanced Business Technology Certificate Program. See the Advanced Business Technology Program under Dahlkemper School of Business Administration.

Two, four and five year programs are offered. The five year MBA program in accounting meets the needs of the public accounting profession on a national basis in support of the 150 hour education requirement initiated by the American Institute of CPA's and many state boards of accountancy. Students electing this track will be required to complete a five year 159 hour program in accounting and business. All students are given the opportunity to complete a BS in accounting in four years. The students who have elected the five year track can then proceed to complete their MBA over a fifth year.

A measure of the success of the department is evidenced by the placement in the career opportunities available to its graduates. Large public accounting firms, the Naval Audit Service and other federal, state, and local governmental agencies, and many industrial firms regularly recruit our graduates on campus. Presently, substantial numbers of our graduates are not only advancing their own careers in these organizations but are returning to Gannon as recruiters for these companies. Comments from these recruiters give more than adequate testimony to the quality of the preparation for our students in accounting.

Some students choose not to enter the business world immediately upon graduation but rather elect to further their education in graduate studies. Our program provides an excellent base for graduate work in Accounting, Business Administration, Law, or related fields.

COURSE DESCRIPTIONS:

BCOR 201: Financial Accounting and BCOR 202: Managerial Accounting
See the course descriptions under the Business Core. *6 credits (3 credits each)*

ACCT 210 and ACCT 310: Intermediate Financial Accounting I & II
An in-depth investigation of accounting theory and practice through an examination of major financial statement accounts. Specific topics include a study of the conceptual framework of accounting, income determination, reporting, accounting for leases and pensions, financial statement presentation, and evaluation of sustainable and transitory earnings components.
Prerequisites: BCOR 201 Financial Accounting for ACCT 210 *3 credits for ACCT 210, Fall*
Prerequisites: ACCT 210 Intermediate Financial Accounting I for ACCT 310
3 credits for ACCT 310, Spring

ACCT 302: Intermediate Managerial Accounting
A course devoted primarily to understanding accounting concepts related to creating and interpreting information in manufacturing and service organizations to facilitate management decisions and control. Topical coverage includes: job order costing, standard costing, costs of spoilage, scrap, and rework, cost of quality, operations and project costing, and cost allocation techniques.
Prerequisites: BCOR 202 *3 credits, Fall*

ACCT 331: Income Taxes
A detailed study of the Federal Income taxation of individuals. This course includes an introduction to income tax research and places an emphasis on effective tax planning.
Prerequisite: BCOR 201 *3 credits, Fall*

ACCT 350: Accounting Information Systems
A theoretical and practical discussion of the process and procedures for accounting information systems analysis, design, and implementation with emphasis on the organizational decision-making inherent in a broad range of computerized systems applications. A computer lab is included to examine an automated accounting system.
Prerequisite: BCOR 202 Managerial Accounting or permission of instructor *3 credits, Spring*

ACCT 360: Legal Environment of Business II
A study of the nature and sources of law; a study of agencies, partnerships, corporations, uniform commercial code topics including sales contracts, negotiable instruments and secured transactions as well as other areas of the law related to business transactions, bankruptcy, trusts, and estates.
Prerequisite: BCOR 203 *3 credits, Fall*

ACCT 370: Applied Ethical Reasoning in Accounting
This course is a study of ethical and moral reasoning in the accounting profession, with attention both to law and personal choice. Using the notion of "virtue", it explains how the code of ethics for accountants follows from the distinctive role that accountants play in society. It illustrates these ideas through case studies.
Prerequisite: MGMT 360 *3 credits, Spring*

ACCT 375: Organizational Internship
Selected students will be able to spend a period of time (50 hours per credit hour) working as an Intern with a local organization. During this period the student will maintain a journal, will meet regularly with a faculty member, and with a supervisor to provide continuing evaluation of quality and progress of the student's work. At the conclusion of the experience the student will submit a paper to the supervisor and faculty member and make an oral presentation.
Prerequisite: Junior who has permission of the department and the cooperating organization.
1-3 credits

ACCT 385: Accounting Information Systems Technology Sessions
This session includes computer exercises that complement ACCT 350. *1-3 credits, Spring*

ACCT 402: Advanced Managerial Accounting
An expanded view of managerial accounting. The course will cover planning and control of business operations with strong emphasis on management decision making. Coverage will include both quantitative and non-quantitative aspects of decision making. The course will focus on the interrelationship of employee incentives, motivation, behavior, and business ethics.
Prerequisite: ACCT 302 *3 credits, Spring*

ACCT 410: Advanced Financial Accounting
Accounting for partnerships, home office and branch accounting, parent and subsidiary accounting, consolidation and mergers, foreign transactions and translations, and government and non-profit accounting.
Prerequisite: ACCT 310 Intermediate Financial Accounting II *3 credits, Fall*

ACCT 422: Financial Auditing
An introduction to the theory and practice of auditing, duties and responsibilities of the auditor and standards, procedures, internal control and management services performed by public accountants.
Prerequisites: Senior status, ACCT 310 Intermediate Financial Accounting II, ACCT 350 Accounting Information Systems, and BCOR 221 Business Statistics *3 credits, Fall*

ACCT 431: Advanced Taxes
Taxation of corporations, partnerships, S corporations, estates and trusts, and tax accounting issues. Additional coverage includes an examination of the sources of tax laws and related tax research and planning. This course involves a service learning component in which students participate in the Internal Revenue Service's Volunteer Income Tax Assistance (VITA) program and prepare individual tax returns at a local community center. This component is required and may, at the option of the student, be used for one credit under ACCT 375 Organizational Internship.
Prerequisite: ACCT 331 Income Taxes *3 credits, Spring*

ACCT 490: Special Topics
Prerequisite: ACCT 310 *1-3 credits*

Accounting Curriculum – 4 year BS

(Numerals in front of courses indicate credits)

	FRESHMAN		SOPHOMORE
3	Prin of Microeconomics/BCOR 111	3	History of West & World/LHST 111
3	Algebra for Bus Students/MATH 114	3	LS Natural Science
3	Business Technology 1/CIS 150	3	Intermediate Financial Accounting I ACCT 210
3	College Composition/LENG 111		
3	Introduction to Philosophy/LPHI 131	3	Prin of Management/BCOR 251
3	Managerial Accounting/BCOR 202	3	Inter Financial Accounting II/ ACCT 310
3	Prin of Macroeconomics/BCOR 112		
3	Financial Accounting/BCOR 201	3	Legal Environment/BCOR 203
3	Critical Analysis & Comp/LENG 112	3	Business Statistics/BCOR 221
3	Sacred Scripture/LTHE 121	3	Bus/Prof Communications/BCOR 231
2	First-Year Seminar	3	Principles of Marketing/BCOR 241
		3	Accounting Info Sys/ACCT 350
		3	Social & Ethical Responsibility in Business/MGMT 360*
		3	Speech/SPCH 111
32		36	

	JUNIOR		SENIOR
3	Inter Managerial Acct/ACCT 302	3	Income Taxes/ACCT 331
3	Theology II Series/LTHE	3	Advanced Taxation/ACCT 431
3	Adv Financial Acct/ACCT 410	3	Financial Auditing/ACCT 422
3	Adv Managerial Acct/ACCT 402	3	Business Policy/BCOR 480**
3	Financial Management I/BCOR 311	3	Experiential Learning/BCOR 450***
3	Organizational Behavior/MGMT 316	3	Global Business/BCOR 306
3	Fine Art Series/LFIN	3	Literature Series/LENG
3	Applied Ethical Reasoning in Acct/ACCT 370	9	Electives
3	Theo or Phil III Series/LTHE or LPHI		
3	Legal Env of Bus II/ACCT 360		
1	Leadership Seminar		
31		30	
129	Total credits		

** Fulfills Philosophy II Series*

*** Fulfills Senior Seminar LBST 383*

**** An additional 3 credits of Experiental Learning may be taken on an elective basis during the junior or senior year under ACCT 375.*

The Gannon University – Duquesne School of Law, 3 + 3 Early Admissions Program has been designed for qualified students to earn an undergraduate and a law degree in six years rather than seven. Under the early admissions program students may receive a *Bachelors Degree in Accounting after three years of undergraduate work and the successful completion of the first year of full time study at Duquesne School of Law.* The student would then receive the Law Degree after successful completion of the second year at Duquesne School of Law. Qualified students may wish to pursue this Accounting option.

Accounting / Duquesne Law School 3/3 Program

(Numerals in front of courses indicate credits)

	FRESHMAN		SOPHOMORE
3	Prin of Microeconomics/BCOR 111	3	Accounting Info Sys/ACCT 350
3	Algebra for Bus Students/MATH 114	3	Interm Fin Acct I/ACCT 210
3	Business Technology 1/CIS 150	3	Inter Financial Acct II/ACCT 310
3	College Composition/LENG 111	3	Legal Analysis & Persuasion/PLAW 357
3	Introduction to Philosophy/LPHI 131	3	Business Statistics/BCOR 221
3	Prin of Macroeconomics/BCOR 112	3	Bus/Prof Communications/BCOR 231
3	Financial Accounting/BCOR 201	3	Principles of Marketing/BCOR 241
3	Critical Analysis & Comp/LENG 112	3	Social & Ethical Responsibility in Bus/MGMT 360*
3	Sacred Scripture/LTHE 121		
3	Managerial Accounting/BCOR 202	3	Prin of Management/BCOR 251
3	Intro Law & Society/PLAW 260	3	Theology II Series/LTHE
0	Pre-Law Orientation/PLAW 101	3	LS Natural Science
2	First-Year Seminar	3	Hist of West & World/LHST 111
35		36	

	JUNIOR
3	Inter Managerial Acct/ACCT 302
3	Theology or Phil III Series/LTHE or LPHI
3	Financial Auditing/ACCT 422
3	Adv Financial Acct/ACCT 410
3	Adv Managerial Acct/ACCT 402
3	Business Policy/BCOR 480**
3	Financial Management I/BCOR 311
3	Experiential Learning/BCOR 450***
3	Fine Art Series/LFIN
3	Literature Series/LENG
3	Global Business/BCOR 306
3	Applied Ethical Reasoning in Accounting/ACCT 370
36	
107	Total credits

* *Fulfills Philosophy II Series*

** *Fulfills LBST 383, Senior Seminar*

*** *An additional 3 credits of experiential learning may be taken on an elective basis during the junior and senior year under ACCT 375.*

THE NEXT STEP

Baccalaureate Degree Program for Graduates of Two Year Colleges

Accounting

(Numerals in front of courses indicate credits)

	Pre-Senior Year		*Senior Year*
3	Intermediate Financial Acct I/ACCT 210	3	Advanced Financial Acct/ACCT 410
3	Intermediate Financial Acct II/ACCT 310	3	Income Taxes/ACCT 331
3	Accounting Information Sys/ACCT 350	3	Advanced Taxes/ACCT 431
3	Inter Managerial Acct/ACCT 302	3	Financial Auditing/ACCT 422
3	Business Statistics/BCOR 221	3	Literature Series/LENG
3	Financial Management I/BCOR 311	3	Global Business/BCOR 306
3	Principles of Marketing/BCOR 241	3	Organizational Behavior/MGMT 316
3	Business and Professional Communications/BCOR 231	3	Experiential Learning/BCOR 450
		3	Business Policy/BCOR 480*
3	Introduction to Philosophy/LPHI 131	3	Fine Art Series/LFIN
3	Sacred Scriptures/LTHE 121	3	Theology or Phil III Series/LTHE or LPHI
3	Adv Managerial Acct/ACCT 402		
3	Social & Ethical Responsibility of Business/MGMT 360	1	Leadership Seminar
		3	Legal Environment of Business II/ACCT 360
36		37	

*Fulfills LBST 383, Senior Seminar

Students will be permitted to take other courses in substitution for any course listed above which they have satisfactorily completed prior to admission into the Next Step program. Students are required to complete 7-19 credits in the Liberal Studies Core. Students may transfer courses equivalent to Sacred Scripture, Introduction to Philosophy, the Literature Series and/or the Fine Arts Series. Students must take the Leadership Seminar, the Theology/Philosophy III Series, and the Senior Seminar or approved capstone at Gannon.

Prerequisites:

The above course requirements presume that the student has completed the following courses, or their equivalent, prior to matriculation. If not, they become additional required courses in the program.

One year of Accounting (BCOR 201 and 202)
One year of Economics (BCOR 111 and 112)
Legal Environment of Business (BCOR 203)
Principles of Management (BCOR 251)
PC Applications (CIS 170-173) or Business Technology (CIS 150)
College Composition (LENG 111)
Critical Analysis & Comp (LENG 112)
Equivalent of Algebra for Business Students/MATH 114

Accounting Curriculum - 5 year MBA

The fifth year student will follow the same curriculum as the four year student to receive the BS in accounting in four years. However, through the advisor, the fifth year student will be encouraged to take certain graduate courses and prerequisites to better prepare for graduate coursework beginning in the junior year provided the student maintains a **3.2 GPA**.

The student will be encouraged to take a minimum of two courses in the summer between their fourth and fifth year.

	YEAR 5 (summer, fall, and spring)
3	Organizational Behavior/GMBA 631
3	Marketing Management/GMBA 651
3	Financial Management/GMBA 661
3	Managerial Economics/GMBA 671
3	Global Business/GMBA 681
3	Leadership and Ethics/GMBA 686
3	Business Information and Communications/GMBA 696
6	Graduate Electives/GMBA 7XX
3	Business Policy/GMBA 799
30	
159	Total Credits

ACCOUNTING
Associate Degree

The primary objective of the Accounting program is to offer courses which will provide the student with the practical and conceptual understanding of accounting methods and techniques with the ultimate aim of preparing the student for employment in the field of private or public accounting as a junior accountant. Class lectures and laboratory problems are directed toward teaching the student to analyze and to think critically in the field of accounting and developing an awareness of human, civic, and business ethics, and legal responsibilities.

Accounting - Associates Degree Curriculum

(Numerals in front of courses indicate credits)

FRESHMAN

	First Semester		*Second Semester*
3	College Composition/LENG 111	3	Crit Analysis & Comp/LENG 112
3	Business Technology I/CIS 150	3	Sacred Scriptures/LTHE 121
3	Algebra for Bus Students/MATH 114	3	Prin of Management/BCOR 251
3	Prin of Microeconomics/BCOR 111	3	Prin of Macroeconomics/BCOR 112
3	Financial Accounting/BCOR 201	3	Managerial Accounting/BCOR 202
15		15	

SOPHOMORE

	First Semester		*Second Semester*
3	Intro to Philosophy/LPHI 131	3	Hist of West & World/LHST 111
3	Prin of Marketing/BCOR 241	3	Theo/Phil III Series/LTHE or LPHI
3	Inter Financial Acct I/ACCT 210	3	Acct Info Systems/ACCT 350
3	Income Taxes/ACCT 331	3	Bus & Prof Communica/BCOR 231
3	Inter Managerial Acct/ACCT 302	6	Free Electives
3	Legal Environment of Bus/BCOR 203		
18		18	

ADVERTISING COMMUNICATIONS PROGRAM

ANNE O'NEILL, M.A., *Program Director*

The art of advertising has been a part of the selling process for as long as people have exchanged desired products and services. Today, the advertising profession integrates the traditional concepts of TV, radio, and print ad production with other persuasive communications methods, including public relations, direct marketing, sales promotions and Internet marketing. The Advertising Communications Program is a multidisciplinary program that combines the pragmatic business and selling aspects of advertising in the marketing area and the rhetorical, persuasive and creative elements of advertising in the communication area. The program allows students to draw on multiple areas of knowledge and skills necessary for career success in advertising and related fields.

COURSE DESCRIPTIONS:

ADVC 101: Introduction to Integrated Marketing Communications
Students will be introduced to the concept of integrated marketing communications (IMC), where the promotional elements of marketing are incorporated into a multidisciplinary approach. An overview of each of the promotional mix elements – general advertising, public relations, direct marketing (including Internet marketing) and sales promotion – is presented along with the concept of integration of all the elements for successful promotional management. Marketers in business today need to be proactive while having an understanding of all stakeholders, technologies and communication opportunities involved. IMC addresses these issues while this course provides the rudimentary knowledge to prepare students for future study and experiences in a specialized area. *3 credits*

ADVC 350: Introduction to Sales Promotion and Direct Marketing
This is an intermediate level course for Advertising Communications majors, minors and others interested in the promotional mix elements of sales promotion and direct marketing. The course will incorporate an introduction of each and examples of uses in the industry, along with student application projects. The course will explore the fundamentals of sales promotions and direct marketing activities, how they are used in the industry, why they are used, and how they are integrated with other promotional mix elements. Terminology and procedures will be introduced and incorporated in the presentation of the materials. *3 credits*

ADVC 372: Principles of Public Relations
This is an introductory level course on the topic of public relations, a component of the promotional mix elements. Strategies and communication tools will be introduced and studied as they relate to an organization's efforts to communicate with and position itself with its internal and external publics. *3 credits*

ADVC 375: Advertising Communications Organizational Internship
Selected students will be able to spend a period of time (50 hours per credit hour) working as an Intern with an organization. During this period the student will maintain a journal, will meet regularly with a faculty member, and with a supervisor to provide continuing evaluation of quality and progress of the student's work. At the conclusion of the experience the student will submit a paper and portfolio to the supervisor and faculty member and make an oral presentation. Prerequisite: Sophomore/Junior who has permission of the department and the cooperating organization. *1-3 credits*

ADVC 400: Integrated Marketing Campaign Development
This course is designed for Advertising Communications major and minor students to be taken Senior year as an opportunity to integrate their course work in the Advertising Program, along with their Communications, Business and Liberal Studies courses, and any

work, co-curricular or internship experiences, into a comprehensive, original advertising/promotional plan. The completion of the required advertising/promotional plan (as a group effort) and portfolio (as an individual effort) will provide students the opportunity to express their creative communication ideas, participate in issues of ethics and morals, apply their knowledge and experience in active listening, apply their knowledge of research, apply their knowledge of the business and promotional industries, apply and develop their analytical thinking abilities, and assist in helping them to determine how their proposed campaign will influence not only their target audience but the world around them.

3 credits

Advertising Communications Curriculum

(Numerals in front of courses indicate credits)

	FRESHMAN		SOPHOMORE
3	Prin of Microeconomics/BCOR 111	3	Prin of Marketing/BCOR 241
3	Algebra for Bus Students/MATH 114	3	Intro to Psychology/PSYC 111 or Basic Sociology/SOCI 110
3	Speech/SPCH 111	3	Introduction to Philosophy/LPHI 131
3	College Composition/LENG 111	3	Prin of Management/BCOR 251
3	Business Technology I/CIS 150	3	Bus & Prof Comm/BCOR 231
3	Prin of Macroeconomics/BCOR 112	3	TV Production/COMM 211
3	Financial Accounting/BCOR 201	3	Prin of Public Relations/ ADVC/ENGL 372
3	Critical Analysis & Comp/LENG 112	3	Theology II Series/LTHE
3	Sacred Scripture/LTHE 121	3	Electives
3	Intro to Integrated Marketing Communications/ADVC 101	3	Hist of West & World/LHST 111
2	First-Year Seminar	3	Digital Graphics/COMM 356
32		33	

	JUNIOR		SENIOR
3	Business Statistics/BCOR 221	3	Marketing Research/MKTG 410
3	Fund of Advertising/MKTG 340	3	Financial Management I/BCOR 311
3	Advertising for the Electronic Media/COMM 381	3	Business Policy/BCOR 480
3	Broadcast Copywriting/COMM 321	3	Theology or Phil III Series/LTHE or LPHI
3	Fine Art Series/LFIN	1	Leadership Seminar
3	Literature Series/LENG	3	Integrated Marketing Campaign Development/ADVC 400
3	Global Business/BCOR 306	3	Corporate Video/COMM 330
3	Intro to Sales Promotion & Direct Marketing/ADVC 350	3	LS Natural Science
3	Legal Environment of Business/ BCOR 203	3	Experiential Learning/BCOR 450
3	Elective	6	Electives
3	Philosophy II Series/MGMT 360		
33		31	

BUSINESS ADMINISTRATION PROGRAM

DONNA T. MOTTILLA, D.B.A., *Program Director*

BUSINESS ADMINISTRATION MAJOR

The Bachelor of Science in Business Administration offers a strong foundation in business complemented by advanced coursework selected to meet personal, professional and career interests. Studying fields such as accounting, economics, finance, management, risk management, and marketing will enable you to pursue a variety of career options. Whether you pursue employment with a large or small company, non-profit organization or government agency, the knowledge and skills acquired through the Business Administration major will allow you to compete successfully in the job market.

The flexibility of the Business Administration major allows students the option of pursuing a variety of advanced courses as opposed to specializing in one field. Careful planning of courses enables students to "package" coursework which builds upon a particular interest. For example an individual with career interests in health care management would select courses which support employment in the health care field. Students in this program must work closely with the faculty advisor in selecting and scheduling advanced coursework.

All business administration majors are required to complete both the Liberal Studies and Business Core. In addition the following coursework must be completed.

- Three courses in three of the following areas: accounting, advertising communications, economics, finance, foreign language, management, information systems, marketing, international business, and risk management (27 credits)
- Two additional advanced courses in business or courses outside of business that are approved by the advisor or program director (6 credits)
- Electives (12 credits)

Examples of courses which support specific career interests are:

Managing a Small Business: Business Core + Accounting Information Systems, Income Taxes, and Intermediate Managerial Accounting; Marketing Research, Consumer Behavior, and Advertising; Labor and Employment Management, Total Quality Management, and Human Resource Management.

Non-Profit Organization: Business Core + Marketing Research, Consumer Behavior, and Advertising; Human Resource Management, Quality Management, and Ethical and Social Responsibility; Financial Management II, Financial Statement Analysis, and Introduction to Risk Management and Insurance.

Health Care Management: Business Core + Marketing Research, Consumer Behavior, and Health Care Marketing; Human Resource Management, Quality Management, and Labor and Employment Management; Introduction to Risk Management and Insurance, Workers Compensation, and Health Care Management.

International Business: Business Core + International Management and Human Resource Management; International Marketing and Principles of Exporting; International Finance and Money and Banking, Cross Cultural Communication, International Economics. Foreign Language courses should be taken.

BUSINESS ADMINISTRATION PROGRAM CURRICULUM

Baccalaureate Degree Program - Business Administration

(Numerals in front of courses indicate credits)

	FRESHMAN		SOPHOMORE
3	Prin of Microeconomics/BCOR 111	3	Managerial Accounting/BCOR 202
3	Algebra for Bus Students/MATH 114	3	Legal Env of Business/BCOR 203
3	Business Technology 1/CIS 150	3	Theology II Series/LTHE
3	College Composition/LENG 111	3	Hist of West & World/LHST 111
3	Sacred Scripture/LTHE 121	3	LS Natural Science
3	Prin of Macroeconomics/BCOR 112	3	Bus & Prof Comm./BCOR 231
3	Financial Accounting/BCOR 201	3	Business Statistics/BCOR 221
3	Prin of Marketing/BCOR 241	3	Prin of Management/BCOR 251
3	Critical Analysis & Comp/LENG 112	3	Philosophy II Series/LPHI
3	Introduction to Philosophy/LPHI 131	3	Literature Series/LENG
2	First-Year Seminar	3	Fine Art Series/LFIN
3	Speech/SPCH 111		
35		33	

	JUNIOR		SENIOR
3	Financial Management/BCOR 311	3	Experiential Learning/BCOR 450
3	Global Business/BCOR 306	3	Business Policy/BCOR 480*
3	Theology or Phil III Series/LTHE or LPHI	3	Adv Business Elective
		7	Free Electives
3	Adv Business Elective	12	Business Electives
15	Business Electives		
5	Free Electives		
1	Leadership Seminar		
33		28	

* Fulfills LBST 383, Senior Seminar

Associate Degree Program - Business Administration

(Numerals in front of courses indicate credits)

	FIRST YEAR		
	First Semester		*Second Semester*
3	College Composition/LENG 111	3	Crit Analysis & Comp/LENG 112
3	Business Technology I/CIS 150	3	Sacred Scriptures/LTHE 121
3	Algebra for Bus Students/MATH 114	3	Prin of Management/BCOR 251
3	Prin of Microeconomics/BCOR 111	3	Prin of Macroeconomics/BCOR 112
3	Financial Accounting/BCOR 201	3	Managerial Accounting/BCOR 202
		3	Intro to Psychology/PSYC 111
15		18	

	SOPHOMORE		
	First Semester		*Second Semester*
3	Intro to Philosophy/LPHI 131	3	Hist of West & World/LHST 111
3	Prin of Marketing/BCOR 241	3	Theology or Phil III Series/LTHE or LPHI
3	Human Resource Mgmt/MGMT 211		
3	Legal Environment of Bus/BCOR 203	3	Bus & Prof Communica/BCOR 231
3	Sequence*	6	Sequence*
		3	Free Elective
15		18	

** Sequence consists of 9 credit hours in: Finance, Management, Marketing, or Risk Management. Please consult with the Program Director to select a sequence. Students may take only courses for which they have met prerequisites.*

SEQUENCE OF RECOMMENDED COURSES

FINANCE	MARKETING
Finance/FINC 201	Marketing/MKTG 300
Finance/FINC 313	Marketing/MKTG 310
Finance/BCOR 311	Marketing/MKTG 320
Finance/FINC 312	Marketing/MKTG 340
Finance/FINC 204	Marketing/MKTG 350
	Marketing/MKTG 410
	Marketing/MKTG 450

MANAGEMENT	RISK MANAGEMENT
Management/MGMT 316	Risk Management/RISK 220
Management/MGMT 213	Risk Management/RISK 321
Management/MGMT 215	Risk Management/RISK 325
Management/MGMT 220	Risk Management/RISK 415
Management/MGMT 360	Risk Management/RISK 420
	Risk Management/RISK 425

THE NEXT STEP

Baccalaureate Degree Program for Graduates of Two Year Colleges - Business Administration

(Numerals in front of courses indicate credits)

	Pre-Senior Year		Senior Year
3	Business Statistics/BCOR 221	3	Global Business/BCOR 306
3	Business & Professional Communication/BCOR 231	3	Experiential Learning/BCOR 450
3	Principles of Marketing/BCOR 241	3	Business Policy/BCOR 480*
3	Financial Mgt I/BCOR 311	15	MAJOR**
12	MAJOR**	3	Theology or Phil Series III/LTHE or LPHI
3	Sacred Scriptures/LTHE 121	1	Leadership Seminar
3	Introduction to Philosophy/LPHI 131	3	Literature Series/LENG
3	Fine Art Series/LFIN	3	Free Elective
33		34	

** Fulfills LBST 383, Senior Seminar*
***MAJOR–27 hours (of which 15 hours must be at the upper level.)*

Three courses from three of the following: Accounting, Advertising Communications, Economics, Finance, Foreign Language, Management, MIS, Marketing, International Business, or Risk Management.

Students will be permitted to take other courses in substitution for any course listed above which they have satisfactorily completed prior to admission into the Next Step program. Students are required to complete 7-19 credits in the Liberal Studies Core. Students may transfer courses equivalent to Sacred Scripture, Introduction to Philosophy, the Literature Series and/or the Fine Arts Series. Students must take the Leadership Seminar, the Theology/ Philosophy III Series, and the Senior Seminar or approved capstone at Gannon.

Prerequisites:

The above course requirements presume that the student has completed the following courses (or their equivalent), typically found in an A.S. degree program, prior to matriculation. If not, these become additional required courses in the program.

Accounting (BCOR 201 & 202)
Economics (BCOR 111 & 112)
Business Technology I (CIS 150)
Composition (LENG 111 & 112)
Algebra or Business Math (MATH 111/114)
Management (BCOR 251)
Legal Env/Bus Law (BCOR 203/MGMT 204)

ECONOMICS

FACULTY: *Professor:* Robert F. Booker. *Associate Professor:* Gary P. Mahan. *Assistant Professor:* Charles A. Bennett.

COURSE DESCRIPTIONS:

ECON 101: Basic Economics
The main objective of the course is to interest students in basic economic issues and the application of economic methods to study these issues. Each semester the topics may include the following issues: the environment, the global economy, poverty, unemployment, inflation, health care, crime, urban blight and labor productivity.
Basic Economics meets the Social Science requirements for the Core of Discovery. *3 credits*

BCOR 111: Principles of Microeconomics
See the course description under the Business Core. *3 credits*

BCOR 112: Principles of Macroeconomics
See the course description under the Business Core. *3 credits*

ECON 199: Selected Topics in Economics
A comprehensive study of a specific topic in economics. *1-3 credits*

ECON 211: Intermediate Microeconomic Analysis
An intermediate level course in the methods of microeconomic analysis, emphasizing supply and demand analysis, elasticity, production and cost principles, and pricing and output decisions under different market structures.
Prerequisites: ECON 101 or BCOR 111, or permission of the instructor. *3 credits*

ECON 212: Intermediate Macroeconomic Analysis
An intermediate level course in the methods of macroeconomic analysis emphasizing national income determination and monetary and fiscal policy.
Prerequisites: ECON 101 or BCOR 112, or permission of the instructor. *3 credits*

BCOR 221: Business Statistics
See the course description under the Business Core. *3 credits*

ECON 241: International Economics
A study of the basis for trade between nations, balance of payment problems and the influence of national policies in dealing with trade, monetary problems, and the multinational business firms in the global economy.
Prerequisite: BCOR 111 *3 credits*

ECON 242: Economic Development
A study of the economics of growth as applied to less developed nations. There is an

emphasis on the prerequisites for growth, the factors which retard growth, and public policies appropriate for achieving the desired rate of growth.
Prerequisites: BCOR 111 and BCOR 112 or ECON 211 or ECON 212 *3 credits*

ECON 243: Comparative Economic Systems
A study of how societies with differing social, political and economic preferences have organized themselves to satisfy human needs with an emphasis on the theory and practice of socialism, capitalism and modern variations.
Prerequisites: BCOR 111 and BCOR 112 or ECON 211 or ECON 212 *3 credits*

ECON 253: Environmental Economics
A study of environmental issues and of policies that propose to address them. Topics include property rights, public goods, externalities, Coase's Theorem, and the institutions and policies designed to address problems associated with the environment.
Prerequisites: ECON 101 or BCOR 111 *3 credits*

ECON 285: Project Economics
This course develops the techniques necessary for understanding economic price theory, the time-value of money, and the basic issues surrounding organizational architecture. These include issues surrounding supply and demand, cost-production, decision making and market models. In particular, the course focuses on the application of these economic theories to projects, including issues surrounding risk analysis and triage, budgeting, planning, and scheduling necessary to the successful completion of a project.
Prerequisite: High School Calculus (MATH 140 or MATH 115 or equivalent) *3 credits, Fall*

ECON 301: Monetary Theory
The influence of the quantity of money on prices, growth and employment and its relation to the central banking system's control of the money supply.
Prerequisite: FINC 201 *3 credits*

ECON 321: Forecasting Methods
A study of forecasting methods and their application. Topics covered include data collection, time-series decomposition, moving average, exponential smoothing, correlation and regression.
Prerequisites: BCOR 221, CIS 150 or the equivalent. *3 credits*

ECON 327: Econometric Methods
A study of the application of statistical methods to estimation and analysis of economic models.
Prerequisites: BCOR 221, CIS 150 or the equivalent. *3 credits*

ECON 331: Public Finance
An application of microeconomic theory to the study of how government policies influence the economy. The course emphasizes the study of how government tax and expenditure policies affect the allocation of resources, the distribution of income, and the welfare of the citizens.
Prerequisite: ECON 211 *3 credits*

ECON 351: Managerial Economics
An application of economic and statistical methods to managerial decision making.
Prerequisites: BCOR 111, BCOR 221, CIS 150 or the equivalent. *3 credits*

ENTREPRENEURSHIP PROGRAM

KURT E. HERSCH, M.B.A., *Program Director*

ENTREPRENEURSHIP MAJOR

Gannon University believes that people can change the world one great idea at a time. Whether you are interested in starting your own business or nonprofit organization, joining a family business, working for a small or mid-size company or becoming a change agent within a larger corporation, Gannon's entrepreneurship program is right for you.

As an entrepreneurship major, you will develop an understanding of how to create value by recognizing attractive opportunities and identifying the unique resources needed to exploit them. Being a successful entrepreneur requires that you not only have a complete understanding of all the individual business functions such as accounting, marketing and management, but more importantly how they all need to work together to create a successful venture. You will learn not only how to understand your customers needs, but also how to fulfill them. You will learn not only how to create budgets, forecasts and financial statements, but also how to interpret them. And finally in your senior year, you will apply all the knowledge you've accumulated to create a comprehensive business plan around a business or nonprofit idea that you think will change the world. It will be an experience you will never forget as you spend the entire semester preparing for one event, the presentation of your business plan to a panel of established business executives who will determine your one and only grade for the course.

Once you graduate from Gannon's entrepreneurship program, you will be ready to enter into one of the fastest growing and most dynamic environments that exist in business. According to the United States Small Business Administration, small businesses represent 99.7% of all employers and they provide 60-80% of net new jobs annually.

Entrepreneurship is more than a major. It's a way of thinking. It's a way of life.

COURSE DESCRIPTIONS:

ENTR 310: Organizational Innovation
This course examines how individuals and organizations innovate. This is accomplished by studying organizations of all sizes, from garage start-ups to global corporations, to see what can be learned about the creative process of innovation specifically around idea generation, evaluation and implementation. By the end of the semester, students will have identified and evaluated several product, service and non-profit ideas of their own.
Prerequisite: BCOR 241 *3 credits*

ENTR 330: Entrepreneurial Finance
Entrepreneurial finance focuses on the issues confronting start-up ventures, and the early stages of company development. A startup venture does not have the same credibility as a well established publicly traded corporation and therefore must raise capital differently. We will address key questions relevant to these companies: how much money can and should be raised; when should it be raised and from whom; what is a reasonable valuation of the company; and how funding should be structured. In this course, these companies will be examined at all phases of their life cycles, from initial idea generation to the ultimate harvesting of the venture. We will investigate various forms of harvesting, for example, initial public offerings (IPO's) or acquisitions and discuss the structural and legal issues of various forms of harvest.
Prerequisite: BCOR 201 *3 credits*

ENTR 410: New Venture Creation
This course is for those considering going starting a 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.
Prerequisite: ENTR 310 and ENTR 330 *3 credits*

Entrepreneurship Program Curriculum

Baccalaureate Degree Program - Entrepreneurship

(Numerals in front of courses indicate credits)

	FRESHMAN		SOPHOMORE
2	First-Year Seminar	3	Managerial Accounting/BCOR 202
3	Speech/SPCH 111	3	Legal Env of Business/BCOR 203
3	Prin of Microeconomics/BCOR 111	3	Theology II Series/LTHE
3	Algebra for Bus Students/MATH 114	3	Hist of West & World/LHST 111
3	Business Technology 1/CIS 150	3	LS Natural Science
3	College Composition/LENG 111	3	Bus & Prof Comm./BCOR 231
3	Sacred Scripture/LTHE 121	3	Business Statistics/BCOR 221
3	Prin of Macroeconomics/BCOR 112	3	Prin of Management/BCOR 251
3	Financial Accounting/BCOR 201	3	Philosophy II Series/LPHI
3	Prin of Marketing/BCOR 241	3	Literature Series/LENG
3	Critical Analysis & Comp/LENG 112	3	Fine Art Series/LFIN
3	Introduction to Philosophy/LPHI 131		
35		33	

	JUNIOR		SENIOR
1	Leadership Seminar	3	New Venture Creation/ENTR 410
3	Organizational Innovation/ENTR 310	3	Marketing Research/MKTG 410
3	Entrepreneurial Finance/ENTR 330	6	Interest-Focused Sequence**
3	Consumer Behavior/MKTG 300	3	Experiential Learning/BCOR 450
3	Prof. Selling and Sales Mgmt/MKTG 320	3	Business Policy/BCOR 480*
3	Interest-Focused Sequence**	3	Adv Business Elective
3	Financial Management/BCOR 311	7	Free Electives
3	Global Business/BCOR 306		
3	Theology or Phil III Series/LTHE or LPHI		
3	Adv Business Elective		
5	Free Electives		
33		28	

** Fulfills LBST 383, Senior Seminar*
*** The Interest-Focused Sequence consists of 9 credit hours in an area of interest to the student (e.g., engineering, fine arts, health sciences, etc.) or a management course sequence comprised of Legal Environment of Business II, Making Teams Work and Project Management. The courses for the sequence must be approved by the program director. Students may take only courses for which they have met prerequisites.*

THE NEXT STEP

Baccalaureate Degree Program for Graduates of Two Year Colleges – Entrepreneurship

(Numerals in front of courses indicate credits)

	Pre-Senior Year		Second Year
3	Business Statistics/BCOR 221	3	New Venture Creation/ENTR 410
3	Bus. & Prof. Comm./BCOR 231	3	Marketing Research/MKTG 410
3	Principles of Marketing/BCOR 241	9	Interest-Focused Sequence**
3	Financial Mgt I/BCOR 311	3	Global Business/BCOR 306
3	Organizational Innovation/310	3	Experiential Learning/BCOR 450
3	Entrepreneurial Finance/ENTR 330	3	Business Policy/BCOR 480*
3	Consumer Behavior/MKTG 300	3	Theology or Phil Series III/LTHE or LPHI
3	Prof. Selling and Sales Mgmt/MKTG 320		
3	Sacred Scriptures/LTHE 121	1	Leadership Seminar
3	Introduction to Philosophy/LPHI 131	3	Literature Series/LENG
3	Fine Art Series/LFIN	3	Free Elective
33		34	

** Fulfills LBST 383, Senior Seminar*
*** The Interest-Focused Sequence consists of 9 credit hours in an area of interest to the student (e.g., engineering, fine arts, health sciences, etc.) or a management course sequence comprised of Legal Environment of Business II, Making Teams Work and Project Management. The courses for the sequence must be approved by the program director. Students may take only courses for which they have met prerequisites.*

Students will be permitted to take other courses in substitution for any course listed above which they have satisfactorily completed prior to admission into the Next Step program. Students are required to complete 7-19 credits in the Liberal Studies Core. Students may transfer courses equivalent to Sacred Scripture, Introduction to Philosophy, the Literature Series and/or the Fine Arts Series. Students must take the Leadership Seminar, the Theology/ Philosophy III Series, and the Senior Seminar or approved capstone at Gannon.

Prerequisites:

The above course requirements presume that the student has completed the following courses (or their equivalent), typically found in an A.S. degree program, prior to matriculation. If not, these become additional required courses in the program.

Accounting (BCOR 201 & 202)
Economics (BCOR 111 & 112)
Business Technology I (CIS 150)
Composition (LENG 111 & 112)
Algebra for Business Students (MATH 114)
Management (BCOR 251)
Legal Env/Bus Law (BCOR 203/MGMT 204)

FINANCE MAJOR

ROBERT A. WALLACE, PH.D., *Program Director*

FACULTY: *Assistant Professor:* Robert Wallace. *Emeriti Faculty:* Abdelrahman Aburachis.

COURSE DESCRIPTIONS:

FINC 201: Money, Banking and Financial Institutions
A survey of the nature of money, the functions of financial institutions; monetary theory and policy and fiscal policy.
Prerequisites: BCOR 111, BCOR 112 *3 credits*

FINC 204: Financial Markets
An explanation of the relationship between financial institutions and the rest of the economy, emphasizing the role that these institutions play in channeling funds from savers to investors.
Prerequisites: BCOR 111, BCOR 112 *3 credits*

FINC 211: Personal Financial Management
A survey of the major financial options and decisions facing the family unit. Topics include insurance, real estate, investments, and budgeting. *3 credits*

FINC 220: Introduction to Risk Management and Insurance
The primary focus of this introductory course includes the Risk Management Process, the nature of the Insurance Industry and the evaluation of life, health, property and liability risks. The course will include an introduction to Commercial Insurance Contracts and Life and Health Policies, but will place an emphasis on Personal Lines Property and Casualty Insurance Products. *3 credits*

FINC 312: Financial Management II
The practical aspects of financial decision-making including computation of the cost of capital, risk measurement, and capital budgeting under risk.
Prerequisite: BCOR 221, BCOR 311 *3 credits*

FINC 313: Investments
A general survey of the characteristics of investments including stocks, bonds, real estate, options, futures and precious metals. Taxation of investments returns is also discussed.
Prerequisites: BCOR 311 *3 credits*

FINC 314: Portfolio Analysis
A study of the portfolio construction using statistical and theoretical analysis.
Prerequisites: FINC 312, BCOR 221, ECON 211 *3 credits*

FINC 315: Financial Statement Analysis
A study of financial statements of business firms, calculation, interpretation and use of ratios in business and economic evaluation.
Prerequisites: BCOR 202, BCOR 311, BCOR 221 *3 credits*

FINC 318: International Financial Management
The course integrates international financial management theories with domestic finance. The course also discusses the mechanics of trading activities in foreign exchange and money markets, and considers theories of the determination of spot and forward exchange rates over time.
Prerequisites: BCOR 306 and BCOR 311 *3 credits*

FINC 325: Credit and Lending
A study of the importance of lending institutions in building a strong economy; an examination of the function of a lending institution and an understanding of the elements of credit policy and administration.
Prerequisite: BCOR 311, FINC 201 *3 credits*

FINC 327: Real Estate
Principles governing the use and disposition of real property. *3 credits*

FINC 330: Entrepreneurial Finance
Entrepreneurial finance focuses on the issues confronting start-up ventures, and the early stages of company development. A startup venture does not have the same credibility as a well established publicly traded corporation and therefore must raise capital differently. We will address key questions relevant to these companies: how much money can and should be raised; when should it be raised and from whom; what is a reasonable valuation of the company; and how funding should be structured. In this course, these companies will be examined at all phases of their life cycles, from initial generation to the ultimate harvesting of the venture. We will investigate various forms of harvesting, for example, initial public offering (IPO's) or acquisitions and discuss the structural and legal issues of various forms of harvest.
Prerequisite: BCOR 201 *3 credits*

FINC 375: Organizational Internship
Selected students will be able to spend a period of time (50 hours per credit hour) working as an Intern with a local organization. During this period the student will maintain a journal, will meet regularly with a faculty member, and with a supervisor to provide continuing evaluation of quality and progress of the student's work. At the conclusion of the experience the student will submit a paper to the supervisor and faculty member and make an oral presentation.
Prerequisite: Junior who has permission of the department and the cooperating organization. *1-3 credits*

FINC 380: Finance Co-Op
Qualified students who are accepted into the Co-Op work part-time in the community with a local business or organization. During this time, the student will periodically meet with a faculty mentor to discuss the student's progress.
Prerequisite: Junior or Senior status. *3 credits*

FINC 411: Advanced Financial Management
The purpose of this course is to bring together the new developments in financial management in a framework which integrates theory and practice through the application of new insights regarding the cost of capital, capital budgeting decisions, dividend policies, mergers and acquisitions and new issues in international finances.
Prerequisites: BCOR 111, BCOR 112, BCOR 311 *3 credits*

FINC 417: Derivative Securities and Corporate Risk Management
This course introduces the student to the concepts of hedging risk through the use of derivative securities such as forward contracts, futures, options, and swaps. The operational characteristics, economic purpose, and forecasting techniques that traders employ are studied. *3 credits*

FINC 419: International Investments
The course reviews and presents an analysis of the major investment vehicles, the instruments, the market as well as the concepts of techniques used to analyze investments in a global context.
Prerequisites: BCOR 306 and 311 *3 credits*

FINC 423: Financial Models
The intent of the course is to integrate finance, accounting, statistics and computer skills into activities frequently encountered in finance-related jobs. This course requires the completion of an appropriate theory course, and a familiarity with PC's and spreadsheets.
Prerequisites: FINC 312, or competency in financial statements, budgets, financial ratios, and capital budgeting, CIS 150. *3 credits*

FINC 450: Retirement and Estate Planning
This is a comprehensive course consisting of two parts: Retirement Planning and Estate Planning. The practical knowledge needed for choosing the best retirement plan and designing a plan that will meet a client's needs from a tax and retirement standpoint is discussed. Retirement planning topics include qualified plans, nonqualified plans and IRAs. Estate Planning will include various aspects and strategies of estate and gift tax planning, including the nature, valuation, transfer, administration, and taxation of property. Emphasis is given to a basic understanding of the estate and gift tax system. *3 credits*

FINC 499: Selected Topics in Finance
A comprehensive study of a specific topic or multiple special topics in finance. *1-3 credits*

Finance Curriculum

(Numerals in front of courses indicate credits)

	FRESHMAN		SOPHOMORE
3	Prin of Microeconomics/BCOR 111	3	Managerial Accounting/BCOR 202
3	Algebra for Bus Students/MATH 114	3	Legal Env of Business/BCOR 203
3	Business Technology 1/CIS 150	3	Business Statistics/BCOR 221
3	College Composition/LENG 111	3	Business & Professional Communications/BCOR 231
3	Sacred Scripture/LTHE 121		
3	Prin of Macroeconomics/BCOR 112	3	Managerial Econ/ECON 351 or Inter Micro/ECON 211
3	Financial Accounting/BCOR 201		
3	Critical Analysis & Comp/LENG 112	3	Money, Banking & Financial Institutions/FINC 201
3	Introduction to Philosophy/LPHI 131		
2	First-Year Seminar	3	Hist of West & World/LHST 111
3	Speech/SPCH 111	3	Theology II Series/LTHE
		3	Prin of Management/BCOR 251
		3	Philosophy II Series/LPHI
		3	Calc for Bus Students/MATH 115
32		33	

	JUNIOR		SENIOR
3	Principles of Marketing/BCOR 241	3	Business Policy/BCOR 480*
3	Financial Mgmt I/BCOR 311	3	Experiential Learning/BCOR 450
3	Global Business/BCOR 306	9	Cognates (Acct, Fin, Econ, Risk)
3	Free Elective	12	Free Electives
3	Financial Markets/FINC 204	3	Investments/FINC 313
3	Financial Mgmt II/FINC 312		
3	LS Natural Science		
3	Literature Series/LENG		
3	Fine Art Series/LFIN		
3	Theology or Phil III Series/LTHE or LPHI		
3	Free Electives		
1	Leadership Seminar		
34		30	

* Fulfills LBST 383, Senior Seminar

THE NEXT STEP

Baccalaureate Degree program for Graduates of Two Year Colleges.

Finance

(Numerals in front of course indicate credits)

	Pre-Senior Year		*Senior Year*
3	Business Statistics/BCOR221	3	Global Business/BCOR 306
3	Business & Prof Comm/BCOR 231	3	Experiential Learning/BCOR 450
3	Principles of Marketing/BCOR 241	3	Business Policy/BCOR 480*
3	Financial Management/BCOR 311	3	Theology or Phil III Series/ LTHE or LPHI
3	Sacred Scripture/LTHE 121	1	Leadership Seminar
3	Introduction to Philosophy/ LPHI 131	3	Literature Series/ LENG
3	FineArt Series/LFIN	3	Financial Mgmt II/FINC 312
3	Calculus for Bus. Students/MATH 115	3	Investments/FINC 313
3	Money, Banking & Financial Institutions/FINC 201	3	Financial Markets/FINC 204
3	Intermed Micro or Managerial Econ/ ECON 211 or 351	9	Finance, Accounting, Economics and/or Risk Mgmt Elective credits
3	Free Elective		
33		34	

*Fulfills Senior Seminar/LBST 383

Students will be permitted to take other courses in substitution for any course listed above which they have satisfactorily completed prior to admission into the Next Step program. Students are required to complete 7-19 credits in the Liberal Studies Core. Students may transfer courses equivalent to Sacred Scripture, Introduction to Philosophy, the Literature Series and/or the Fine Arts Series. Students must take the Leadership Seminar, the Theology/ Philosophy III Series, and the Senior Seminar or approved capstone at Gannon.

Prerequisites:

The above course requirements presume that the student has completed the following courses (or their equivalent), typically found in an A.S. degree program, prior to matriculation. If not, these become additional required courses in the program.

Accounting (BCOR 201& 202)
Algebra for Business Students (Math 114)
Economics (BCOR 111 & 112)
Management (BCOR 251)
Business Technology (CIS 150)
Legal Env/Bus Law (BCOR 203)
Composition (LENG 111 & 112)

INTERNATIONAL BUSINESS PROGRAM

GARY MAHAN, PH.D., *Program Director*

The most significant transformation that the world economy has experienced during the last 60+ years has been the internationalization of business. International business activity is predicted to continue increasing in the future. The International Business program is a multidisciplinary program intended to provide the student with an opportunity to develop the expertise necessary to participate in complex and dynamic global business activities.

The curriculum is both exciting and interesting as it is a combination of all the functional areas of business; the international dimension of each of the functional areas of business; and the social science disciplines, such as economics, geography, history, political science, and foreign languages and culture. As a result of the flexibility and amount of free electives provided in the program, a student may develop a proficiency in a particular foreign language as well as

expertise in a particular geographical area. In addition, the program presents the student with the opportunity to participate in study abroad programs, foreign study tours, international internships, as well as cooperative education programs.

The program is designed to prepare graduates for either graduate study in a business discipline, especially International Business, or direct entry into the work force with companies doing business internationally, government agencies, or international organizations.

COURSE DESCRIPTIONS:

BCOR 306: Global Business
See listing under Business Core Sequence.

ECON 241: International Economics
See listing under Economics.

FINC 318: International Financial Management
See listing under Finance.

FINC 419: International Investments
See listing under Finance.

IBUS 299 - China Study Tour
The purpose of this one credit hour course, which is open to students of all majors, is to provide an introduction and exposure to the culture, language, economic system, level of economic development, history, legal system, political system and business environment of China. *1 credit*

IBUS 375: International Business Seminar
The first part of this course consists of a series of seminars on specialized international business topics and job search skills. In the second part, the student gains hands on experience assisting the Gannon Small Business Development Center's International Business Center personnel in all phases of their provision of consulting services to local international business firms.
Prerequisites: Junior, 2.75 academic grade point average, BCOR 306, MKTG 345, and MKTG 255, or permission of faculty advisor. *3 credits*

IBUS 377: Independent International Business Internship
Select students are placed with an international firm or organization outside of the local area, or with a local one that has made a request with the Office of Career Services and Cooperative Education.
Prerequisite: Junior or senior, 2.5 or higher academic grade point average, BCOR 306, MKTG 345 (encouraged), co-op seminar, or permission of faculty advisor. *1-3 credits*

IBUS 382 - China Studies
The purpose of this course is to study in depth the effect on all elements of an international business firm's external environment if it were to do business in China. The geography, level of economic development, economic system, legal system, political system, business environment, culture (including history, language, religion, education, concept of the family, time perception, etc.) and current issues of China are studied. This course is to be open to students of all majors and includes a travel component. *3 credits*

IBUS 499: Special Topics in International Business
A comprehensive study of a special topic, such as a particular country, or multiple special topics in International Business. *1-3 credits*

MGMT 310: International Management
See listing under Management.

MKTG 255: Principles of Exporting
See listing under Marketing.

MKTG 345: International Marketing
See listing under Marketing.

MKTG 357: Global Sourcing
See listing under Marketing.

CURRICULUM

I. Liberal Studies Core (45 hours)

II. Business Core (45 hours including International Business and Microeconomics which meets social science requirement in Liberal Studies Core)

III. Major Requirements (30 hours)
- **A. International Business Electives** (15 hours)
  Five (5) of the following courses:
  - ECON 241- International Economics;
  - FINC 318 - International Financial Management;
  - FINC 419 - International Investment;
  - MGMT 310 - International Management;
  - MKTG 255 - Principles of Exporting;
  - MKTG 345 - International Marketing;
  - MKTG 357 - Global Sourcing;
  - IBUS 375 - International Business Seminar;
  - IBUS 377 - Independent International Business Internship;
  - IBUS 382 - China Studies;
  - Approved study tour abroad
- **B. Non-Business** (15 hours)
  1. Foreign Language competency (6 hours)
     French: FREN 211, 232 or 314 or
     German: GRMN 211, 232 or 314 or
     Spanish: SPAN 211, 232 or 314
     Chinese: CHIN 315, 390-395
  2. International, Non-business, electives (9 hours)
     (e.g., history, political science, foreign language courses beyond 211).

IV. Free Electives (15 hours)

International Business Curriculum

	FRESHMAN		SOPHOMORE
3	Prin of Microeconomics/BCOR 111	3	Hist of West & World/LHST 111
3	Algebra for Bus Students/MATH 114	3	Literature Series/LENG
3	Business Technology 1/CIS 150	3	LS Natural Science
3	College Composition/LENG 111	3	Managerial Accounting/BCOR 202
3	Introduction to Philosophy/LPHI 131	3	Global Business/BCOR 306
3	Prin of Macroeconomics/BCOR 112	3	Bus Statistics/BCOR 221
3	Financial Accounting/BCOR 201	3	Prin Marketing/BCOR 241
3	Prin of Management/BCOR 251	3	Business & Prof Comm/BCOR 231
3	Critical Analysis & Comp/LENG 112	3	Theology II Series/LTHE
3	Sacred Scripture/LTHE 121	6	Foreign Language/FREN 211 and FREN 232 or 314; or GRMN 211 and GRMN 232 or 314; or SPAN 211 and SPAN 232 or 314; or CHIN 314, 390-395
2	First-Year Seminar		
3	Speech/SPCH 111		
35		33	

**Students may need to acquire basic proficiency.*

	JUNIOR		SENIOR
3	Legal Env of Business/BCOR 203	3	Business Policy/BCOR 480
3	Financial Management/BCOR 311	12	Free Electives
3	Theology or Phil III Series/LTHE or LPHI	3	International Business, Elective
3	Fine Art Series/LFIN	6	International non-bus, Electives
3	International non-business, Electives	3	Experiential Learning/BCOR 450
12	International Business, Electives	3	Philosophy II Series/MGMT 360
3	Free Electives		
1	Leadership Seminar		
31		30	

THE NEXT STEP

Baccalaureate Degree Program for Graduates of Two Year Colleges

International Business

(Numerals in front of courses indicate credits)

	Pre-Senior Year		*Senior Year*
3	Intermediate (Language) II/211	9	Three Courses from Major List Below*
3	(Language) Conversation/ 314 or Reading (Language)/232	6	Two courses of International Non-Business Elective (Consult Advisor)
6	Two Courses from Major List Below*	3	Global Business/BCOR 306
3	Statistics/BCOR 221	3	Experiential Learning/BCOR 450
3	Business & Professional Communication/BCOR 231	3	Business Policy/BCOR 480
3	Principles of Marketing/BCOR 241	3	Theology/Philosophy III Series/ LTHE or LPHI
3	Financial Management I/BCOR 311	1	Leadership Seminar
3	Sacred Scripture/LTHE 121	3	Literature Series/LENG
3	Introduction to Philosophy/LPHI 131	3	Free Elective
3	Fine Art Series/LFIN		
33		34	

Major Courses:
International Economics/ECON 241
International Investment/FINC 419
Principles of Exporting/MKTG 255
Global Sourcing/MKTG 357
China Studies/IBUS 382
International Financial Management/FINC 318
International Management/MGMT 310
International Marketing/MKTG 345
International Business Seminar/IBUS 375
Independent/International Business Internship/IBUS 377
Approved Study Tour Abroad

Students will be permitted to take other courses in substitution for any course listed above which they have satisfactorily completed prior to admission into the Next Step program. Students are required to complete 7-19 credits in the Liberal Studies Core. Students may transfer courses equivalent to Sacred Scripture, Introduction to Philosophy, the Literature Series and/or the Fine Arts Series. Students must take the Leadership Seminar, the Theology/ Philosophy III Series, and the Senior Seminar or approved capstone at Gannon.

Prerequisites:
The above requirements presume that the student has completed the following courses or their equivalent prior to matriculation. If not, they become additional required courses in the program.
One Year of Accounting (BCOR 201 and 202)
One Year of Economics (BCOR 111 and 112)
Business Technology I (CIS 150)
Composition (LENG 111 and 112)
Algebra or MATH 111 or MATH 115
Principles of Management (BCOR 251)
Legal Environment/Business Law (BCOR 203/MGMT 204)

MANAGEMENT MAJOR

BRUCE A. KIBLER, Ph.D., *Program Director*

FACULTY: *Professor:* Constantine Kliorys. *Associate Professors:* Bruce Kibler, Donna Mottilla. *Instructor:* Kurt Hersch. *Emeriti Faculty:* David Eichelsdorfer, David Frew.

The management major provides students with the foundation to critically analyze the systems, processes, resources and culture of today's organizations and to make critical decisions regarding resource allocations in competitive environments. It allows students to pursue one or both specialty paths. Students can focus on the management of people or on the management of process, the two key elements of the production process.

COURSE DESCRIPTIONS:

MGMT 204: Business Law I
A study of the nature and sources of law; a study of agencies, partnerships, corporations, uniform commercial code topics including sales contracts, negotiable instruments and secured transactions as well as the other areas of the law related to business transactions, bankruptcy, trusts, and estates. *3 credits*

MGMT 205: Business Law II
A study of negotiable instruments, property, and decedents' estates. *3 credits*

MGMT 211: Human Resource Management
This course examines recruiting, selecting, training, developing, appraising and retaining employees. Other topics discussed include labor law, compensation and benefits, and other labor relations.
Prerequisite: BCOR 251 *3 credits, Fall*

MGMT 213: Labor and Employment Management
Attention is focused on the legal issues surrounding the employee/employer relationship. Avoiding suits based on racial, sexual, age, religious and disability discrimination will be discussed. Also covered will be a review of the history of the labor movement, negotiation of the collective bargaining agreement, organizing drives, regulation of collective bargaining, and wage and fringe problems.
Prerequisite: MGMT 211 *3 credits*

MGMT 215: Compensation Management
An investigation of effective ways of compensating workers. The uses of job evaluation, incentives, the wage survey and performance appraisal are studied.
Prerequisite: MGMT 211 *3 credits*

MGMT 220: Making Teams Work
Contemporary organizations increasingly utilize teams to leverage the skills of individuals in pursuit of synergistic solutions. This course will expose students to concepts of group

dynamics and the stages of team development and allow students to develop their skills in team building and leadership and the interpersonal skills needed to manage conflict and to foster cohesion and performance in teams.
Prerequisite: MGMT 211 *3 credits*

MGMT 285: Management Independent Study
Selected students will spend a period of time working on a project of independent study.
Prerequisite: Permission of the program director, the cooperating organization, and Senior status. *1-3 credits*

MGMT 310: International Management
This course explores the management discipline in an international context. Specific topics include international strategy, international human resource management, cross cultural management and international organization structure and managing business and government relations in an international context.
Prerequisite: BCOR 306 *3 credits*

MGMT 311: Organizational Innovation
This course examines how individuals and organizations innovate. This is accomplished by studying organizations of all sizes, from garage start-ups to global corporations, to see what can be learned about the creative process of innovation specifically around idea generation, evaluation and implementation. By the end of the semester, students will have identified and evaluated several product, service and non-profit ideas of their own.
Prerequisite: BCOR 241 *3 credits*

MGMT 316: Organizational Behavior
This course examines individual and group behavior in relationships and organizations. Students learn about their own behaviors, to what these are attributed and how to adapt behaviors to meet group needs. Several tools are introduced which can be used to accommodate individual differences with relationships and organizations. This course is approved as a Social Science course for the Core of Discovery.
Prerequisite: Junior status. *3 credits*

MGMT 317: Operations Management
A basic overview of the total production process. Topics include production and inventory control, investment decision making, capacity planning, logistics and transportation systems, facilities selection and layout, design, work methods, quality control, Japanese and other contemporary methods of manufacturing.
Prerequisites: BCOR 311, BCOR 221, CIS 150, BCOR 251 *3 credits*

MGMT 320: Application of Management Information
Proper analysis of data assists managers in the decision making process. This class will provide for students the opportunity to interpret data, judge its validity, assess its relevance and evaluate its reliability.
Prerequisite: BCOR 311 *3 credits*

MGMT 325: Quantitative Business Analysis
This course examines business problems from a quantitative model building point of view, using selected models from management science, including linear and nonlinear programming and simulation.
Prerequisite: BCOR 221, BCOR 251 *3 credits*

MGMT 330: Project Management
This course is an introduction to the modern techniques for planning, scheduling, reporting, controlling and managing projects. Particular emphasis is given to the project planning process including the project life cycle, requirements and scope. Team roles and responsibilities, risk and contingency, budgeting, resource allocation and scheduling are also introduced.
Prerequisite: MATH 114 or equivalent *3 credits*

MGMT 350: Quality Management
This course is designed to familiarize students with the concepts and practice of quality management (QM). QM is a systems approach to management that aims to always increase value to the customers by designing and continuously improving organizational processes and systems. This approach involves all employees and extends backward and forward in the supply chain to encompass the entire product life cycle. QM is concerned with managing the entire organizational system, not only subsystems or functional departments within a corporation.
Prerequisite: BCOR 221 *3 credits*

MGMT 360: Ethical and Social Responsibility
This course explores the nature of various interrelationships within the environment of the firm, particularly the relationship with societies and governments, including the effects of globalization on the firm. The responsibilities the firm has when pursuing its objectives and critically assessing the ethical issues associated with managerial decision making are the major focus of the course.
Prerequisite: LPHI 131 *3 credits*

MGMT 370: Management Science
The use of quantitative tools in decision making. Topics will be selected from the following: model building, assignment methods, transportation methods, linear programming, inventory, pert, queuing, simulation, expectation, decision trees, and decision theory.
Prerequisites: BCOR 221, BCOR 251, CIS 150 *3 credits*

MGMT 375: Organizational Internship
Selected students will be able to spend a period of time (50 hours per credit hour) working as an Intern with a local organization. During this period the student will maintain a journal, will meet regularly with a faculty member, and with a supervisor to provide continuing evaluation of quality and progress of the student's work. At the conclusion of the experience the student will submit a paper to the supervisor and faculty member and make an oral presentation.
Prerequisite: Junior who has permission of the department and the cooperating organization. *1-3 credits*

MGMT 399: Special Topics in Management
A specially designed course which consists of contemporary issues in management. *3 credits*

MGMT 410: Supply Chain Management
Successful organizations align processes and quality issues with the demands of the marketplace by meeting and exceeding custom expectations. This course is an introduction to the issues and decisions that are routinely faced by supply chain managers. It will investigate how successful firms integrate the sourcing, manufacturing, fulfillment and quality processes across supply-chain networks to support a customer-oriented operation.
Prerequisite: MGMT 325 *3 credits*

BCOR 203: Business in its Legal Environment
See the course description under the Business Core. *3 credits*

BCOR 231: Professional and Business Writing
See the course description under the Business Core. *3 credits*

BCOR 251: Principles of Management
See the course description under the Business Core. *3 credits*

BCOR 306: Global Business
See the course description under the Business Core. *3 credits*

BCOR 480: Business Policy
See the course description under the Business Core. *3 credits*

Management Curriculum

(Numerals in front of courses indicate credits)

	FRESHMAN		SOPHOMORE
3	Prin of Microeconomics/BCOR 111	3	Hist of West & World/LHST 111
3	Algebra for Bus Students/MATH 114	3	Speech/SPCH 111
3	Business Technology 1/CIS 150	3	LS Natural Science
3	College Composition/LENG 111	3	Managerial Accounting/BCOR 202
3	Sacred Scripture/LTHE 121	3	Principles of Marketing/BCOR 241
3	Prin of Macroeconomics/BCOR 112	3	Business Statistics/BCOR 221
3	Financial Accounting/BCOR 201	3	Theology II Series/LTHE
3	Prin of Management/BCOR 251	3	Literature Series/LENG
3	Critical Analysis & Comp/LENG 112	3	Business and Professional Communication/BCOR 231
3	Introduction to Philosophy/LPHI 131	3	Legal Envir of Business/BCOR 203
2	First-Year Seminar	3	Free Elective
32		33	

	JUNIOR		SENIOR
3	Human Resource Mgmt/MGMT 211	3	Experiential Learning/BCOR 450
3	App of Mgmt Info/MGMT 320	3	Labor & Employee Mgmt/MGMT 213 or Quality Mgmt/MGMT 350
3	Quant Bus Analysis/MGMT 325	3	Compensation Mgmt/MGMT 215 or Supply Chain Management/ MGMT 410
3	Organizational Behavior/MGMT 316	3	Ethical & Social Resp/MGMT 360**
3	Fine Art Series/LFIN	3	Business Policy/BCOR 480*
3	Theo or Phil III Series/LTHE or LPHI	6	Business Cognates
6	Free Electives	9	Free Electives
3	Making Teams Work/MGMT 220 or Project Mgmt/MGMT 330		
3	Financial Management/BCOR 311		
3	Global Business/BCOR 306		
1	Leadership Seminar		
34		30	

THE NEXT STEP

Baccalaureate Degree program for Graduates of Two Year Colleges.

Management

(Numerals in front of course indicate credits)

	Pre-Senior Year		*Senior Year*
3	Business Statistics/BCOR221	3	Global Business/BCOR 306
3	Business & Prof Comm/BCOR 231	3	Experiential Learning/BCOR 450
3	Principles of Marketing/BCOR 241	3	Business Policy/BCOR 480*
3	Financial Management/BCOR 311	3	Theology or Phil III Series/ LTHE or LPHI
3	Sacred Scripture/LTHE 121	1	Leadership Seminar
3	Introduction to Philosophy/LPHI 131	3	Literature Series/LENG
3	Human Resource Mgmt/MGMT 211	3	Compensation Mgmt/MGMT 215 or Supply Chain Mgmt/MGMT 410
3	App of Mgmt Info/MGMT 320	3	Making Teams Work/MGMT 220 or Project Mgmt/MGMT 330
3	Quant Bus Analysis/MGMT 325	3	Org. Behavior/MGMT 316
3	Labor & Emp Mgmt/MGMT 213 or Quality Mgmt/MGMT 350	3	Ethical & Social Resp/MGMT 360
3	Fine Art Series/LFIN		

	3	Intro to Speech/SPCH 111
	3	Electives
33	34	

*Fulfills Senior Seminar/LBST 383
**Fulfills Philosophy II Series

Students will be permitted to take other courses in substitution for any course listed above which they have satisfactorily completed prior to admission into the Next Step program. Students are required to complete 7-19 credits in the Liberal Studies Core. Students may transfer courses equivalent to Sacred Scripture, Introduction to Philosophy, the Literature Series and/or the Fine Arts Series. Students must take the Leadership Seminar, the Theology/ Philosophy III Series, and the Senior Seminar or approved capstone at Gannon.

Prerequisites:

The above course requirements presume that the student has completed the following courses (or their equivalent), typically found in an A.S. degree program, prior to matriculation. If not, these become additional required courses in the program.

Accounting (BCOR 201& 202)
Algebra for Business Students (Math 114)
Economics (BCOR 111 & 112)
Management (BCOR 251)
Business Technology (CIS 150)
Legal Env/Bus Law (BCOR 203)
Composition (LENG 111 & 112)

MARKETING MAJOR

MICHAEL J. MESSINA, Ph.D., *Program Director*

FACULTY: *Professor:* Michael J. Messina. *Assistant Professor:* Duane R. Prokop.

The field of Marketing involves the process by which persons and organizations strive to anticipate and satisfy consumer needs and wants. The Marketing curriculum at Gannon is designed to enable students to anticipate and satisfy customer needs and wants by providing a broad working knowledge of marketing planning, marketing research, promotion, pricing, product planning, and distribution.

The Marketing major serves those students planning a career in sales, sales management, public relations, advertising, marketing research, product management, physical distribution, brand management, retail management, customer service, marketing management, purchasing, and marketing consulting.

Students are encouraged to explore the potential enhancement of their educational experience through internships, cooperative educational experiences, research projects with faculty members and participation in the Gannon Marketing Chapter of the American Marketing Association.

COURSE DESCRIPTIONS:

BCOR 241: Principles of Marketing
(See Course Description in Business Core) *3 credits*

MKTG 255: Principles of Exporting
This course examines the steps involved in exporting a product including documentation, terms of sale and payment, quotations, packing, insurance, regulations, modes of shipping, and role of freight forwarders. *3 credits*

MKTG 300: Consumer Behavior
An examination of the buying process with emphasis on the psychological, social, cultural and economic determinants of consumer choice. Topics covered include the buyer as a problem solver; buying decision processes and models; lifestyle analysis; market segmentation and product differentiation; and the adoption and diffusion on innovations.
Prerequisite: BCOR 241 *3 credits, Fall*

MKTG 310: Retailing Management
Treats the field of retailing as a subset of the larger field of marketing by stressing the application of marketing concepts, approaches and methods to all types of retailing organizations. Attention is given to store location, store layout, personnel management, inventory control, promotion, pricing and customer service.
Prerequisite: BCOR 241 *3 credits, Fall*

MKTG 315: Health Care Marketing
This course presents health care marketing as a dynamic field of study while identifying areas of concern for marketers including competition, economic conditions, reimbursement and patient needs. In addition, a goal of this course is to analyze ethical means of promotion including image and product line advertising and the impact of these promotions, while identifying future directions for this industry.
Prerequisites: BCOR 241 *3 credits*

MKTG 320: Professional Selling and Sales Management
A comprehensive survey of contemporary concepts and techniques related to the management of a sales force. The personal selling process of giving an effective sales presentation is examined and applied in the course.
Prerequisite: BCOR 241 *3 credits, Spring*

MKTG 340: Fundamentals of Advertising
This course explores the fundamentals of advertising, including: history of advertising; creativity; evolution of integrated marketing communications; marketing and advertising; advertising agency structure; the various media relative to placement and production; influences of computer technology; ethics of advertising; an introduction to the promotional mix elements of advertising, sales promotion and direct marketing (including the Internet); and career opportunities in the industry. Terminology and procedures will be introduced and incorporated in the presentation of advertisements and advertising campaigns.
Prerequisite: BCOR 241 *3 credits*

MKTG 345: Global International Marketing
A survey of international trade and import and export procedures and practices. This course is taught from the viewpoint of the international marketing manager who must recognize the differences between markets in various countries as influenced by their particular cultural and economic environments.
Prerequisites: BCOR 241 and BCOR 306. *3 credits*

MKTG 350: Business to Business Marketing
Examines the characteristics of organizational buyers of goods and services. This course emphasizes strategic marketing planning, industrial buyer behavior, product strategies, pricing strategies, promotional strategies, budgeting and industrial procurement.
Prerequisite: BCOR 241 *3 credits, Spring*

MKTG 355: Purchasing Management
A consideration of industrial buying from a purchasing management perspective. Strategic decision areas of bids, control of quality, inventory control, evaluating sources of supply, order points and the integration of the materials management function with other activities of the firm are examined. Purchasing management developments in budgeting, capital

equipment determinations, contract cancellations, ethics, make-or-buy decisions, legal aspects, global sourcing, and negotiations are examined and discussed.
Prerequisite: BCOR 241 *3 credits*

MKTG 356: Physical Distribution
A consideration of the strategic issues likely to arise in the planning for and movement of goods through channels of distribution. Elements of the logistical system including transportation modes, inventory control, materials management, warehousing and customer service are introduced and discussed.
Prerequisites: BCOR 241, MKTG 350 *3 credits*

MKTG 357: Global Sourcing
A comprehensive survey of the sourcing function and its effect on total business operations. Emphasis will be placed on basic business acumen, suppliers as partners, and cross functional evaluation and implementation of evolving techniques.
Prerequisites: BCOR 241, MKTG 355 *3 credits*

MKTG 375: Organizational Internship
Selected students will be able to spend a period of time (50 hours per credit hour) working as an Intern with a local organization. During this period the student will maintain a journal, will meet regularly with a faculty member, and with a supervisor to provide continuing evaluation of quality and progress of the student's work. At the conclusion of the experience the student will submit a paper to the supervisor and faculty member and make an oral presentation.
Prerequisite: Junior who has permission of the department and the cooperating organization. *1-3 credits*

MKTG 399: Special Topics in Marketing
A survey of contemporary issues in marketing. The course considers current literature in the field and case problems pertaining to real-world marketing successes and failures.
Prerequisite: BCOR 241 *3 credits*

MKTG 410: Marketing Research
To acquaint the student through theory and practical experimentation with the process of gathering, classifying, and interpreting primary and secondary marketing data used in the managerial decision making. This course will include an investigation of basic marketing research tools such as surveys, observation, experiments and simulation.
Prerequisites: BCOR 241, BCOR 221, CIS 150 *3 credits, Fall*

MKTG 450: Marketing Management
A comprehensive study of the planning and managing of marketing activities including market analysis, buyer behavior, market segmentation, marketing research, product policy and strategy, distribution strategy, pricing strategy, and promotional strategy.
Prerequisite: Senior status, BCOR 241, MKTG 300, MKTG 320, MKTG 410 *3 credits, Spring*

Marketing Curriculum

(Numerals in front of courses indicate credits)

	FRESHMAN		SOPHOMORE
3	Prin of Microeconomics/BCOR 111	3	Accounting/BCOR 202
3	Algebra for Bus Students/MATH 114	3	Sociology/SOCI 110
3	Business Technology 1/CIS 150	3	Literature Series/LENG
3	College Composition/LENG 111	3	Business & Professional Communications/BCOR 231
3	Sacred Scripture/LTHE 121		
3	Prin of Macroeconomics/BCOR 112	3	Business Statistics/BCOR 221
3	Financial Accounting/BCOR 201	3	Princ of Management/BCOR 251
3	LS Natural Science	3	Psychology/PSYC 111
3	Critical Analysis & Comp/LENG 112	3	Speech/SPCH 111

3	Introduction to Philosophy/LPHI 131	3	Prin of Marketing/BCOR 241
2	First-Year Seminar	3	Theology II Series/LTHE
3	Hist of West & World/LHST 111	3	Fundamentals of Advertising/ MKTG 340
35		33	

	JUNIOR		SENIOR
3	Consumer Behavior/MKTG 300	3	Experiential Learning/BCOR 450
3	Prof Selling & Sales Mgmt/MKTG 320	3	Marketing Research/MKTG 410
3	Financial Management/BCOR 311	3	Marketing Management/MKTG 450
3	Philosophy II Series/LPHI	3	Fine Art Series/LFIN
3	Organizational Behavior/MGMT 316	3	Business Policy/BCOR 480**
3	Global Business/BCOR 306	6	Marketing Electives*
3	Theology or Phil III Series/LTHE or LPHI	9	Free Electives
6	Free Electives		
3	Legal Environment of Business/ BCOR 203		
1	Leadership Seminar		
31		30	

**See your advisor for suggested sequences of electives.*
***Fulfills LBST 383, Senior Seminar*

THE NEXT STEP

Baccalaureate Degree program for Graduates of Two Year Colleges.

Marketing

(Numerals in front of course indicate credits)

	Pre-Senior Year		*Senior Year*
3	Business Statistics/BCOR221	3	Global Business/BCOR 306
3	Business & Prof Comm/BCOR 231	3	Experiential Learning/BCOR 450
3	Principles of Marketing/BCOR 241	3	Business Policy/BCOR 480*
3	Financial Management/BCOR 311	3	Theology or Phil Series III/ LTHE or LPHI
3	Sacred Scripture/LTHE 121	1	Leadership Seminar
3	Introduction to Philosophy/ LPHI 131	3	Literature Series/LENG
3	Fine Art Series/LFIN	3	Prof Selling & Sales/MKTG 320
3	Consumer Behavior/MKTG 300	3	Fund of Advertising/ MKTG 340
3	Sociology/SOCI 110	3	Marketing Research/MKTG 410
3	Intro to Psychology/PSYC 111	3	Org. Behavior/MGMT 316
3	Intro to Speech/SPCH 111	3	Marketing Mgmt/MKTG 450
		3	Free Elective
33		34	

*Fulfills Senior Seminar/LBST 383

Students will be permitted to take other courses in substitution for any course listed above which they have satisfactorily completed prior to admission into the Next Step program. Students are required to complete 7-19 credits in the Liberal Studies Core. Students may transfer courses equivalent to Sacred Scripture, Introduction to Philosophy, the Literature Series and/or the Fine Arts Series. Students must take the Leadership Seminar, the Theology/ Philosophy III Series, and the Senior Seminar or approved capstone at Gannon.

Prerequisites:

The above course requirements presume that the student has completed the following courses (or their equivalent), typically found in an A.S. degree program, prior to matriculation. If not, these become additional required courses in the program.

Accounting (BCOR 201& 202)
Algebra for Business Students (Math 114)
Economics (BCOR 111 & 112)
Management (BCOR 251)
Business Technology (CIS 150)
Legal Env/Bus Law (BCOR 203)
Composition (LENG 111 & 112)

RISK MANAGEMENT AND INSURANCE MAJOR

DAVID SMITH, M.S., *Program Director*

Faculty: *Lecturer:* David Smith.

The undergraduate program in risk management and insurance is an innovative course of study providing our students with an overall background in risk management, life and health insurance, property and liability insurance, employee benefits, social insurance, and personal financial planning. Risk management and insurance is a proud profession. Graduates in risk management and insurance find a variety of career opportunities in insurance companies (underwriting, marketing, claims adjusting, rate making, and investment); as risk managers in business; as brokers/agents providing professional risk management/insurance/employee benefits counseling for clients; as consultants and personal financial planners; and in government social insurance programs.

COURSE DESCRIPTIONS:

RISK 220: Introduction to Risk Management and Insurance
The primary focus of this introductory course includes the Risk Management Process, the nature of the Insurance Industry and the evaluation of life, health, property and liability risks. The course will include an introduction to Commercial Insurance Contracts and Life and Health Policies, but will place an emphasis on Personal Lines Property and Casualty Insurance Products. *3 credits*

RISK 321: Commercial Insurance and Risk Management
This course examines the major types of commercial property and liability insurance. The structure, scope, and limitations of commercial property and liability contracts are analyzed. The Course will conclude with at least three on-site commercial case studies in which the student will be expected to apply insurance and other risk management techniques.
Prerequisite: RISK 220 *3 credits*

RISK 325: Life and Health Insurance
This course teaches the nature and importance of Personal Risk Management and the identification of the related exposures. It will explore individual, group and commercial life, health and annuity products. *3 credits*

RISK 335: Claims Adjusting
This is an intermediate course designed to teach the students about the Claims Adjusting Process and the methods used to evaluate and negotiate the settlement of property and casualty claims. Both Personal Lines and Commercial Lines are addressed in this class.
Prerequisite: RISK 220 *3 credits*

RISK 415: Risk Management
This course is designed to provide students with a conceptual framework for evaluating and

managing risks using an enterprise-wide approach. The course starts with overview of The Committee of Sponsoring Organizations of the Treadway Commission (COSO) Enterprise Risk Management (ERM) integrated framework, including in depth discussions and exercises on establishing corporate objectives and risk assessment techniques. Risk control concepts and alternative risk financing techniques are presented next. After making sure that the students have a good understanding of these concepts, the course concludes with several classes dedicated to the practice of ERM and the practical application of ERM concepts. Students will learn and apply these concepts through lectures, exercises, cases, and guest speakers.
Prerequisites: RISK 321, RISK 325 *3 credits*

RISK 420: Employee Benefits
This course will introduce students to the principles and practices of administering and managing Employee Benefits. The course specifically covers the economics of employee benefits, employer-sponsored retirement plans and health insurance programs, Social Security, Workers' Compensation, vacation and compensatory time, flexible work schedules, and global employee benefits. *3 credits*

RISK 425: Insurance Operations
This course focuses on the key operational activities of insurance organizations. It specifically covers marketing and distribution systems, underwriting, an introduction to claims adjusting, the principles of ratemaking, reinsurance and financial statement analysis. These functional areas are studied in the context of regulatory and public policy issues. Students will analyze the operational and financial aspects of an insurance company.
Prerequisite: RISK 220 *3 credits*

RISK 450: Retirement and Estate Planning
This is a comprehensive course consisting of two parts: Retirement Planning and Estate Planning. The practical knowledge needed for choosing the best retirement plan and designing a plan that will meet a client's needs from a tax and retirement standpoint is discussed. Retirement planning topics include qualified plans, nonqualified plans and IRAs. Estate Planning will include various aspects and strategies of estate and gift tax planning, including the nature, valuation, transfer, administration, and taxation of property. Emphasis is given to a basic understanding of the estate and gift tax system.
Prerequisite: RISK 325 *3 credits*

Risk Management and Insurance Curriculum

(Numerals in front of courses indicate credits)

	FRESHMAN		SOPHOMORE
3	Prin of Microeconomics/BCOR 111	3	Managerial Accounting/BCOR 202
3	Algebra for Bus Students/MATH 114	3	Legal Environ of Bus/BCOR 203
3	Business Technology 1/CIS 150	3	Business Statistics/BCOR 221
3	College Composition/LENG 111	3	Bus/Prof Comm/BCOR 231
3	Introduction to Philosophy/LPHI 131	3	Prin of Marketing/BCOR 241
3	Prin of Macroeconomics/BCOR 112	3	Comm Prop & Liab Ins/RISK 321
3	Financial Accounting/BCOR 201	3	Theology II Series/LTHE
3	Critical Analysis & Comp/LENG 112	3	Hist of West & World/LHST 111
3	Sacred Scripture/LTHE 121	3	LS Natural Science
3	Intro to Risk Mgmt & Ins/RISK 220	3	Prin of Management/BCOR 251
2	First-Year Seminar	3	Literature Series/LENG
3	Speech/SPCH 111		
35		33	

	JUNIOR		SENIOR
3	Global Business/BCOR 306	3	Experiential Learning/BCOR 450
3	Financial Management/BCOR 311	3	Business Policy/BCOR 480
3	Life & Health Ins/RISK 325	3	Ins Operations/RISK 425
3	Risk Management & Ins Electives	9	Risk Mgmt & Ins Electives
3	Risk Mgmt & Ins Electives	12	Free Electives
3	Fine Arts Series/LFIN		
3	Philosophy II Series/LPHI		
3	Theology/Phil III Series/LTHE or LPHI		
6	Free Electives		
1	Leadership Seminar		
31		30	

THE NEXT STEP

Baccalaureate Degree program for Graduates of Two Year Colleges.

Risk Management

(Numerals in front of course indicate credits)

	Pre-Senior Year		*Senior Year*
3	Business Statistics/BCOR221	3	Global Business/BCOR 306
3	Business & Prof Comm/BCOR 231	3	Experiential Learning/BCOR 450
3	Principles of Marketing/BCOR 241	3	Business Policy/BCOR 480*
3	Financial Management/BCOR 311	3	Theology or Phil III Series/ LTHE or LPHI
3	Sacred Scripture/LTHE 121		
3	Introduction to Philosophy/LPHI 131	1	Leadership Seminar
3	FineArt Series/LFIN	3	Literature Series/LENG
3	Intro to Risk Mgmt & Ins/RISK 220	3	Risk Management/RISK 415
3	Comm Property & Liability Ins/RISK 321	3	Employee Benefits/RISK 420
3	Life & Health Ins/RISK 325	3	Ins Operations/RISK 425
3	Free Elective	9	Risk Mgmt & Ins Elective
33		34	

*Fulfills Senior Seminar/LBST 383

Students will be permitted to take other courses in substitution for any course listed above which they have satisfactorily completed prior to admission into the Next Step program. Students are required to complete 7-19 credits in the Liberal Studies Core. Students may transfer courses equivalent to Sacred Scripture, Introduction to Philosophy, the Literature Series and/or the Fine Arts Series. Students must take the Leadership Seminar, the Theology/ Philosophy III Series, and the Senior Seminar or approved capstone at Gannon.

Prerequisites:

The above course requirements presume that the student has completed the following courses (or their equivalent), typically found in an A.S. degree program, prior to matriculation. If not, these become additional required courses in the program.

Accounting (BCOR 201& 202)
Algebra for Business Students (Math 114)
Economics (BCOR 111 & 112)
Management (BCOR 251)
Business Technology (CIS 150)
Legal Env/Bus Law (BCOR 203)
Composition (LENG 111 & 112)

Sport Management and Marketing Major

ERIC BROWNLEE, Ph.D., *Program Director*

FACULTY: *Assistant Professor:* Eric Brownlee.

With the proliferation of sports teams and facilities to advance sports and exercise there is a growing need for professionals interested in combining both a passion and talent for the marketing and management of the sport and exercise industries. The Sport Management and Marketing Program at Gannon is an interdisciplinary program of the Dahlkemper School of Business and the Sport and Exercise Science Department, where students study the theory and application of business with a focus on the sport and exercise industries. The major provides students the opportunity to combine their dual interests in marketing/management with a specific application to the sport and exercise professions. Students in the program advance their education while drawing on multiple areas of knowledge and skills learned and experienced in the classroom, lab setting and on sports-specific sites on the local, regional and national level. The program seeks to combine a strong foundation in theory and practice in preparing the student for advanced degree programs or entry level careers in a variety of fields including, but not limited to, the marketing and management of professional sports, collegiate sports and administration, recreation and leisure studies, retail, marketing and promotions, sports communications and others.

COURSE DESCRIPTIONS:

SMGT 322: Team Sports Organization and Management
This course is an introduction to the study of modern techniques and practices used in the organizational and management procedures of athletic programs. Major areas of concern will include practice and game organization, purchase and care of equipment, budget and finances, recruiting, public relations, liability, psychology, and motivational techniques.
3 credits

SMGT 370: Principles of Sports Management
The intention of this course is to cover, in detail, the business of sport. Topics to be addressed include, but are not limited to: Ethics in Sport Management, Managing Employee Diversity in the Sports Industry, Organizational Theory and the Study of Sport, Sport Governance, International Sport Governance, Basic Law Applied to Sport, Economics and Sport, Accounting and Budgeting, Financing Sport, Sponsorship, Group Decision Making and Problem Solving, and others. *3 credits*

SMGT 375: Facilities and Event Management
This course is designed to provide the student with knowledge pertaining to the various aspects of managing a sport facility and the events which take place within these facilities. Some of the topics discussed include operations, scheduling, marketing, ticketing, finance, sponsorship, and event management. Students will have the opportunity to apply knowledge gained through lecture and in class exercises by volunteering for a sports event and critiquing various facility management functions during the event, and by assisting the Erie Lions Club manage their marquee sport events. *3 credits*

SMGT 380: Principles of Sport Marketing
This course is designed to acquaint students with comprehensive fundamental theories and issues in sport marketing, grounded within traditional marketing principles, and emphasizing unique application to the sport business industry. This course includes several real-world projects that require a high level of professionalism and mutually benefit the sports organizations and students in the course. *3 credits*

SMGT 385: Sport Law
This course is designed to acquaint the student to the US legal system's structure and terminology. The course provides an introduction to the legal aspects of contract law, tort law, statutory law, negligence, and constitutional law. A student, upon completion of the course, will understand the basic legal aspects of sport and physical activity and will be able to provide managerial analysis and decision making based upon the legal aspects of sport knowledge, thereby providing a competitive advantage to the organization. Course instruction relies heavily on court case studies and their legal implications in a sport setting.
3 credits

Sport Management and Marketing Curriculum

(Numerals in front of courses indicate credits)

FRESHMAN

	Fall		*Spring*
2	First-Year Seminar	3	Critical Analysis & Composition/ LENG 112
3	College Composition/LENG 111	3	Principles of Macroeconomics/ BCOR 112
3	Speech/SPCH 111	3	Sacred Scriptures/LTHE 121
3	Prin. of Microeconomics/BCOR 111	3	Introduction to Philosophy/ LPHI 131
3	Algebra for Business Students/ MATH 114	3	Financial Accounting/BCOR 201
3	Business Technology/CIS 150	3	Fine Arts Series/LFIN
17		18	

SOPHOMORE

	Fall		*Spring*
3	History of Western World/LHST 111	3	Managerial Accounting/BCOR 202
3	Sport Psychology/SPRT 240	3	Bus & Prof Communications/ BCOR 231
3	Theology II Series/LTHE or THEO	3	Principles of Public Relations/ ADVC 372
3	Physical Activity and Children/ SPRT 324	3	Principles of Management/ BCOR 251
3	Principles of Marketing/BCOR 241	3	Sport in Society 1/SPRT 318
3	Literature Series/LENG		
18		15	

JUNIOR

	Fall		*Spring*
3	Principles of Sport Marketing/SMGT 380	3	Global Business/BCOR 301
3	Sport in Society II/SPRT 319	3	Advertising for the Electronic Media/COMM 381
3	Philosophy II Series/MGMT 360	3	Fundamentals of Advertising/ MKTG 340
3	Business Stats/BCOR 221	3	Legal Environment of Business/ BCOR 203
3	Introduction to Sales Promotion and Direct Marketing/ADVC 350	3	Principles of Sport Management/ SMGT 370
		3	Financial Management 1/BCOR 311
15		18	

SENIOR

	Fall		*Spring*
1	Leadership Seminar	3	Business Policy/BCOR 480
3	Experiential Learning/BCOR 450	3	Team Sport Organization and Management/SMGT 322
3	Sport Law/SMGT 385	3	Business-to-Business Marketing/ MKTG 350
3	Sport Ethics/SPRT 460	3	Organizational Behavior/MGMT 316
3	Theo or Phil III Series/LTHE 227 or LPHI 237	3	Natural Science LS
3	Professional Selling and Sales Management/MKTG 320		
16		15	

ENGINEERING AND COMPUTER SCIENCE

BIOINFORMATICS (BINF)

YUNKAI LIU, Ph.D., *Program Director*

Over the past few decades, major advances in molecular biotechnology and computer hardware/software have changed the way pharmaceutical and biotechnology companies organize their research and development activities. An explosive growth in the biological information requires an individual trained in bioinformatics to organize, analyze and understand the biological information.

Bioinformatics (BINF) is a new scientific discipline merging biotechnology and computer science into a broad-based field. Bioinformatics manipulates molecular and organism data to answer important biological questions.

Coupled with Gannon's emphasis on liberal studies, graduates from this program are fully prepared to enter professional careers or to further academic pursuits not only with the technical tools, but also with the knowledge of how to make ethical decisions about the use of these tools.

Aims and Objectives:

The BINF program prepares its graduates to achieve significant career and professional accomplishments in four ways: as employable and accountable professionals, as competent problem solvers, and as selfless contributors.

As employable professionals, BINF graduates are well prepared for graduate work or employment in their field, and to continue working in related fields. As accountable professionals, program graduates are accountable for their professional roles, and as such, pursue their profession in an ethical manner. This aspect includes the responsibility for, or leadership in research/development projects or teams, aspects of major system components, or business development work. As competent problem solvers, graduates apply current computing technology knowledge, skills, techniques and methods to develop effective solutions for problems, to improve product, process and/or organizational elements, or to innovate. As selfless contributors, graduates voluntarily give their time, talent, and/or money to their community, profession, church and/or society.

Program Outcomes:

As a computing program, Gannon’s Bioinformatics program has a strong focus on problem-solving beginning with the very first course in computing (*CIS 190 Principles of Computing*)

and is carried through into the senior research sequence (*BINF 300 Bioinformatics Programming* and *BINF 400 Bioinformatics Research*). Throughout the learning process, students learn how to effectively define and represent both problems and the solutions needed to solve those problems. Throughout the course of study, students learn, and practice making ethical decisions.

All students will learn how to utilize information and computer technology, while developing and maintaining a comprehension of the changing technology used in computer-based systems. Through this learning process, we expect students to own a desire for continuous improvement and demonstrate effective verbal, written, and listening communication skills.

Specifically, Bioinformatics students completing our program learn to:

- **Understand** the basic and advanced mechanisms in molecular biology and biochemistry
- **Utilize** mathematical, statistical and software tools, environments and databases for effective collection, searching and effective analysis of experimental data.
- **Design and build** computational solutions for Biological and chemical problems
- **Design** computational solutions derived from biology or chemistry and interpret scientific significance of the results

Integration:

One of the hallmarks of Gannon's BINF degree is its integration with the traditional liberal studies education. Gannon BINF majors not only learn computing well, but also learn how to synthesize, think critically and communicate well. In the program, bridging traditional courses like writing, philosophy, theology and ethics begins in the *CIS 103 CIS First-Year Seminar*, and continues throughout the program, culminating in the *BINF 400 Bioinformatics Research* course.

BINF Electives:

Bioinformatics electives are drawn from three areas fundamental to Bioinformatics: Biology, Computing and Mathematics. Pre-approved electives include the following courses:

Probability and Statistics 2/MATH 313	Web Management and Design/CIS 240
Microbiology and Lab/BIO 331&332	Multimedia Production/CIS 245-246

or other courses with the permission of the Director of the Bioinformatics Program.

All CIS course descriptions are provided in section *Computer and Information Science*.
All BIOL course descriptions are provided in section *Biology*.
All MATH course descriptions are provided in section *Mathematics*.

COURSE DESCRIPTIONS

BINF 100: Introduction to Bioinformatics
The course introduces students to the field of bioinformatics. The course includes online computational resources and basic programming concepts.
Prerequisite: Permission of the instructor *1 credit, Fall*

BINF 200: Bioinformatics Tools
Analysis of biological molecules and software tools is the focus in this course. Students retrieve and interpret bio-information from the Internet and database and learn tools to solve the problems.
Prerequisite: BINF 100 *3 credits, Spring*

BINF 300: Bioinformatics Programming
In this course, students learn computational techniques for solving scientific problems focusing on applications in bioinformatics and computational biology. The student develops

the ability to convert quantitative problems into computer programs.
Prerequisite: BINF 200 *3 credits, Fall*

BINF 400: Research in Bioinformatics
Reading and research on a specific topic in computational sciences and informatics chosen and completed under the guidance of a faculty member, resulting in an acceptable technical report.
Prerequisite: BINF 300 and CIS 402 *3 credits, Spring*

Bioinformatics Curriculum

(Numerals in front of courses indicate credits)

FRESHMAN

	Fall		*Spring*
1	Intro to Bioinformatics/BINF 100	3	Critical Analysis & Comp/LENG 112
3	General Chemistry I/CHEM 111	3	Hist of the West and World/ LHST 111
1	General Chemistry I Lab/CHEM 112	3	Calculus 2/MATH 141
3	Calculus 1/MATH 140	3	General Chemistry II/CHEM 114
3	Molecular Cell Biology/BIOL 122	1	General Chem II Lab/CHEM 115
1	Molecular Cell Biol Lab/BIOL 123	3	Animal Form and Function/ BIOL 124
3	College Composition/LENG 111	1	Animal Form and Func Lab/ BIOL 125
2	First-Year Seminar/CIS 103		
17		17	

SOPHOMORE

	Fall		*Spring*
3	Sacred Scriptures/LTHE 121	2	Intro Programming/CIS 214
3	Principles of Computing/CIS 190	1	Intro Programming Lab/CIS 215
1	PC Database/CIS 173	3	Organic Chemistry II/CHEM 224
3	Probability & Statistics 1/MATH 312	1	Organic Chem II Lab/CHEM 225
3	Organic Chemistry I/CHEM 221	3	Theology Series II/LTHE
1	Organic Chemistry I Lab/CHEM 222	3	Intro to Philosophy/LPHI 131
3	Discrete Math 1/MATH 222	3	Literature Series/LENG
17		16	

JUNIOR

	Fall		*Spring*
3	Project Economics/ECON 285	1	UNIX Shell Programming/CIS 218
3	Problem Solving with OOP/CIS 216	3	Bioinformatics Tools/BINF 200
1	Using UNIX/CIS 217	3	Data Structures/CIS 220
3	Structural Biochemistry/CHEM 366	1	CIS Professional Seminar/CIS 402
1	Biochemical Lab/CHEM 367	3	Cellular Biochemistry/BIOL 373
3	Genetics/BIOL 345	1	Cellular Biochemistry Lab/BIOL 374
		3	Theo/Phil III Series/LTHE or LPHI
		3	Database Management Systems/ CIS 255
		1	Leadership Seminar
15		18	

SENIOR

	Fall		*Spring*
3	Bioinformatics Programming/BINF 300	3	Bioinformatics Research/BINF 400
3	Visual Database Programming/CIS 355	3	Cell Biology/BIOL 375
2	Computational Chemistry/CHEM 419	1	Cell Biology Lab/BIOL 376
3	Medical Ethics/LBST 383	3	Fine Art Series/LFIN
3-4	BINF Elective	3	Philosophy II Series/LPHI
		3	BINF Elective
14-15		16	

Total Credits: 130-131

Bioinformatics Minor

The minor requires 22 credits. It consists of 19 credits of computer science, bioinformatics, and mathematics. Additionally, at least one upper-level biology/microbiology course is required to fulfill the minor.

Bioinformatics Minor Requirements
The required courses are as follows:

1 PC Database/CIS 173
3 Principles of Computing/CIS 190
3 Introduction to Programming and Lab/CIS 214, 215
3 Database Management Systems/CIS 255
3 Bioinformatics Tools/BINF 200
3 Bioinformatics Programming/BINF 300
3 Applied Statistics/MATH 213
or Probability and Statistics/MATH 312

The required upper-level biology/microbiology course is one of the following:

3 Genetics/BIOL 345
or Microbiology/BIOL 331
or Cellular Biochemistry/BIOL 373
or Cell Biology/BIOL 375

Total: 22 credits

COMPUTER & INFORMATION SCIENCE (CIS)

THERESA M. VITOLO, Ph.D., *Chair*

FACULTY: *Associate Professors:* Stephen T. Frezza, Sreela Sasi, Mei-Huei Tang, Theresa M. Vitolo. *Assistant Professors:* Barry J. Brinkman, Yunkai Liu, Frank Xu. *Instructor:* Jeremy C. Cannell.

Facilities:

Gannon University houses one of the largest educational computer facilities in the tri-state area. Distributed throughout the campus are numerous microcomputer (PC) labs accounting for well over two hundred workstations. Student labs are open and staffed sixteen hours a day, seven days a week. Dial-up facilities are available to students for internet access; dorm residents have network access for computers having network cards. Also, wireless networking is available at most of university locations including Beyer Hall, the Morosky Academic Center, Nash Library, the Palumbo Academic Center, Waldron Campus Center, and the Zurn Science Center.

The CIS Department maintains educational labs for teaching and project work, and servers using WINDOWS and LINUX operating systems. The general-purpose labs provide interactive environments for design and programming classes. The network lab offers a hands-on exposure to the hardware and software layers of networks. The advanced systems lab hosts state-of-the-art creation, capture, editing, and synthesis hardware and software for multimedia productions, database functions, and bioinformatics explorations. A project lab is maintained for faculty research, student work, and on-campus internship work.

A wide-variety of programming environments and application software are available at Gannon University. Specifically within the Computer and Information Science department and through its course offerings the following items are presented: C#.Net, C++, COBOL, and JAVA are core programming environments; Rational Rose™ and VISIO™ as modeling environments, and ORACLE™, SQL Server™, and Microsoft Access as database management systems.

Programs:

The Computer and Information Science department offers majors in:

- Bioinformatics – described under **Bioinformatics**
- Computer Science – described below
- Information Systems – described under **Information Systems**
- Software Engineering – described under **Software Engineering**

A five-year cooperative program is available for these four majors. The student must meet the same requirements as the four-year programs, plus spend a minimum of three semester-equivalents in industry. See the *Computer and Information Science Co-Op Curriculum* section below.

Program-wide Outcomes

The four computing majors managed by the CIS department are all aimed at helping undergraduate students grow in their abilities to develop computer-based solutions to real problems. As such, all majors share expectations for what every CIS student will know and be able to do by the time they graduate. These program-wide outcomes include:

- Apply problem solving strategies to software development
- Interface with business and analytical professionals to solve software or systems development problems
- Comprehend ethical decisions and their ramifications as professionals
- Demonstrate effective verbal, written, and listening communication skills as required for professional, group, and team interactions
- Demonstrate the ability to continue in professional development and expansion of their professional interests
- Maintain a comprehension of the changing technology and its ramifications

Computer and Information Science Co-Op Curriculum

Cycles available for Bioinformatics, Computer Science, Information Systems or Software Engineering:

Plan A

Year 1	Fall 1	Spring 1	Summer vacation
Year 2	Fall 2	Spring 2	4 month WP *
Year 3	Fall 3	4 month WP	Summer Courses **
Year 4	4 month WP	Spring 3	4 month WP
Year 5	Fall 4	Spring 4	---

Plan B

Year 1	Fall 1	Spring 1	Summer vacation
Year 2	Fall 2	4 month WP	Summer Courses
Year 3	4 month WP	Spring 2	4 month WP
Year 4	Fall 3	Spring 3	4 month WP
Year 5	Fall 4	Spring 4	---

Plan C

Year 1	Fall 1	Spring 1	Summer vacation
Year 2	Fall 2	Spring 2	4 month WP
Year 3	Fall 3	4 month WP	4 month WP
Year 4	4 month WP	Spring 3	Summer Courses
Year 5	Fall 4	Spring 4	---

Additional cycle available for Management Information Systems:

Plan D

Year 1	Fall 1	Spring 1	Summer vacation
Year 2	Fall 2	Spring 2	4 month WP *
Year 3	4 month WP	Spring 3	Summer Courses **
Year 4	Fall 3	4 month WP	4 month WP
Year 5	Fall 4	Spring 4	---

**Work Period*
***Core of Discovery Courses*

Notes:

(1) Fall and Spring follow the regular curriculum schedule for a major.
(2) For maximum financial aid, 12 credits of Core of Discovery Courses should be taken during the 4 month summer session listed.
(3) One credit Co-Op seminar (CIS 296) is to be taken during the Spring Semester of the freshman year.

COURSE DESCRIPTIONS:

*Computer-literacy courses required by programs may be challenged for placement (not credit) at the beginning and end of each semester and during orientation sessions in the summer. All students are encouraged to challenge these courses if they have developed suitable competency.

CIS 103: First-Year Seminar: *Tech Think*
The First-Year Seminar is a discussion/experience-based course intended to orient the new student to Gannon University, to introduce the Liberal Studies Core and LIFECORE, to assist in the transition from high school to university life, and to encourage development of academic, personal and spiritual aspects of the student's life. Each seminar is unique, depending upon the instructor and/or program in which it is offered.
This course explores how scientific and technical professionals approach significant issues such as faith and religion. Students will engage in service learning, as well as discuss and reflect upon aspects of philosophy and theology that relate the typical approaches taken by technically-oriented persons toward issues of belief and spiritual practice. Materials include aspects of Catholic Social Teaching relevant to technical and scientific professionals. The course includes aspects of effective academic planning and study habits, as well as instruction in the use of electronic communication to support learning.
Corequisite: LENG 111 or LPHI 131 *2 credits, Fall*

CIS 150: Business Technology I*
A hands-on introduction to the application of personal computers in a modern, networked business environment. Introduction to the Windows operating system, use of the Internet, the World Wide Web, and the components of Microsoft Office, with particular emphasis on Word, Excel, and Powerpoint. *3 credits*

CIS 170: PC OS / Internet*
A detailed discussion of modern personal computers, peripheral devices, operating systems, graphical interfaces, and use of the Internet. *1 credit*

CIS 171: PC Word Processing*
An introduction to word processing on a personal computer. Both basic and advanced document preparation capabilities are presented. Use of a word processor to facilitate writing efforts is a course objective.
Prerequisite: CIS 170 or ENG 101 or successful performance on placement exam. *1 credit*

CIS 172: PC Electronic Spreadsheet*
A detailed discussion of electronic spreadsheet functions and operations. Students receive extensive hands-on experience in creating and editing an electronic spreadsheet.
Prerequisite: CIS 170 or ENG 101 or successful performance on placement exam. *1 credit*

CIS 173: PC Database*
An introduction to relational database processing on a personal computer. Database topics of data dictionary construction, data entry, and queries to the database using SQL, form design, reports and labels, and their connection to tables.
Prerequisite: CIS 170 or ENG 101 or successful performance on placement exam. *1 credit*

CIS 174: PC Graphical Presentation*
A detailed discussion of computer-based graphical presentation software. Students receive extensive hands-on experience creating professional graphical presentations and slide shows.
Prerequisite: CIS 170 or ENG 101 or successful performance on placement exam. *1 credit*

CIS 190: Principles of Computing
A breadth-first overview of computer science, introducing students to a wide range of topics, including computer organization, hardware design, system software, programming concepts and related vocabulary. Students are introduced to problem solving and algorithms by developing the algorithmic thought-process necessary for successful computer programming.
Prerequisite: MATH 112 *3 credits, Fall*

CIS 195: Principles of Systems
An overview course introducing the concepts and value of data, information, and systems to the decision-making and strategic capabilities of an organization.
Prerequisite: CIS 170 or successful performance on placement exam *3 credits, Spring*

CIS 207: Introduction to Business Programming - COBOL
A competency-building course focusing on the basic syntax and semantics of the COBOL language. Programming projects are used to introduce the student to system design, documentation, and coordination of programs.
Prerequisite: CIS 190 or equivalent *3 credits, Fall*

CIS 214: Introduction to Programming
An introduction to programming and problem solving using the C++ programming language. Topics include program structure, data types, stream I/O, control structures, functions, arrays, strings, and records. The concepts of software development environment, coding standards, and debugging techniques are introduced.
Prerequisite: CIS 190
Corequisite: CIS 215 *2 credits, Spring*

CIS 215: Introduction to Programming Lab
Interactive laboratory taken concurrently with CIS 214. *1 credit, Spring*

CIS 216: Problem Solving with Object-Oriented Programming
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 explored.
Prerequisites: CIS 214, CIS 215, or equivalent *3 credits, Fall*

CIS 217: Using UNIX
An introduction to the UNIX computing environment. Students learn basic commands and utilities provided through any standard UNIX or UNIX-dialect shell. *1 credit, Fall*

CIS 218: UNIX Shell Programming
The ability to understand the command language interpreter and to write routines within its structure are addressed.
Prerequisite: CIS 217, and CIS 214 or equivalent *1 credit, Fall*

CIS 220: Data Structures
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.
Prerequisite: CIS 216 *3 credits, Spring*

CIS 224: Advanced COBOL Programming
A programming workshop that encompasses business applications using COBOL as the primary programming language. All file structures are utilized. Multidimensional tables and arrays, screen design, and the integration of programs into a system are detailed as an integral part of this course. Advanced topics.
Prerequisites: CIS 207 *3 credits, Spring*

CIS 240: Web Management and Design
The course aims at providing an introduction to the tools and knowledge necessary to design and manage a web site on the Internet. Topics include servers and clients, HTML, CGI scripting, languages, business and ethical aspects of the web.
Prerequisite: CIS 190 or permission of the instructor *3 credits, Spring*

CIS 245: Multimedia Production
Multimedia software uses text, graphics, sound, animation, and video to entertain, inform or educate its users. This course examines all parts of the multimedia software development process and provides hands-on experience with the use of multimedia software authoring tools.
Prerequisite: None
Corequisite: CIS 246 *2 credits*

CIS 246: Multimedia Production Lab
Interactive lab taken concurrently with CIS 245.
Corequisite: CIS 245 *1 credit*

CIS 250: Business Technology II
A hands-on study of the application of personal computers in a modern, networked business environment. Builds on material covered in CIS 150 Business Technology I. Provides instruction in the use of Microsoft Office components, with particular emphasis on advanced modeling using Excel. Other topics covered will be creation of web pages via HTML and other web authoring tools, integration of various Microsoft Office applications.
Prerequisite: CIS 150 *3 credits, Spring*

CIS 255: Database Management Systems
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.
Prerequisite: CIS 150 or CIS 173 *3 credits, Spring*

CIS 270: Information Technology and Operations
An in-depth, experiential course focusing on hardware and systems maintenance procedures. Topics include troubleshooting options, system configuration, system recovery, data and network maintenance, and general management capabilities to enable system operations.
Prerequisite: CIS 190 *3 credits, Spring*

CIS 286: Advanced Object-Oriented Techniques
The course covers application of object-oriented programming to software development which include the general topics of encapsulation, inheritance, and polymorphism. Topics also include GUI objects, event-driven programming, and exception handling.
Prerequisite: CIS 216 *3 credits, Spring*

CIS 290: Introduction to Networks
The theory and techniques of data communications design and analysis are studied. Topics include data communication concepts, terminology, and standards. Error correction and detection, LANs, ISO/OSI layers are also an integral part of this course.
Prerequisite: CIS 190 *3 credits, Fall*

CIS 302: CIS Professional Seminar
The course focuses on current issues facing engineering and software professionals. Included with the focus, is an introduction to technical speaking as well as a review of trends in the software, computing and other engineering fields, job prospects, political issues, team and workplace behavior.
Prerequisite: Junior status in a CIS or Engineering program *1 credit, Spring*

CIS 303: CIS Leadership Seminar
The Leadership Seminar introduces students to a three-dimensional model of leadership, including a repertoire of leadership skills and means of using those skills responsibly in the various communities to which they belong. In addition, the course helps students explore the relevance of leadership skills in the leadership process. Ethical reasoning and Catholic social justice teaching serve as the basis for students' leadership development as reflected both in this course and in the co-requisite Theology or Philosophy Series III course. The course provides an introduction to the practices of ethical leadership for technical professionals as well as a review of trends in the software & computing fields, job prospects, political issues, and team and workplace behavior, including current issues facing technical professionals. This course qualifies as an LS-approved Leadership Seminar.
Corequisite: LTHE/LPHI III series course *1 credit*

CIS 305: Essentials of UNIX Administration
Essentials of UNIX administration such as account management, file structure, security features are presented.
Prerequisites: CIS 214 and CIS 217 *1 credit, Fall*

CIS 310: Software Design and Test
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.
Prerequisite: CIS 216 *3 credits, Spring*

CIS 315: Software Engineering
The course provides an overview of software requirements analysis, the software design process, verification and validation, software maintenance, and documentation. The major emphasis of the course is a project that provides experience in the design and development of a significant software project.
Prerequisite: CIS 310 *3 credits, Spring*

CIS 317: Personal Software Process
The Personal Software Process (PSP) is a process-based method of software engineering used in the development of large-scale projects. 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 is used. The student progresses through a sequence of software processes developing the awareness for repeatable, quality-based development.
Prerequisite: CIS 220 *3 credits, Fall*

CIS 318: Software Architecture
The course focuses on the issues, techniques, strategies, representations and patterns used to implement a software component or a large-scale system. Specifically, it emphasizes the defining architectures that conform to functional requirements and that work within defined constraints including resource, performance, reliability, and security.
Prerequisites: CIS 310 and CIS 286 *3 credits, Spring*

CIS 320: Analysis & Design of Algorithms
Focusing on the study of the design, analysis, and complexity of algorithms, fundamental techniques, searching, sorting and order statistics, and basic graph algorithms are reviewed. The course introduces the ideas of time and space complexity. Emphasis is on providing the student with a firm background to be used for further study of algorithms using more advanced techniques.
Prerequisites: CIS 220 and MATH 222 *3 credits, Fall*

CIS 325: Formal Languages & Automata
The course presents the abstract models of computers (finite automata, pushdown automata, and Turing machines) and the language classes they recognize or generate (regular, context-free, and recursively enumerable). Topics include Turing machines, recursive functions, Church's thesis, undecidability, and the halting problem. Applications of these models to compiler design, algorithms, and complexity theory are also presented.
Prerequisites: CIS 220 and MATH 222 *3 credits, Fall*

CIS 326: Formal Methods in Software Development
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.
Prerequisites: CIS 216 and MATH 223 *3 credits, Fall*

CIS 330: Operating Systems
An introduction to the study of operating systems. Topics covered include: process manipulation and synchronization, processor management, storage management, security, I/O and file systems, and basic distributed system concepts.
Prerequisites: CIS 220 and CIS 217 *3 credits, Fall*

CIS 335: Systems Analysis and Design
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.
Prerequisites: CIS 216, and CIS 195 or CIS 310 *3 credits, Fall*

CIS 337: IS Architecture and Deployment
A project and team-based course emphasizing the practical issues in the design and implementation of information systems. The rational integration of technology options across an enterprise given organizational needs and constraints is emphasized.
Prerequisites: CIS 216, and CIS 195 or CIS 310 *3 credits, Spring*

CIS 340: Multi-Tiered Systems
A project and team-based course emphasizing the practical issues in implementing distributed and multi-tiered systems at the organizational, function, and user-support levels. Emphasis is placed on understanding the file, network, and data interactions of multi-tiered systems and on managing the systems with respect to reliability, security, and cost.
Prerequisites: CIS 240 or CIS 255, and CIS 335 or CIS 310 *3 credits, Fall*

CIS 350: Requirements and Project Management
Focusing on the management of software requirements and projects, particularly teams and stakeholders, the course includes coverage of requirements elicitation, analysis, documentation, and negotiation. It also includes the roles and methods of effective technical project management. Typical coverage includes the cost of quality, and its implications for requirements and project management.
Prerequisites: MATH 312 or BCOR 221 *3 credits, Spring*

CIS 355: Visual Database Programming
The course emphasizes 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.
Prerequisites: CIS 216 and CIS 255 *3 credits, Fall*

CIS 360: Comparative Languages
An introduction to modern computing concepts and computational models as embodied in a number of different classes of languages. The course includes an introduction to (1) function-based languages such as ML. LISP, Scheme; (2) logic-based languages such as Prolog, Parlog, Strand, OPS; and (3) object-oriented languages such as JAVA, Smalltalk, Eiffel.
Prerequisite: CIS 216 *3 credits, Fall*

CIS 370: Compilers and Language Design
Introduction to the basic concepts of compiler design and implementation including: lexical, syntactic, semantic analysis, and target code generation. Topics are presented from an implementation point of view.
Prerequisites: CIS 216 and CIS 217 *3 credits, Fall*

CIS 375: Server Management
A lab-oriented class designed to provide students with the information necessary to administer the Windows-based 2003 server family. Topics include installation and setup of a domain, along with DHCP, DNS, WINS and other server-related services with replication. Remote administration covered in great detail also.
Prerequisites: CIS 217 and CIS 385/386 *3 credits, Spring*

CIS 381: Directed Research
Directed research and development in software and its applications.
Prerequisite: Permission of the instructor *1 credit*

CIS 382: Directed Research
Directed research and development in software and its applications.
Prerequisite: Permission of the instructor *2 credits*

CIS 383: Directed Research
Directed research and development in software and its applications.
Prerequisite: Permission of the instructor *3 credits*

CIS 385: Network Design & Management
An advanced network design course covering contemporary network computing, including data, voice, multimedia, WAN and intranets. Detailed discussions along with hands-on laboratory experience with various hardware and software components that comprise these

networks. Network analysis to monitor traffic flow and to optimize overall network design is included.
Prerequisite: CIS 290 or permission of instructor
Corequisite: CIS 386 *2 credits, Fall*

CIS 386: Network Design & Management Lab
Interactive laboratory to be taken concurrently with CIS 385.
Corequisite: CIS 385 *1 credit, Fall*

CIS 387: System and Network Security
The course reviews standard computer security for desktop and server-based systems. Coverage includes network security issues and techniques. Ethical hacking and defenses against unethical hacking and other computer and network intrusions are discussed.
Prerequisite: CIS 290 and written permission of the instructor. Due to the nature of the material presented, this course normally requires a criminal background check of all participants. Students who fail the background check are not be allowed to take the course.
3 credits, Spring

CIS 390: Distributed Programming
An introduction to the fundamental techniques and tools used developing programs that rely on inter-process 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, advanced topics.
Prerequisites: CIS 216 and CIS 330 *3 credits, Spring*

CIS 391-396: Special Topics in Computer and Information Science
Special courses developed from student interest in all areas of computer and information science. A brief description of current content to be announced and may be included in the schedule of classes. The course number may be taken more than once.
Prerequisite: Permission of the Chair of the department *3 credits*

CIS 400: Internship
In conjunction with a local industry or business, the student participates in practical training related to his/her major. Academic requirements specified by the department. *3 credits*

CIS 415: Software Testing and Quality Assurance
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.
Prerequisite: CIS 315 *3 credits, Fall*

CIS 438: Human Interface Design & Maintenance
The course deals with human-computer interaction 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.
Prerequisites: CIS 355 and CIS 286 *3 credits, Fall*

CIS 445: Advanced Multi-Media
The course covers advanced multimedia concepts such as graphics, animation, video and sound; as well as the tools used to create multimedia applications. In addition, the course presents the design principles and management skills needed to develop dynamic, interactive multimedia products.
Prerequisites: CIS 245, CIS 246 or permission of the instructor *3 credits, Spring*

CIS 457: Senior Design I
The first in a two-semester capstone design sequence. Students review systems design techniques, form teams, and begin the development of an end product. Emphasis is on working effectively in teams. Course topics include systems analysis, language and presentation skills, team building, project management, ethical issues in the digital world.
Prerequisites: Senior status in a CIS Program, CIS 310 or CIS 335, and LTHE 227 or LPHI 237 *3 credits, Fall*

CIS 458: Senior Design II Lab
The completion of the capstone design sequence. Students develop and deliver a completed end product. Emphasis is on working effectively in cross-disciplinary teams. Course topics include organizational behavior, quality assurance, documentation, design process and process metrics, risk management, written and oral presentation skills, ethical issues in the digital world.
Prerequisites: CIS 457, and LTHE 227 or LPHI 237 *3 credits, Spring*

SEECS 101, 102, 201, 202, 301, 302, 401, 402: Professional and Personal Enrichment Seminar
The series of seminars for SEECS students is built around a curriculum that addresses both the professional and personal growth of the scholars. Each semester of the seminar includes a design component, a professional development component, and a personal development component. Considerable interaction among SEECS students and the faculty members fosters a sense of professional community among the students. Developmental workshops are offered to build academic, career, and social skills. Organizational and leadership skills are developed through team activities, colloquium speakers, and field trips. The course features a project where SEECS students from different academic levels and majors work together along with a community non-profit organization to identify, design, and implement a solution to a technological problem to aid the organization.

SEECS 101: Professional and Personal Enrichment Seminar
See course description above
In the first semester the SEECS seminar focuses on preparation for lifelong learning experiences.
Prerequisite: SEECS recipient with Freshman standing at Gannon University *0 credit, Fall*

SEECS 102: Professional and Personal Enrichment Seminar
See course description above
In the second semester the SEECS seminar focuses continues to focus on preparation for lifelong learning experiences.
Prerequisite: SEECS recipient with Freshman standing at Gannon University *0 credit, Spring*

SEECS 201: Professional and Personal Enrichment Seminar
See course description above
This semester the SEECS seminar focuses on the exploration of the roles of STEM professionals, specifically engineers and computer scientists, in society.
Prerequisite: SEECS recipient with Sophomore standing at Gannon University *0 credit, Fall*

SEECS 202: Professional and Personal Enrichment Seminar
See course description above
This semester the SEECS seminar continues to focus on the exploration of the roles of STEM professionals, specifically engineers and computer scientists, in society.
Prerequisite: SEECS recipient with Sophomore standing at Gannon University *0 credit, Spring*

SEECS 301: Professional and Personal Enrichment Seminar
See course description above
This semester the SEECS seminar focuses on the interaction with professionals and society, and preparation for professional practice or advanced education.
Prerequisite: SEECS recipient with Junior standing at Gannon University *0 credit, Fall*

SEECS 302: Professional and Personal Enrichment Seminar
See course description above
This semester the SEECS seminar continues to focus on the interaction with professionals and society, and preparation for professional practice or advanced education.
Prerequisite: SEECS recipient with Junior standing at Gannon University *0 credit, Spring*

SEECS 401: Professional and Personal Enrichment Seminar
See course description above
In the first semester the SEECS seminar focuses on preparation for potential educational and career paths taken after graduation from Gannon University and on personal growth.
Prerequisite: SEECS recipient with Senior standing at Gannon University *0 credit, Fall*

SEECS 402: Professional and Personal Enrichment Seminar
See course description above
In this semester the SEECS seminar continues to focus on preparation for potential educational and career paths taken after graduation from Gannon University, and on personal growth.
Prerequisite: SEECS recipient with Senior standing at Gannon University *0 credit, Spring*

COMPUTER SCIENCE (CS)

The Computer Science (CS) Program is designed to develop the analytical ability and expertise in computer usage, both in software creation and usage, which are necessary in the fields of science, technology, and industry. In addition to the computer courses, the program provides a concentration of mathematics and physics courses which are necessary for the development of scientific applications. The curriculum is oriented towards preparing students for graduate studies or for career opportunities in software development where mathematical and technical skills are necessary to analyze and solve problems.

Aims and Objectives:

The CS program prepares its graduates to achieve significant career and professional accomplishments in four ways: as employable and accountable professionals, competent problem solvers, and selfless contributors.

As employable professionals, CS graduates are well prepared for employment or graduate work in their field, and to continue working in the chosen or related fields. As accountable professionals, the graduates are accountable for their professional roles, and as such, pursue their profession in an ethical manner. This includes the responsibility for, or leadership in research/development projects or teams, aspects of major system components, or business development work. As competent problem solvers, the graduates apply current computing technology knowledge, skills, techniques and methods to develop effective solutions for problems, improve product, process and/or organizational elements, or to innovate. As selfless contributors, the graduates voluntarily give their time, talent, and/or money to their community, profession, church and/or society.

Opportunities:

The field of computer science is one of the fastest-growing employment markets in today's society. Consequently, employment and research opportunities continue to be available to program participants before graduation. Applications of the training provided in the program include a wide range of specialization, including research, statistics, and scientific applications on both workstation and microprocessor computer systems.

Program Outcomes:

Nationally accredited by the Computing Accreditation Commission (CAC) of ABET, Inc. 111 Market Pl., Suite 1050, Baltimore, MD 21202. See http://abet.org. Gannon's Computer Science program has enjoyed a long history of successful students who have learned to design and build software and to apply computer science methods in both development and research domains.

Gannon's Computer Science program has a strong focus on problem-solving beginning with the very first course in computing *(CIS 190 Principles of Computing)* and carried through into the senior design sequence *(CIS 457/458 Senior Design)*. Throughout the learning process, students learn how to effectively define and represent both problems and the solutions needed to solve those problems. Throughout the course of study, students learn and practice making ethical decisions.

All students will learn how to utilize information and computer technology, while developing and maintaining a comprehension of the changing technology used in computer-based systems. Through this learning process, we expect students to own a desire for continuous improvement and demonstrate effective verbal, written, and listening communication skills.

Specifically, Computer Science students completing our program learn to:

- **Design and build** software
- **Design and analyze** algorithms for correctness and complexity
- **Apply** discrete mathematics and abstract structures to solve computational problems
- **Understand** the interface between computer architecture and software applications
- **Apply** quantitative measures to the evaluation of computational nodes (units)

Integration:

One of the hallmarks of Gannon's CS degree is its integration with traditional liberal-studies education. Gannon's CS majors not only learn computing well, but also learn how to synthesize, think critically, and communicate well. In our program, bridging traditional courses like writing, philosophy, theology and ethics begins in the *CIS 103 CIS First-Year Seminar*, and continues throughout the program, culminating in the *CIS 457/458 Senior Design* sequence.

All CIS course descriptions are provided in the section *Computer and Information Science*

CIS Core Courses

CIS 103	First-Year Seminar
CIS 173	PC Database
CIS 190	Principles of Computing
CIS 214/215	Introduction to Programming and Lab
CIS 216	Problem Solving with OOP
CIS 217	Using UNIX
CIS 218	UNIX Shell Programming
CIS 255	Database Management Systems
CIS 290	Introduction to Networks
CIS 302	CIS Professional Seminar
CIS 355	Visual Database Programming
CIS 457	Senior Design I
CIS 458	Senior Design II Lab

Computer Science Courses

CIS 218	UNIX Shell Programming
CIS 220	Data Structures
CIS 286	Advanced Object-Oriented Programming
CIS 305	Essentials of UNIX Admin.
CIS 310	Software Design & Test
CIS 315	Software Engineering
CIS 320	Analysis & Design of Algorithms
CIS 330	Operating Systems
CIS 390	Distributed Programming
ECE 337	Computer Architecture

Language Design: CIS 360 or CIS 370

CIS 360	Comparative Languages
CIS 370	Compilers and Language Design

Technical Electives

Students choose three technical electives with approval of their academic advisor. Aside from regular CS courses, the courses typical for CS Technical Electives include:

CIS 207	Introduction to Business Programming: COBOL
CIS 224	Advanced COBOL Programming
CIS 240	Web Management and Design
CIS 245/246	Multimedia Production & Lab
CIS 270	Information Technology and Operations
CIS 317	Personal Software Process
CIS 318	Software Architecture
CIS 326	Formal Methods in Software
CIS 335	Systems Analysis and Design
CIS 337	IS Architecture and Deployment
CIS 340	Multi-Tiered Systems
CIS 350	Requirements and Project Management
CIS 375	Server Management
CIS 385/386	Network Design and Management & Lab
CIS 387	System and Network Security
CIS 391-6	Special Topics in CIS
CIS 400	Internship
CIS 415	Software Testing and Quality Assurance
CIS 438	Human Interface Design and Maintenance
CIS 445	Advanced Multi-Media

Other CIS 300- or 400-level course with permission.

Science and Math/Science Electives

Students choose one science elective with an associated lab, and one math or science elective, each with approval of their academic advisor. These may not be courses that are prerequisites for other required courses. Science courses with associated labs qualified for majors or minors in that discipline may be used as science electives. Mathematics elective courses include *CIS 326 Formal Methods in Software Development* or any mathematics course that counts for mathematics majors or minors.

Computer Science Curriculum

FRESHMAN

	Fall		*Spring*
3	Principles of Computing/CIS 190	2	Intro Programming/CIS 214
1	PC – Database/CIS 173	1	Intro Programming Lab/CIS 215
2	First-Year Seminar/CIS 103	3	Calculus 2/MATH 141
3	Calculus 1/MATH 140	3	Critical Analysis & Comp/LENG 112
3	Intro Philosophy/LPHI 131	3	History of the West & World/ LHST 111
3	College Composition/LENG 111	3	Physics III/PHYS 111
		1	Physics III Lab/PHYS 112
15		16	

SOPHOMORE

	Fall		*Spring*
3	Problem Solving with OOP/CIS 216	3	Data Structures/CIS 220
3	Intro Networks/CIS 290	3	Database Management Systems/ CIS 255
1	Using UNIX/CIS 217	3	Adv Object-Oriented Programming/ CIS 286
1	UNIX Shell Programming/CIS 218	3	Software Design and Test/CIS 310
3	Discrete Mathematics 1/MATH 222	3	Philosophy II Series/LPHI
3	Sacred Scripture/LTHE 121	3	Discrete Mathematics 2/MATH 223
3	Physics IV/PHYS 212		
1	Physics IV Lab/PHYS 213		
18		18	

JUNIOR

	Fall		*Spring*
3	Visual Database Programming/ CIS 355	1	CIS Professional Seminar/CIS 302
3	Operating Systems/CIS 330	1	Leadership Seminar/CIS 303
3	Analysis & Design of Algorithms/ CIS 320	3	Software Engineering/CIS 315
3	Probability & Statistics I/MATH 312	3	Distributed Programming/CIS 390
3	Project Economics/ECON 285	3	Computer Architecture/ECE 337
		3	Theology II Series/LTHE
		3	Theo or Phil III Series/LTHE or LPHI
15		17	

SENIOR

	Fall		*Spring*
3	Senior Design I/CIS 457	3	Senior Design II Lab/CIS 458
3	Comparative Languages/CIS 360	3	Technical Elective
1	Essentials of UNIX Administration/ CIS 305	3	Literature Series/LENG
6	Technical Elective	3	Fine Art Series/LFIN
3	Science Elective	3	Math/Science Elective
1	Science Elective Lab		
17		15	

Computer Science Minor Requirements (18 credits)

3	Principles of Computing/CIS 190
3	Introduction to Programming & Lab/CIS 214, 215
3	Problem Solving with Object-Oriented Programming/CIS 216
3	Data Structures/CIS 220
3	Introduction to Networks/CIS 290
3	Technical Elective
18	

ELECTRICAL and COMPUTER ENGINEERING

FONG MAK, Ph.D., P.E., *Chairperson*

FACULTY: *Professors:* Mehmet Cultu, Fong Mak. *Associate Professors:* Wookwon Lee, Ramakrishnan Sundaram. *Assistant Professors:* Lin Zhao, Qing Zheng, Yong-Kyu Jung. *Instructor:* Donald MacKellar. *Retired Professors:* Roy E. Voshall, Samuel L. Hazen.

Program Educational Objectives:

The Electrical Engineering Program has two options: *Electrical and Electronics* and *Computer Engineering*. The program is designed to guide students to build technical competency, and effective communication and leadership skills. Our program integrates the Core of Discovery and emphasizes holistic student development in accordance with the mission of Gannon University. The program educational objectives for the undergraduate program, which leads to a Bachelor of Science degree in Electrical Engineering, are to produce graduates who:

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
4. Demonstrate *passion for life-long learning* through engaging in the rapidly changing and emerging areas of technology, and/or continued professional development

To achieve these objectives, the ECE Program maintains a modern curriculum, state-of-the-art laboratories and teaching techniques, a well-qualified faculty, and a strong advising system.

Student Outcomes:

This program of study has been specifically developed so that students completing our program shall have:

(a) an ability to apply knowledge of mathematics, science, and engineering

(b) an ability to design and conduct experiments, as well as to analyze and interpret data

(c) an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability

(d) an ability to function on multidisciplinary teams

(e) an ability to identify, formulate, and solve engineering problems

(f) an understanding of professional and ethical responsibility

(g) an ability to communicate effectively

(h) the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context

(i) a recognition of the need for, and an ability to engage in life-long learning

(j) a knowledge of contemporary issues

(k) an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

(l) a knowledge and an ability to apply mathematics including probability, statistics, and discrete mathematics

(m) an ability to develop systems containing hardware and software components

(n) an ability to analyze and design complex electrical and electronic devices

Opportunities:

Electrical and Computer Engineering covers a wide variety of areas:

Computer and Digital Systems Engineering
Telecommunications Systems Engineering
Hardware & Software Engineering
Embedded Systems Engineering
Information Technology
Power Generation and Distribution
Power Electronics and Machine Drive/Control
Electronic Design and Circuit Fabrication
Control Systems Engineering
Optical Engineering

In these challenging fields there are several areas where engineers contribute:

- Research — Create and prove new ideas.
- Design & Development — Apply research & engineering techniques to the solution of problems.
- Process & Quality Control — Apply analysis skills to improve product and process effectiveness.
- Production — Apply knowledge to manage manufacturing.
- Marketing & Sales — Identify and fulfill the needs of customers and markets.
- Service — Apply engineering skills to maintain products and serve customer needs.

Facilities:

The department has laboratories for undergraduate education and research. These include specific laboratories that support:

- power electronics and electric machines
- circuits
- electronics
- digital logic & microprocessors
- PC/Unix Computing

The Program:

Electrical Engineering students are required to take a total of 131-132 credits depending on option taken. This includes (1) 48 credits of the Core of Discovery composed of theology, philosophy, ethics/moral responsibility, history, writing, speech, fine arts, literature, social science, science, mathematics, first-year seminar, leadership seminar, and senior capstone, (2) 20-23 additional credits of basic science and math, (3) 60-64 credits of engineering courses. The breakdown of courses in the categories is given in the course descriptions below.

This program leads to a Bachelors of Science degree in Electrical Engineering. This degree is accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org.

There are two technical options in Electrical and Computer Engineering. They are: *Electrical and Electronics Option and Computer Engineering Option*. The freshmen year is the same for both options. Students should select either option by the beginning of their sophomore year. The student can switch options, but this may require additional coursework.

A five-year Electrical Engineering cooperative program is available. The student must meet the same requirements as the four-year program, plus spend a minimum of three semester equivalents in industry. In addition, a five-year Electrical Engineering/MBA program is available. The student must meet the same requirements as the four-year program plus four more semesters (2 summers) completing the MBA.

COURSE DESCRIPTIONS:

ENG 100: First-Year Seminar in Engineering
The First-Year Seminar in Engineering is designed to orient the new student to Gannon University, to introduce engineering as a professional field, to connect with the Liberal Studies Core and LIFECORE, to assist in the transition from high school to university life, and to encourage development of academic, personal and spiritual aspects of the student's life. The First-Year Seminar in Engineering will stimulate and enhance the student's interest in and their understanding of engineering. *2 credits*

ENG 101: Introduction to Engineering
Introduction to Engineering is intended to stimulate and enhance student's interest and their understanding of engineering. Various disciplines will be reviewed. The design process, problem solving and systems approach to engineering design will be presented. Consideration on criteria of economics, environmental concerns, ethics, health and safety will be discussed. The experimental component of the course is intended to review the foundation of scientific experimentation and reporting and introduce various measurement devices and methods used in engineering. The importance of experience, observation and analogies in problem solving will be emphasized. Various skills needed for problem solving in engineering will be discussed and practiced throughout the course. These skills include team skills, perspective of quantity and size, communications skills and basic computer skills. *3 credits*

ENG 326: Automatic Control
See description in ECE 326 section *3 credits*

ENG 327: Automatic Control Laboratory
Three hours per week to accompany the course material of Automatic Control.
Prerequisite: ECE 326 or ME 326 *1 credit*

ENG 364: Engineering Economics
Basic elements and methods of economy as applied to engineering, elements of economy, cash flow diagrams, economy factors and their use, depreciation and depletion, present worth and cost, benefit/cost ratio, service life, replacement and retirement analysis.
Prerequisite: Instructor's permission and junior standing *3 credits*

ECE 105: Engineering Tools Applications
This course introduces students to use MATLAB as an engineering tool to solve engineering problems. The emphasis is on a top-down design methodology and uses it consistently throughout problem solving. Topics include essential computer programming skills with good programming practices that provide a strong foundation to other advanced languages. Different applications such as circuit analysis and mathematical algorithms are examples covered in the course.
Co-requisite: ECE 106 *1 credit*

ECE 106: Engineering Tools Applications Lab
Laboratory experience to complement ECE 105. Three hours per week. Concurrent with ECE 105.
Co-requisite: ECE 105 *1 credit*

ECE 111: Introduction to C Programming
This course is designed for students to build a solid foundation in problem solving with C programming language. Introductory C programming concepts and techniques will be discussed. Contents of the course include: program structure, data types, variables, flow control, functions, I/O's, arrays, strings, pointers, structure and union. *3 credits*

ECE 140: Digital Logic Design
This course introduces fundamental design concepts and processes for digital logic. Boolean algebra and logic gate operations are discussed, followed by combinational network design and sequential network concepts and design. The use of computer-aided design tools to support circuit design is an integral part of the course.
Co-requisite: ECE 141 *3 credits*

ECE 141: Digital Logic Design Laboratory
This laboratory course is to be taken concurrently with ECE140. The laboratory provides hands-on experience with logic design that includes the applications of Boolean Algebra, Karnaugh Maps, decoders, multiplexers, and flip-flops. Topics also include combinational network design and sequential network design. The use of contemporary software tools to support the digital design process is an integral part of the laboratory.
Co-requisite: ECE 140 *1 credit*

ECE 216: Problem Solving with Object-Oriented Design
This course is designed for students to develop ability in problem solving with object-oriented concepts and programming skills. Introductory C++ syntax and program structure will be discussed. Object-oriented coding style and concepts such as classes and abstraction, inheritance, and virtual functions will be covered.
Prerequisite: ECE 111 *3 credits*

ECE 217: Data Structure and Algorithm
This course involves an in-depth programming-based study of data structures, algorithms, and cooperating programming techniques used in real-time and embedded systems. Topics include static and dynamic structures, hashing, searching, signals, distributive and concurrent inter-process communication. Discussions will also cover compiler-linker, multi-core, and other trade-off that impact real-time systems performance.
Prerequisite: ECE 111 *3 credits*

ECE 228: Circuits I
This course introduces the basic passive components (R, L, and C) and their terminal voltage and current characteristics. Basic circuit concepts, such as Kirchhoff's laws, linearity/superposition/Thevenin & Norton equivalents, and the max power theorems are established. The analysis of DC and transient circuits including dependent and independent sources is considered along with the use of computer-aided design tools for solution and verification of problems. AC circuits are also studied.
Prerequisite: MATH 140 or permission of Chair. *3 credits*

ECE 229: Circuits Laboratory
This laboratory course is to be taken concurrently with ECE 228 (Circuits I). The laboratory provides hands-on experience with DC and AC circuits that includes the applications of Kirchoff's laws, superposition, Thevenin and Norton equivalent circuits. Topics also include operational amplifier circuits and phasor diagrams. The use of contemporary computer-aided design in support of circuit analysis and design is an integral part of the laboratory.
Co-requisite: ECE 228 *1 credit*

ECE 231: Introduction to Electrical Engineering
This is a basic course that provides general introduction to circuit theory, electronic circuits and electric machines. This course cannot be taken for credit for by Electrical and Computer Engineering students.
Prerequisite: PHYS 214 and MATH140 *3 credits*

ECE 232: Introduction to Electrical Engineering Laboratory
This laboratory course is to be taken concurrently with ECE231. The laboratory provides hands-on experience with DC and AC circuits that includes the applications of Kirchhoff's laws, superposition and Thevenin equivalent circuits. Topics also include operational amplifier circuits, phasor diagrams and electric machines.
Co-requisite: ECE 231 *1 credit*

ECE 240: Circuits II
This course introduces AC circuits and three-phase circuit analysis. Power concepts are introduced as pertaining to single and three-phase circuit applications. Frequency response characteristics of RLC circuits are studied, including the Fourier Series representation of a periodic signal. Frequency domain tools such as Laplace Transforms and Fourier Transforms are presented and employed in circuit analysis. Modern computer-aided design tools are used for solving homework assignments.
Prerequisite: ECE 228 and 229 *3 credits*

ECE 241: Circuits II Lab
This laboratory course is to be taken concurrently with Circuits II ECE 240. The laboratory provides hands-on experience with AC circuits that includes the transient analysis and frequency response applications of first- and second-order circuits. Topics also include

Butterworth filter design for frequency response applications. The use of a contemporary computer-aided design tool in support of circuit design is an integral part of the laboratory.
Co-requisite: ECE 240 *1 credit*

ECE 243: Test and Measurement
This course introduces tools from the industry-approved National Instruments (NI) software and hardware products. The students will design and build virtual instruments (VIs) using the graphical programming language LabVIEW to acquire, analyze, and present data. They will develop measurement techniques and understand the limitations of measurement and instrumentation. In addition, sensor and transducer characteristics and their applications will be presented. *3 credits*

ECE 246: Microprocessors
This course is designed to give students a basic background in hardware and software aspects of microprocessors. Contents of the course include: a microprocessor architecture, addressing modes, instruction set, assembly language, timers, I/O interrupt handling, mixed C/ Assembly programming, finite state machine design, basic peripheral interfaces, UART, ADC and DAC. Microcontroller configuration. Schematic entry and basic PCB design.
Prerequisites: ECE 140 or ECE 337
Co-requisite: ECE 247 *2 credits*

ECE 247: Microprocessors Lab
This lab is designed to complement the microprocessors lecture course. Topics include software tool usage, microprocessor architecture, assembly language programming and basic peripheral interfaces.
Co-requisite: ECE 246 *1 credit*

ECE 311: Embedded Kernel & RTOS
This course covers basic understanding of embedded kernel and real-time operating system paradigms. Topics include process management, process synchronization, and memory management. Embedded kernel topics will be implemented on an embedded-system platform. RTOS topics will be implemented on commercial real-time operating systems.
Pre-requisite: ECE 217 *3 credit*

ECE 321: Electronics I
This course focuses on the design and analysis of electronic circuits, devices, and processes at the system and sub-system level. Electronic circuits and processes are explained through the integration of sub-systems comprising electronic devices such as oscillators, voltage regulators, and switching circuits. From a cause-effect standpoint, the electronic devices such as diodes, transistors (BJT and FET), and operational amplifiers are studied. The use of contemporary software tools for electronic circuit/process design and analysis is an integral part of the course.
Prerequisite: ECE 228
Co-requisite: ECE 322 *3 credits*

ECE 322: Electronics I Lab
This lab is to accompany Electronics I and taken concurrently with it. Lab topics complement closely classroom discussion of various designs.
Co-requisite: ECE 321 *1 credit*

ECE 324: Electric Machines
This course introduces the fundamental principles of transformers, energy conversion and the operational principles of electric machines. Induction machines, Synchronous machines, and DC machines are discussed including their steady-state characteristics and operations.
Prerequisites: ECE 335 *3 credits*

ECE 325: Electric Machines Laboratory
Three hours per week to follow Electric Machines.
Prerequisite: ECE 324 *1 credit*

ECE 326: Automatic Control
An introduction to dynamic systems with emphasis on feedback control. Representation of control components in various engineering systems. Steady state and transient specification and stability characteristics to design interdisciplinary engineering systems.
Prerequisite: ECE 330 or MATH 307 or permission of chair *3 credits*

ECE 327: Electric Drives
This course uses an integrative 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.
Prerequisite: ECE 240, ECE 335 *3 credits*

ECE 328: Electric Drives Laboratory
This lab is to follow Electric Drives to give hand-on experience of the subjects covered. It is three-hour per week laboratory
Prerequisite: ECE 327 *1 credit*

ECE 330: Signals and Systems
Signals and linear systems in continuous time and discrete time are studied. Both Time Domain solution methods and Frequency Domain solutions (Laplace Transform and Z Transform) are covered. Fourier Series, Fourier Transform and sampling theory are also studied.
Prerequisites: ECE 228 and MATH 141 *3 credits*

ECE 333: Electronics II
This course focuses on the study, operation, and analysis of electronic circuits, devices, and processes at the component-level. Topics include the "1-V" characteristics, the DC load line and operating point, the AC load line, large signal and small signal analysis of electronic circuits comprising diodes, transistors (BJT, FET), and operational amplifiers. The use of contemporary software tools to analyze the behavior of electronic components is an integral part of the course.
Pre-requisite: ECE 321
Co-requisite: ECE 334 *2 credits*

ECE 334: Electronics II Laboratory
This lab is to accompany Electronics II and taken concurrently with it. Lab topics complement closely classroom discussion of various designs.
Co-requisite: ECE 333 *1 credit*

ECE 335: Electromagnetic Fields
This course emphasizes the fundamental principles of electric and magnetic fields with application to transmission lines, wave propagation. Brief introduction to vector analysis is given followed by a thorough introduction to Maxwell's equations. Waves in space and their interaction with media are discussed with analogies to wave behavior on transmission lines.
Prerequisites: MATH 242 and ECE 240 *3 credits*

ECE 336: Solid State Material and Devices
Crystal properties and growth in semiconductors, atomic and electron properties, energy bands and charge carriers in semiconductors, junctions, p-n junction diodes, BJTs and FETs, ICs and semiconductors. Fabrication of junctions and diodes is considered.
Prerequisites: CHEM 111 and MATH 307 *3 credits*

ECE 337: Computer Architecture
Understanding of computer interactions between hardware and software, including Von-Neumann and Harvard architectures. Topics include hardware, software and system

performance measures, instruction-set architecture as well as the understanding of computer instructions and assembly language programming, computer arithmetic, processor control and data manipulation, memory hierarchy and performance, I/O subsystems and advanced topics.
Prerequisites: ECE 111 or CIS 214 and either MATH 222 or ECE 140 *3 credits*

ECE 345: Advanced Digital Design
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. Topics include the use of CAD tools for schematic- and hardware description language-based design entry for simulation, synthesis, post-synthesis analysis and implementation on a programmable target device. An integrated design and development environment will be used throughout the course.
Prerequisite: ECE 140 *2 credits*
Co-requisite: ECE 346

ECE 346: Advanced Digital Design Laboratory
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. Mentor Graphics and Xilinx ISE integrated design and development environment will be used throughout the course.
Co-requisite: ECE 345 *1 credit*

ECE 347: Embedded Systems Design
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.
Prerequisites: ECE 140 and ECE 246 *3 credits*

ECE 349: Rapid Prototyping with FPGA
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.
Prerequisites: ECE 345 *3 credits*

ECE 351: Engineering Analysis
Theory and application of linear algebra, numerical analysis, complex variables, probability and statistics for engineering problems. Application of Matlab.
Prerequisite: MATH 304 *3 credits*

ECE 357: Senior Design
Discussion of design fundamentals. Application of design principles to a design problem. Determination of a complete problem definition/ specification. Development of a conceptual design and a preliminary design with alternatives. Establish a schedule and tentative test plan. Discuss ethics and ethical standards and consider impact on engineering decisions (examples considered). Develop skills in effective communication. Present design at a formal design review to colleagues at terms end.
Prerequisite: Senior standing and permission of the chair. *3 credits*

ECE 358: Senior Design Laboratory and Seminar
Prototype development based upon design specification of ECE 357. Test plan developed and

implemented on the prototype. Alternative considerations, risk management and possible design changes following initial prototype results. Develop skills in effective communication. The outcome will include a complete design document and a final presentation. Student teams will present their final prototypes to a review committee including peers, faculty and/or invited industrial guests.
Prerequisite: ECE 357 *3 credits*

ECE 363: Power System Engineering I
Models for elements of power system are studied. Per unit values and per unit system are discussed. Power flow studies are investigated. Gauss Seidel, Newton Raphson, and Decoupled lead flow are studied. Balanced faults are discussed.
Prerequisite: ECE 324 *3 credits*

ECE 366: Power System Engineering II
Symmetrical components are studied. Power System under fault conditions is analyzed using symmetrical components. Economic operations of power systems are studied. Problem of power systems stability is discussed. Analysis of two machine system is performed using equal area criterion. Multi-machine stability is discussed.
Prerequisite: ECE 363 *3 credits*

ECE 380: Professional Seminar
This course covers issues facing electrical, computer and software engineering professionals. It also reinforces students' capabilities in public speaking, small group collaboration, interpersonal communication, active listening, as well as competent reading skills. Topics include trends in the field, job prospects, political issues, team and workplace behavior, project leadership, as well as exercises in oral presentations, formal written reports, and effective two-way communication. This course is designed to deliver a capstone senior design project idea by the end of the semester.
Co-requisite: Junior Standing *1 credit*

ECE 390-399: Special Topics in Electrical and Computer Engineering
Special courses developed from student interest in all areas of electrical engineering. Brief description of current content to be announced in schedule of classes.
Prerequisite: Permission of the chair. *3 credits*

ECE 421: VLSI Design
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.
Prerequisites: ECE 321 *3 credits*

ECE 437: Advanced Computer Architecture
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.
Prerequisites: ECE 337 *3 credits*

ECE 438: Real-Time Application
Real-time system is one that reacts to the dynamic external environment under certain timing constraints. Real-time systems are becoming increasingly prevailing since more and more applications require real-time computing. This course focuses on design and analysis of software for real-time systems. It is to provide students with a basic understanding of real-time applications. The topics covered in this course include: introduction to real-time systems,

scheduling algorithms and timing analysis, real-time operating systems, system impacts to real-time performance and software architectures, as well as simulation and verification of real-time applications. Hands-on experiences will be gained by using contemporary software tools. *3 credits*

ECE 440: Hardware/Software Co-design
This course will present state-of-the-art concepts and techniques for hardware/software co-design of embedded systems. Topics include system level design methodologies of hardware/software co-design, system modeling and specification, architectures for embedded systems, hardware/software trade-off, performance evaluation, hardware/software co-synthesis and co-validation. The course follows the top-down design paradigm using predefined and user custom IP cores. Contemporary CAD software tools and hardware platforms including Xilinx Embedded Development Kit (EDK), Xilinx Integrated Software Environment (ISE), ModelSim, GUN compiler and debugger (GDB), as well as Spartan 3 Starter Board will be used throughout the course.
Prerequisite: ECE 345, ECE 347 *3 credits*

ECE 451: Optical Devices and Systems
This course presents an introduction to electro optics. Topics include topics of wave propagation, interaction with both isotropic and anisotropic materials, modulation techniques, lenses and lens systems, optical sources and optical detectors. Optical systems, subsystems and applications are considered.
Prerequisites: ECE 333 and ECE 335 *3 credits*

ECE 456: RF Circuit Integration
Unifies concepts from circuits, electronics, communications and electromagnetic field theory. Applies concepts to subsystem radio frequency design: filtered amplifiers, oscillators, mixers, filters, power amps, transmission lines, and digital processing. Design of systems using discrete elements along with integrated elements is considered. RF on a chip technology is also considered in the lab for high technology communication system application.
Prerequisites: ECE 333, ECE 335 *3 credits*

ECE 465: Power Electronics
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 prior to the introduction of the design and application of converters. Emphasis is on the design issues associated with converters and the computer techniques used for the performance evaluation and analysis. Experiments are part of the course.
Prerequisites: ECE 333 *3 credits*

ECE 466 Modeling and Analysis of Electric Drives
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.
Prerequisite: ECE 324 *3 credits*

ECE 471: Control of Electrical Machines
This course introduces the concept on the control of electric machines (DC and AC). Emphasis is placed on fundamentals, and conventional methods of speed control of electric machines. Control strategies using power semiconductors for DC motor drives, induction motor drives, synchronous motor drives, and brushless dc and ac motors are discussed.
Prerequisite: ECE 324 *3 credits*

ECE 472: Digital Signal Processing
This course emphasizes the fundamental principles of signals and systems, sampling theorem, discrete-time Fourier transform, power spectrum, z-transform, discrete Fourier transform (DFT) and the fast Fourier transform (FFT) algorithm, digital filter design and implementation. Matlab/Simulink will be used to evaluate implementations of digital signal processing algorithms.
Prerequisite: ECE 330 *3 credits*

ECE 474: Artificial Neural Networks
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. Implementations will be evaluated in Matlab/Simulink.
Prerequisite: senior standing *3 credits*

ECE 475: Advanced Instrumentation and Measurement
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. *3 credits*

ECE 483: Intro to Communication Systems
This course emphasizes Fourier Series / Transform and FFT, frequency shifting concepts ideally and in reality. Analog modulation techniques and technology including digital enhancement techniques (amplitude, sideband and frequency modulation), sampling theory and digital modulation (PAM, PWM, PPM, PCM) are considered. Noise aspects considered in determining best SNR technique. Both time and frequency multiplexing and practical examples are included.
Prerequisite: ECE 330 *3 credits*

ECE 484: Wireless System Applications
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. *3 credits*

ECE 485: Advanced Programming In C/C++
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.
Prerequisite: ECE 111 *3 credits*

ECE 486: Object-Oriented Modeling
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.
Prerequisite: ECE 216 *3 credits*

ECE 488: Modern Control Theory
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
Prerequisite: ECE 326 *3 credits*

ECE 489: Digital Control
This course deals with the control of dynamic systems by employing classical and modern control tools incorporating a digital computer in the control loop. It builds upon the foundational concepts of continuous-time control, and provides the background needed for practicing engineers to enhance their knowledge in the area of digital control system. Topics of discussion are state-space and transfer function representations, Z-transform, digital control system design, filter design, state-space approach to control system design, linearization, stability, system identification, and adaptive control.
Prerequisite: ECE 326 *3 credits*

ECE 490-499: Advanced Topics in Electrical and Computer Engineering
Advanced courses developed from student interest in all areas of electrical engineering. Brief description of current content to be announced in schedule of classes.
Prerequisite: Permission of the chair. *3 credits*

SEECS (101, 102, 201, 202, 301, 302, 401, 402): Professional and Personal Enrichment Seminar
Course description is listed in Computer & Information Science section of the catalog.
0 credit, Fall and Spring

Electrical and Electronics Option of ECE Curriculum

(Numerals in front of courses indicate credits)

FRESHMAN

	First Semester		*Second Semester*
3	College Composition/LENG 111	3	Critical Analysis & Comp/LENG 112
3	Sacred Scripture/LTHE 121	3	Intro to C Programming/ECE 111
3	Calculus I/MATH 140	3	Calculus II/MATH 141
3	Hist of West and World/LHST 111	3	Digital Logic Design/ECE 140
1	Eng Tools Applications/ECE105	1	Digital Logic Design Lab/ECE 141
1	Eng Tools Applications Lab/ECE106	3	Circuits I/ECE 228
2	First-Year Seminar/ENG 100	1	Circuits I Lab/ECE 229
16		17	

SOPHOMORE

	First Semester		*Second Semester*
3	Introduction to Philosophy/LPHI 131	3	Signals and Systems/ECE 330
3	Calculus III/MATH 242	3	Electronics I/ECE 321
3	Test & Measurement/ECE243	1	Electronics I Lab/ECE 322
3	Circuits II/ECE 240	3	Theology II Series/LTHE
1	Circuits II Lab/ECE 241	3	Physics III/PHYS 111
2	Microprocessors/ECE 246	3	Calculus IV/MATH 243
1	Microprocessors Lab/ECE 247	1	Physics III Lab/PHYS 112
16		17	

JUNIOR

	First Semester		*Second Semester*
3	Differential Equations/MATH 304	3	Philosophy II Series/LPHI
3	Electronics II & Lab/ECE 333, 334	3	Electric Drives/ECE 327
3	Electromagnetic Fields/ECE 335	1	Professional Seminar/ECE 380

3	Automatic Control/ECE326	3	Power Electronics/ECE 465
3	Theology/Phil III Series/LTHE or LPHI	1	Automatic Control Lab/ENG 327
		3	Engineering Analysis/ECE351
1	Leadership Seminar	3	Social Science
16		17	

SENIOR

	First Semester		*Second Semester*
3	Senior Design I/ECE 357	3	Senior Design II/ECE 358
3	Chemistry/CHEM 111	3	Intro to Thermal Science/ME 212
1	Chemistry Lab/CHEM 112	3	Free Elective
3	Physics IV/PHYS 212	3	Fine Arts Series/LFIN
3	Technical Elective 1++	3	Technical Elective 2++
1	Electric Drives Lab/ECE 328		
3	Literature Series/LENG		
17		15	

Computer Engineering Option of ECE Curriculum

(Numerals in front of courses indicate credits)

FRESHMAN

	First Semester		*Second Semester*
3	College Composition/LENG 111	3	Critical Analysis & Comp/LENG 112
3	Sacred Scripture/LTHE 121	3	Intro to C Programming/ECE111
3	Calculus I/MATH 140	3	Calculus II/MATH 141
3	Hist of West & World/LHST 111	3	Digital Logic Design/ECE 140
1	Eng Tools Application/ECE105	1	Digital Logic Design Lab/ECE 141
1	Eng Tools Application/ECE106	3	Circuits I/ECE 228
2	First-Year Seminar/ENG 100	1	Circuits I Lab/ECE 229
16		17	

SOPHOMORE

	First Semester		*Second Semester*
3	Discrete Math 1/MATH 222	3	Theology II Series/LTHE
2	Microprocessors/ ECE 246	3	Signals & Systems/ECE 330
1	Microprocessors Lab/ECE 247	3	Electronics I/ECE 321
3	Calculus III/MATH 242	1	Electronics I Lab/ECE 322
3	Prob Solving w OOP/ECE 216	3	Physics III/PHYS 111
3	Introduction to Philosophy/LPHI 131	1	Physics III Lab/PHYS 112
3	Test and Measurement/ECE 243	3	Data Structure & Algorithms/ ECE 217
18		17	

JUNIOR

	First Semester		*Second Semester*
3	Theology/Phil III Series/LTHE or LPHI	3	Philosophy II Series/LPHI
		3	Engineering Analysis/ECE 351
3	Embedded Kernel & RTOS/ECE 311	1	Automatic Control Lab/ENG 327
3	Automatic Control/ECE 326	3	Embedded Systems Design/ECE 347
2	Advanced Digital Design/ECE 345	3	Computer Architecture/ECE 337
1	Advanced Digital Design Lab/ECE 346	1	Professional Seminar/ECE 380
3	Differential Equations/MATH 304	3	Rapid Prototyping w FPGA/ ECE 349
1	Leadership Seminar		
16		17	

SENIOR

	First Semester		*Second Semester*
3	Senior Design I/ECE 357	3	Senior Design II/ECE 358
3	Real-Time Application/ECE 438	3	Technical Elective++
3	Physics IV/PHYS 212	3	Free Elective
3	Literature Series/LENG	3	Fine Arts Series/LFIN
3	General Chemistry I/CHEM 111	3	Social Science
1	Gen Chemistry I Lab/CHEM 112		
16		15	

++Technical Electives

Technical electives are specialized courses intended to allow students to focus the breadth or depth of their degree program. Students should plan for these courses well in advance (at least a year) to ensure that the course(s) they are interested in will be offered in the sequence in which they can enroll. Students should plan their course sequence in order to have the appropriate pre-requisites. *In all cases, students should select these courses in consultation with their academic advisor.*

Students in all ECE degree options are required to take two technical electives. The following table indicates which courses are pre-approved technical electives for which degree option. A '*' indicates that the course is approved as a technical elective.

Elective Courses:	***Electrical & Electronics***	***Computer Engineering***
ECE 240/1: Circuits II & Lab		*
ECE 243/4: Instrumentation and Measurement & Lab	*	*
ECE 324: Electric Machines		
ECE 326: Automatic Control		*
ECE 333/4: Electronics II & Lab		
ECE 335: Electromagnetic Fields		
ECE 336: Solid State Material and Devices	*	
ECE 337: Computer Architecture	*	
ECE 345/6: Advanced Digital Design & Lab	*	
ECE 347/8: Embedded Systems Design & Lab	*	
ECE 363: Power System Engineering I	*	
ECE 366: Power System Engineering II	*	
ECE 390-399: Special Topics in Electrical Engineering	*	*
ECE 421: VLSI Design	*	*
ECE 437: Advanced Computer Architecture	*	*
ECE 449: VHDL Design	*	*
ECE 451: Optical Devices and Systems	*	
ECE 456: R F Circuit Integration	*	
ECE 466: Modeling & Analysis of Electric Drives	*	
ECE 471: Control of Electrical Machines	*	
ECE 472: Digital Signal Processing	*	*
ECE 474: Artificial Neural Networks	*	*
ECE 483: Communication Theory	*	
ECE 485: Advanced Programming in C/C++	*	*
ECE 486: Object-oriented Modeling	*	*
ECE 488: Modern Control Theory	*	*
ECE 489: Digital Control	*	*
Other ECE3xx or ECE4xx course, with advisor approval	*	*
CIS 3xx or CIS4xx Course, with advisor approval	*	*
CIS 286 Adv. Object-Oriented Techniques		*
CIS 315 Software Engineering		*

Five Year Program - Electrical Engineering/MBA

The School of Engineering and Computer Science in cooperation with the Dahlkemper School of Business offers a special program for qualified undergraduates leading to a Bachelor of Science in Electrical Engineering Degree and a Master of Business Administration Degree. The program may be completed in five years of full time study (includes three summers).

The first three years of the 5 year Electrical Engineering/MBA option is identical to the Electrical Engineering course of study.

	SUMMER
3	Management Concepts
3	Statistical Analysis
3	Financial Accounting

The Senior year is identical to other Electrical Engineering options.

Waive

GA 500	Computer Workshop
GA 521	Quantitative Techniques
GA 561	Fundamentals of Financial Management

FIFTH YEAR

Summer	MBA Courses	*Fall*	MBA Courses
Spring	MBA Courses	*Summer*	MBA Courses

Electrical Engineering Co-Op Curriculum

Plan A

Year 1	Fall 1	Spring 1	Summer Vacation
Year 2	Fall 2	Spring 2	4 month WP*
Year 3	Fall 3	4 month WP	Summer**
Year 4	4 month WP	Spring 3	4 month WP
Year 5	Fall 4	Spring 4	

Plan B

Year 1	Fall 1	Spring 1	Summer Vacation
Year 2	Fall 2	4 month WP	Summer**
Year 3	4 month WP	Spring 2	4 month WP
Year 4	Fall 3	Spring 3	4 month WP
Year 5	Fall 4	Spring 4	

Plan C

Year 1	Fall 1	Spring 1	Summer Vacation
Year 2	Fall 2	Spring 2	4 month WP
Year 3	Fall 3	Spring 3	4 month WP
Year 4	Fall 4	4 month WP	Summer**
Year 5	4 month WP	Spring 4	

** Work Period*
*** Core of Discovery Courses*

Notes:

(1) Fall and Spring follow the regular engineering schedule.

(2) For maximum financial aid, 12 credits of Core of Discovery Courses should be taken during the 4 month summer session listed.

(3) One credit Co-Op seminar (ME 296, ECE 296) is to be taken during the Spring Semester of freshman year.

DEPARTMENT OF ENVIRONMENTAL SCIENCE & ENGINEERING

HARRY R. DIZ, Ph.D., P.E., *Chair, Department of Environmental Science & Engineering*

FACULTY: *Associate Professors:* Harry R. Diz, Michelle Homan. *Assistant Professor:* Hwidong Kim.

The department offers majors in **Environmental Science** and **Environmental Engineering,** and a minor in **Earth Science.** There is also a **5 year Combined B.S./M.S. degree program in Environmental Science (see below).**

ENVIRONMENTAL SCIENCE

The **Bachelor of Science in Environmental Science** degree is a rigorous interdisciplinary curriculum that builds competence in basic science, environmental technologies, computation skills, and communication skills. The program is designed for students with strong analytical abilities with a curriculum that includes courses in environmental science as well as biology, chemistry, physics, earth science, and mathematics. Computer applications are used in many courses, including at the higher levels, the use of software designed or sponsored by the USEPA. A high level of competence in the use of word processing, presentation software, and spreadsheets will be required. The Environmental Science B.S. degree allows students to select electives in biology, chemistry, or environmental earth science.

The department believes that one becomes a scientist by "doing science", not just reading about it. Therefore, the curriculum provides for a year-long research project during the senior year, organized within the two-semester sequence "Senior Thesis I and II". This sequence guides the student in becoming familiar with the scientific method and reading scientific literature. Each student works with a faculty mentor on an individual basis during the senior year to design and conduct a scientific study, culminating in the writing of a Senior Thesis based on the student's work.

Educational Objectives

The following program educational objectives have been established for the Bachelor of Science in Environmental Science program. These objectives are consistent with the University Mission, and are based on input from the college faculty, students, industry, and alumni.

A. Provide students with a set of knowledge and skills that allow them to effectively begin careers as environmental scientists in consulting, industry, or government;
B. Prepare students for graduate study in environmental science or a related field;
C. Provide students with a broad general education that fosters an understanding of the natural world, the impact of human activity on the environmental quality of that world, and encourages the pursuit of lifelong learning;
D. Support students in their professional and postgraduate educational development by offering faculty advice and departmental support, including support for student societies and professional groups.

Student Outcomes

In addition to the outcomes related to the university's liberal studies program, graduates of the Environmental Science program should demonstrate:

1. Proficiency in mathematics through elementary calculus and statistics;
2. Proficiency in the fundamental natural sciences including physics, ecology and microbiology, organic chemistry, and earth science including geology and hydrology;

3. Knowledge of global environmental concerns, air pollution, water pollution, soil contamination, and the effect of pollutants on human health;
4. Ability to design and conduct experiments, to collect and analyze data, and to write a scientific paper suitable for publication;
5. Understanding of environmental regulations and the ethical responsibility of scientists in their professional conduct as well as in their private lives;
6. Ability to communicate effectively both in writing and verbally, and function as a member and a leader on multi-disciplinary teams;
7. A recognition of the need for, and an ability to engage in, life-long learning.

Course Requirements for the B. S. in Environmental Science degree (minimum 128 credits)

LIBERAL STUDIES CORE	**39**
LENG 111 College Composition	3
LENG 112 Critical Analysis & Comp.	3
LENG Literature	3
LPHI Foundation Philosophy Course	3
LPHI Philosophy II	3
LTHE Foundation Theology Course	3
LTHE Theology II	3
LPHIL III Ethics/Moral Responsibility	3
LFIN Fine Arts	3
LHST Foundation History course	3
Social Science Course	3
SPCH 111 Speech	3
First-Year Seminar	2
Leadership Seminar	1
BIOLOGY	**16**
BIOL 122 Molecular & Cellular Biology	3
BIOL 123 Molecular & Cellular Bio. Lab	1
BIOL 124 Animal Form and Function	3
BIOL 125 Animal Form and Function Lab	1
BIOL 126 Ecosystem Biology & Evolution	3
BIOL 127 Ecosystem Bio & Evol Lab	1
BIOL 331 Microbiology	3
BIOL 332 Microbiology Lab	1
CHEMISTRY	**8**
CHEM 111 General Chemistry I	3
CHEM 112 General Chemistry I Lab	1
CHEM 114 General Chemistry II	3
CHEM 115 General Chemistry II Lab	1
MATHEMATICS	**9**
MATH 213 Applied Statistics	3
Plus TWO OF THE FOLLOWING (must include at least Calculus I): MATH 111 College Algebra, MATH 112 Trigonometry or MATH 135 Precalculus	3
MATH 140 Calculus I	3
MATH 141 Calculus II	3

PHYSICS	**8**
PHYS 105 General Physics I	3
PHYS 106 General Physics I Lab	1
PHYS 108 General Physics II	3
PHYS 109 General Physics II Lab	1
ENVIRONMENTAL SCIENCE	**38**
ENV 101 Physical Geology	3
ENV 102 Physical Geology Lab	1
ENV 120 Intro to Environmental Science	3
ENV 121 Intro to Env Science II	3
ENV 306 Oceanography	3
ENV 312 Environmental Hydrology	3
ENV 313 Environmental Hydrology lab	1
ENV 336 Water Quality	3
ENV 337 Water Quality Lab	1
ENV 400 Env Toxicology	3
ENV 401 Env Health lab	1
ENV 403 Environmental Engineering	3
ENV 410 Geographic Information Systems	3
ENV 496 Environmental Senior Thesis I	3
ENV 497 Environmental Senior Thesis II	4
APPROVED ELECTIVES (minimum)	**10**
BIOL 223 Invertebrate Zoology	3
BIOL 224 Invertebrate Zoology Lab	1
BIOL 298 Principles of Ecology	3
BIOL 299 Principles of Ecology lab	1
BIOL 323 Wildlife Management	3
BIOL 324 Wildlife Management Lab	1
BIOL 340 Aquatic Microbiology	3
BIOL 341 Aquatic Microbiology Lab	1
BIOL 342 Microbial Physiology	3
BIOL 343 Microbial Physiology Lab	1
BIOL 381 Field Ecology	2
BIOL 382 Field Ecology Lab	2
BIOL 385 Limnology	2
BIOL 386 Limnology Lab	2
CHEM Any 200-400 level chem. course	1
Any ENV course except courses for non-majors	

Typical 4 year program in Environmental Science

(Numerals in front of courses represent credits)

	First Semester		*Second Semester*
3	Intro to Environmental Science I/ ENV 120	3	Intro to Environmental Science II/ ENV 121
4	Molecular/Cell Biology w/Lab/ BIOL 122,123	4	Animal Form & Function w/lab/ BIOL 124,125
3	Precalculus/MATH 135	3	Calculus I/MATH 140
3	College Composition/LENG 111	3	Critical Analysis & Comp/LENG 112
2	First-Year Seminar	3	Intro to Philosophy/LPHI 131
15		16	
	Third Semester		*Fourth Semester*
4	Ecosystem Biology & Evolution w/lab/ BIOL 126,127	4	Microbiology (3) /Lab (1) BIOL 331,332
4	General Chemistry I w/lab/ CHEM 111,112	4	General Chemistry II w/lab/ CHEM 114,115
3	Sacred Scriptures/LTHE 121	4	Physical Geology w lab/ ENV 101/102
3	Philosophy II Series/LPHI		
3	Hist of West & World/LHST 111	3	Theo or Phil III Series/LTHE or LPHI
		1	Leadership Seminar
17		16	
	Fifth Semester		*Sixth Semester*
3	Environmental Toxicology/ENV 400	3	Environmental Eng./ENV 403
1	Environmental Hlth Lab/ENV401	4	Water Quality w/lab/ENV 336, 337
4	Environmental Hydrology w lab/ ENV 312,313	4	General Physics II w/lab/ PHYS 108,109
4	Gen. Physics I w/lab/PHYS 105,106	3	Theology II Series/LTHE
3	Speech/SPCH 111	3	Fine Art Series/LFIN
15		17	
	Seventh Semester		*Eighth Semester*
3	Senior Thesis I/ENV 496*	4	Senior Thesis II/ENV 497
3	Geographic Information Systems/ ENV 410	3	Oceanography/ENV 306
3	Applied Statistics/MATH 213	3	Liberal studies/Social sciences
3	Literature Series/LENG	3	Approved Elective
4	Approved Elective with lab	3	Approved Elective
16		16	

*Senior Capstone

Combined 5-Year B.S./M.S. Program in Environmental Science

Only students who have demonstrated unusual maturity and scientific aptitude will be accepted into the Combined 5-Year B.S./M.S. Program. It is necessary for the student to take up to 18 credits each semester as an undergraduate. It is necessary to plan early and apply before the beginning of the junior year to participate in the combined B.S./M.S. Program. In addition to the B.S. requirements, and depending on the area of concentration, the student should plan to complete specific first year graduate courses during the senior year (see

below). No more than 12 graduate credits are allowed prior to the completion of the B.S. degree. Graduate level courses taken when not previously approved for the Combined Program will count only toward the B.S. degree. It will be necessary to spend the summer after the senior year and/or after the first year of graduate school in course work, an internship, or in a research project.

Recommended Graduate Courses during the Senior Year:

GENV 500 Environmental Research Methods (3)
GENV 520 Environmental Site Assessment or GENV 522 Wetlands Science & Engineering (2)
GENV 536/537 Env Chemistry and lab (4)
GENV 540 Industrial Health I (3)
GENV 544 Env Law & Regulations (3)

Total Course Requirements for the 5 yr Combined B.S./M.S. Program includes 164 credits (128 credits undergraduate plus 36 credits graduate). Consult the Graduate Catalog for additional information about other requirements of the graduate program.

ENVIRONMENTAL ENGINEERING

The **Bachelor of Science in Environmental Engineering** program at Gannon University is accredited by the Engineering Accreditation Commission of ABET, 111 Market Place, Suite 1050, Baltimore, MD 21202-4012, telephone: (410) 347-7700. It is a demanding curriculum which combines mathematics, the basic sciences, and engineering principles. Students in the program develop strong analytical skills and a broad understanding of environmental problems. Environmental engineers are qualified to fill jobs designated for environmental scientists, and are also eligible for professional positions not open to those trained as scientists. Engineers often command higher salaries than non-engineers. Graduates will find careers in the public and private sectors: with government agencies, environmental consulting firms, and with private industry.

The Environmental Engineering program at Gannon offers small classes and individual attention from the faculty. Each environmental engineering student will work with a faculty mentor on a senior design project to bring together the theoretical and practical aspects of engineering design to solve an environmental problem.

Program Educational Objectives and Student Outcomes

In accordance with the requirements of the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET), the following program educational objectives have been established.

- Graduates of the program shall have engineering knowledge and skills that allow them to effectively begin a career as environmental engineers in consulting, industry, or government;
- Graduates of the program shall have an understanding of the scientific basis of engineering design and be prepared for graduate study in environmental engineering or a related field;
- Graduates of the program shall have a broad but individualized general education that fosters leadership, teamwork, ethics, and an understanding of the impact of their profession in a global and societal context;
- Graduates of the program will value professional development as evidenced by pursuit of graduate education, professional licensure, and/or membership in professional organizations.

To accomplish the Program Educational Objectives and to satisfy the ABET specific requirements for the environmental engineering degree, the program has set forth the following Student Outcomes, along with an assessment process to provide feedback for continuous improvement in the program. Graduates of the Environmental Engineering program must attain:

(a) an ability to apply knowledge of mathematics, science, and engineering

(b) an ability to design and conduct experiments, as well as to analyze and interpret data (particularly in the areas of water quality and environmental health).

(c) an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability

(d) an ability to function on multidisciplinary teams

(e) an ability to identify, formulate, and solve engineering problems

(f) an understanding of professional and ethical responsibility

(g) an ability to communicate effectively

(h) the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context

(i) a recognition of the need for, and an ability to engage in life-long learning

(j) a knowledge of contemporary issues

(k) an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

The environmental engineering curriculum is designed to provide environmental engineering graduates with a comprehensive engineering education. Students must demonstrate that they have attained an introductory level knowledge of environmental issues associated with air, land, and water systems and associated environmental health impacts; an understanding of concepts of professional practice and the roles and responsibilities of public institutions and private organizations pertaining to environmental engineering, and a proficiency in advanced principles and practice relevant to water quality and environmental health.

Course Requirements for the B. S. in Environmental Engineering degree (minimum 135 credits)

LIBERAL STUDIES CORE	37
LENG 111 College Composition	3
LENG 112 Crit Analysis & Comp.	3
LENG Literature	3
LTHE Foundation Theology	3
LPHI Foundation Philosophy	3
LPHI Philosophy II	3
LTHE Theology II	3
LPHI III Ethics/Moral Resp	3
LFIN Fine Arts	3
LHST Foundation History	3
SPCH 111 Speech	3
ECON 285 Project Economics	3
Leadership Seminar	1

GENERAL ENGINEERING	13
ENG 100 First-Year Seminar	2
ME 201 Statics	3
ME 204 Dynamics	3
ME 205 Digital Computer Usage	1
ME 206 Digital Computer Usage Lab	1
ME 312 Engineering Thermodynamics	3

ENVIRONMENTAL ENGINEERING SCIENCES	45
ENV 101 Physical Geology	3
ENV 102 Physical Geology Lab	1
ENV 120 or 121 Environmental Science I or II	3
ENV 312 Environmental Hydrology	3
ENV 313 Environmental Hydrology Lab	1

MATH & BASIC SCIENCES	**37**
MATH 140 Calculus I	3
MATH 141 Calculus II	3
MATH 242 Calculus III	3
MATH 304 Differential Equations	3
MATH 312 Probability & Statistics	3
PHYS 111 General Physics III	3
PHYS 212 General Physics IV	3
PHYS 218 Physics Lab for Eng	1
BIOL 122 Mol/Cellular Biology	3
BIOL 106 Intro to Microbiology	3
BIOL 107 Intro to Microbiology Lab	1
CHEM 111 General Chemistry I	3
CHEM 112 Gen Chemistry I Lab	1
CHEM 114 General Chemistry II	3
CHEM 115 Gen Chemistry II Lab	1

ENV 336 Water Quality	3
ENV 337 Water Quality Lab	1
ENV 400 Environmental Toxicology	3
ENV 401 Environmental Health Lab	1
ENV 403 Environmental Engineering	3
ENV 440 Industrial Health I	3
ENV 444 Environmental Law & Regulations	3
ENV 451 Water/Wastewater Engineering	3
ENV 453 Water/Wastewater Lab	1
ENV 465 Soil & Groundwater Pollution	3
ENV 486 Fluid Mechanics and Water Systems Design	3
ENV 487 Fluid Mechanics and Water Systems Design Lab	1
ENV Senior Design I	3
ENV Senior Design II	3

Approved Environmental Engineering Electives:	**3**
ENV 420 Environmental Site Assessment	2
ENV 422 Wetlands Science & Engineering	2
ENV 455 Air Pollution Control	3
ENV 477 Indus/Hazardous Waste Treatment	3

Typical 4 year program in Environmental Engineering

(Numerals in front of course represent credits)

FRESHMAN

	First Semester		*Second Semester*
3	College Composition/LENG 111	3	Crit Analysis & Comp/LENG 112
3	Calculus I/MATH 140	3	Calculus II/MATH 141
3	Gen Chemistry I/CHEM 111	3	General Physics III/PHYS 111
1	Gen Chemistry I Lab/CHEM 112	3	General Chemistry II/CHEM 114
2	First-Year Seminar/ENG 100	1	General Chemistry II Lab/ CHEM 115
3	Environmental Science I/ENV 120	3	Inv to Philosophy/LPHI 131
3	Speech/SPCH 111		
18		16	

SOPHOMORE

	Third Semester		*Fourth Semester*
2	Dig Computer & Lab/ME 205, 206	3	Differential Equations I/MATH 304
3	General Physics IV/PHYS 212	3	Dynamics/ME 204
3	Statics/ME 201	3	Hist of West & World/LHST 111
3	Calculus III/MATH 242	3	Physical Geology/ENV 101
3	Philosophy II series/LPHI	1	Physical Geology Lab/ENV 102
3	Molecular Cellular Biology/BIOL 122	1	Physics Lab for Engineers/PHYS 218
		3	Theology or Philosophy III/LTHE or LPHI
		1	Leadership Seminar
17		18	

JUNIOR

	Fifth Semester		*Sixth Semester*
4	Environmental Toxicology & Lab/ ENV 400, 401	3	Environmental Engineering/ENV 403
3	Intro Microbiology/BIOL 106	3	Water Quality/ENV 336
1	Intro Microbiology Lab/BIOL 107	1	Water Quality Lab/ENV 337
4	Environmental Hydrology & lab/ ENV 312, 313	3	Fine Arts Series/LFIN
3	Sacred Scriptures/LTHE 121	3	Thermodynamics/ME 312
3	Literature Series/LENG	3	Probability & Statistics/MATH 312
18		16	

SENIOR

	Seventh Semester		*Eighth Semester*
3	Senior Design I/ENV	3	Senior Design II/ENV
3	Water & Wastewater Engineering/ ENV 451	3	Industrial Health I/ENV 440
1	Water & Wastewater Lab/ENV 453	3	Soil & Groundwater Pollution/ ENV 465
3	Fluid Mechanics & Water Systems/ ENV 486	3	Environmental Law & Reg/ENV 444
1	Fluid Mechanics & Water Systems Lab/ENV 487	3	Technical Elective/ENV
3	Project Economics/ECON 285		
3	Theology II Series/LTHE		
17		15	

EARTH SCIENCE MINOR

Earth Sciences contribute to the education of students by providing an understanding of our physical surroundings and of the natural and man-made conditions that tend to change these surroundings. Nearly every aspect of living in a technological society depends on acquiring accurate knowledge of the earth. The need for this knowledge grows with the increasing complexity of our national environmental concerns and economy. In the past few years, we have been experiencing problems concerning petroleum and mineral shortages, pollution of our atmosphere and water resources, and we have encountered problems in the disposal of solid, chemical and radioactive wastes. All of these are best addressed with an understanding of earth sciences.

Earth Science courses are offered within the Department of Environmental Science and Engineering. Consult the Environmental Science section below for earth science course descriptions. Students majoring in Environmental Science may not minor in Earth Science, but may choose courses from this list as electives.

MINOR IN EARTH SCIENCE

Select 24 credits from the following list of courses to satisfy the requirements for a minor in Earth Science:

(Numerals indicate credits.)

ENV 101/102 Physical Geology w/lab (4)
ENV 104/105 Historical Geology w/lab (4)
ENV 112 Meteorology (3)
ENV 210 Environmental Geology (3)
ENV 306 Oceanography (3)
ENV 307 Soil Science (3)
ENV 312 Environmental Hydrology (3)
ENV 313 Environmental Hydrology lab (1)
ENV 410 Geographic Information Systems (3)

ENVIRONMENTAL SCIENCE COURSE DESCRIPTIONS:

ENG 100: First-Year Seminar in Engineering
Course description is listed in the Electrical and Computer Engineering section of the catalog.
2 credits, Fall

ENV 101: Physical Geology
This course will focus on the forces at work on the earth's surface, the development of landscapes, and the nature of rocks and minerals. Topics such as plate tectonics, weathering, running water, ground water, glaciers, the oceans, volcanism, and earthquakes will also be covered. *3 credits, Spring*

ENV 102: Physical Geology Lab
The lab will include studies of topographic and geologic maps. Rocks and mineral specimens will be studied with emphasis on the characteristics that reveal the origins of igneous, sedimentary, and metamorphic rocks.
Concurrent with ENV10l. *1 credit, Spring*

ENV 104: Historical Geology
The history of the earth, including the development of life. The changing nature of the surface of the earth and the living forms inhabiting it are studied with emphasis on stratigraphy, plate theory, and the fossil record. *3 credits*

ENV 105: Historical Geology Lab
Geologic maps will be studied to establish a familiarity with the principles of stratigraphy. Fossils will provide means by which the methods of preservation of organisms and the evolution of life can be appreciated.
Concurrent with ENV104. *1 credit*

ENV 112: Meteorology
This course deals with the fundamentals of modern meteorology, weather instruments, and observations, weather codes, map plotting and analysis. *3 credits*

ENV 120: Introduction to Environmental Science I
The focus of this course will include the underlying scientific principles of environmental concerns and the necessary tools for analyzing and solving such problems. The topics and concepts to be discussed include human population dynamics and effects, matter and energy, geochemical cycling, renewable and nonrenewable resources, preservation of wilderness and endangered species, land use, environmental ethics and sustainability. Due to the interdisciplinary nature of many environmental problems, the political, social, economic, and ethical aspects will also be discussed along with the biological and chemical principles.
3 credits, Fall

ENV 121: Introduction to Environmental Science II
This portion of the course will focus upon chemical, biological, and physical agents that are environmentally-mediated and constitute a risk to both human health and the environment. The major concepts that will be discussed include sources, environmental pathways of transmission, exposure-dose relationships, adverse health effects, environmental laws and regulations and control and remediation technologies. The principles and methods of risk assessment and risk management will also be identified and used throughout the course as an underlying theme. *3 credits, Spring*

ENV 200 and ENV 201: Environmental Seminar I and II
A reading, discussion, presentation of scientific literature relating to the environment along with occasional speakers on environmental topics from inside and outside the university.
1 credit

ENV 210: Environmental Geology
This course explores the environmental consequences of mining and energy production. The geologic background of ore formation, ore extraction, and refining will be studied. Also, the impacts on the lithosphere, the hydrosphere, and the atmosphere due to the extraction of coal, gas, and oil will be studied. The consequences for short-term and long-term changes in the global environment will be studied. Throughout the course, the scientific method of inquiry, skepticism, evidence, and conclusion will be employed. *3 credits*

ENV 306: Oceanography
Designed to acquaint students with the marine environment and its associated structure, which covers over seventy percent of the earth's surface. An environmental approach focusing on the physical, chemical and biological properties is emphasized throughout.
Prerequisite: ENV101 or ENV104 or ENV210 or permission of instructor. *3 credits*

ENV 307: Soil Science
Designed to acquaint students with the physical, chemical and biological aspects of the world's soils, including use and classification. Particular emphasis is on soil pollution, and soil as a medium for plant growth.
Prerequisite: ENV101 or ENV104 or ENV210 or permission of instructor. *3 credits*

ENV 312: Environmental Hydrology
This course involves the study of the hydrologic cycle and changes caused by human activity, including study of urbanizing effect on stream hydrology and stream restoration.
Prerequisite: ENV104 or ENV210 *3 credits, Fall*

ENV 313: Environmental Hydrology Lab
This lab course complements ENV312, and includes field and lab exercises relating to stream hydrology and stream restoration. 3 hrs lab.
Pre- or Co-requisite: ENV 312 *1 credit, Fall*

ENV 336: Water Quality
This course covers the major types of water pollution of concern to the environmental professional. Topics to be covered include water quality impacted by organic and nutrient pollution in surface and groundwater, as well as the water quality consequences of heavy metal and toxic organic pollution.
Prerequisites: CHEM 111, 112, 114, 115; Corequisite: ENV 337 *3 credits*

ENV 337: Water Quality Lab
This is a companion course to ENV 336 Water Quality, which is a required corequisite. Lab activities will cover wet chemistry and instrumental techniques required for water quality monitoring. Methods employed will include standard methods as well as EPA approved methods.
Prerequisites: CHEM 112, 115; Corequisite: ENV 336 *1 credit*

ENV 383: Environmental Research
This is a course in supervised research specifically for undergraduates who wish to experience science as a participant. The course requires a minimum of 3 hours per week involved in lab or field work. Students become active in on-going research projects which typically relate to the Great Lakes, local streams, or local industries.
Prerequisite: Permission of Instructor *1 credit*

ENV 400: Environmental Toxicology
This course focuses upon the properties, effects and detection of chemical substances in the environment and within exposed species and how that information is used to protect human health. Topics to be covered include: dose-response relationships, toxicokinetics, biotransformation and elimination of toxicants, target organ toxicity, carcinogenesis, risk assessment and the standard-setting process.
Prerequisites: CHEM 114; Co-requisite: ENV 401 *3 credits, Fall*

ENV 401: Environmental Health & Toxicology Laboratory
This laboratory course accompanies the ENV400 course to allow students to apply the knowledge learned in class by collecting and analyzing environmental samples. This course will focus on the design and implementation of environmental sampling and will require students to design their own collection programs and obtain samples of appropriate media.
Corequisite: ENV 400 *1 credit, Fall*

ENV 403: Environmental Engineering
This upper level course applies the principles of science and engineering to pollution management. Specifically covered will be chemical kinetics, mass balance, mass transfer, water and wastewater treatment, air pollution control, and solid and hazardous waste management.
Prerequisite: ENV 400, PHYS 105, MATH 140, or permission of the Instructor *3 credits, Spring*

ENV 410: Geographic Information Systems (GIS)
Geographic Information Systems (GIS) use computers to organize and interpret spatially identified data. GIS systems present data in map form, and allow sophisticated analysis of data to aid in better understanding and interpretation. The course introduces the student to ARCVIEW GIS, a software product of ESRI, Inc., the leading GIS software in use today.
2 hr lecture, 3 hrs computer lab. *3 credits*

ENV 416: Limnology of the Great Lakes with Lab
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.
Prerequisite: Senior standing, BIOL 385, or permission of the Instructor *4 credits, Summer*

ENV 420: Environmental Site Assessment
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. Course alternates annually with GENV 522.
Prerequisites: Senior standing *2 credits, Spring*

ENV 422: Wetlands Science & Engineering
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, stormwater management, and riparian environments. Course alternates annually with GENV 520.
Prerequisites: Senior standing *2 credits, Fall*

ENV 435: Water Quality Modeling
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. Course offered alternate Spring Semesters.
Prerequisites: Senior standing and ENV 493 *4 credits*

ENV 440: Industrial Health I
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.
Prerequisites: Senior standing *3 credits, Spring*

ENV 441: Industrial Health II
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). Course offered varied semesters.
Prerequisites: Senior standing *3 credits*

ENV 444: Environmental Law & Regulations
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. *3 credits, Spring*

ENV 446: Industrial Hygiene Sampling Techniques
Pre/Co-requisite: ENV 440
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. Course offered varied semesters.
Prerequisites: Senior standing *2 credits*

ENV 447: Epidemiology
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. Course offered varied semesters.
Prerequisites: Senior standing and ENV 493 *3 credits*

ENV 451: Water & Wastewater Treatment Design Engineering
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.
Prerequisites: Senior standing and ENV 493; co-requisite: ENV 453 *3 credits, Fall*

ENV 453: Water & Wastewater Lab
This laboratory course complements the lecture course GENV 551 Water & Wastewater Treatment Engineering. Laboratory exercises that simulate the processes and operations commonly used at typical drinking water plants and municipal wastewater plants will be explored.
Co-requisite: ENV 451 *1 credit, Fall*

ENV 455: Air Pollution Control Engineering
This course focuses on the technology and methodologies used to reduce concentration levels of pollutants being released to the atmosphere. The statues, regulations, and permitting protocol will be introduced since they constitute an important requirement for obtaining legal authority to build a facility that will emit pollutants to the atmosphere. Integrated knowledge of fluid mechanics, thermodynamics, chemistry and mathematics will be applied. Topics

covered will include nature and dynamic behavior of particulate matters, collection methods and analytical techniques, air pollution control/reduction methods, treatment technologies and air pollution control devices, and control of NOx, SOx, and volatile organic compounds (VOCs). Course offered alternative years.
Prerequisites: Senior standing and ENV 493 *3 credits*

ENV 465: Soil & Groundwater Pollution
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. Course offered alternative years.
Prerequisites: Senior standing and ENV 493. *3 credits*

ENV 474: Environmental Microbiology
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.
Prerequisite: BIOL 106 or 331; Co-requisite: ENV 478 *2 credits, Spring*

ENV 477: Industrial & Hazardous Waste Management
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. Course offered alternative years.
Prerequisites: Senior standing and ENV 493. *3 credits*

ENV 478: Environmental Microbiology Lab
This lab accompanies ENV 474 and includes field and lab work which aid in understanding environmental microbiological principles.
Co-requisite: ENV 474 *2 credits, Spring*

ENV 486: Fluid Mechanics and Water Systems Design
This course begins with a study of the principles of fluid mechanics, including the energy of static and dynamic fluid systems. Those principles are then applied to a study of pumps and the design of water distribution systems and wastewater systems.
Prerequisites: MATH 242, ENV 312, ME 204; Corequisite: ENV 487 *3 credits*

ENV 487: Fluid Mechanics and Water Systems Design Lab
This lab course complements ENV 486 Fluid Mechanics and Water Systems Design. This course provides laboratory demonstration of basic fluid mechanics, the creation of engineering drawings of hydraulic piping systems, sewage collection systems, and drainage basins using computer-aided design (CAD) software. Other computer software such as EPANET 2.0, Storm Water Management Model (SWMM) 5.0, and Autodesk Civil 3D Hydraflow will be used to simulate and design piping systems.
Corequisite: ENV 486 *1 credit*

ENV 488: Hydraulic Design of Water Systems with AutoCad
This course covers the hydraulic design of water distribution systems and wastewater collection systems, as well as a study of pumps and hydraulic profiling of wastewater treatment plants. Computer software such as EPANET 2.0 and HydraFlow by AutoDesk

(AutoCad) will be used by students to design piping systems. This course complements ENV 451 Water/Wastewater Treatment Engineering.
Co/Prerequisites: ENV 451 or permission of the Instructor. *3 credits, Fall*

ENV 489: Special Topics in Environmental Science
Topics of special and/or current interest will be covered. 1-4 credits

ENV 494: Senior Design I
This course provides an introduction to the design process in environmental engineering. Included in the course is the development of an awareness of multifaceted design issues, including the social, economic, technical, and regulatory concerns appropriate to the design task at hand. Steps in the design process include the development of the engineering requirements including the restraints due to cost, space, and regulatory requirements, collection of historical information and data, description of existing treatment systems and their performance. The course's main objective is the preparation of a professional quality design proposal and presentation.
Prerequisite: ENV 493 *3 credits, Fall*

ENV 495: Senior Design II
This course continues the study of the design process in environmental engineering. The design project developed in ENV 494 is implemented. The course's main objective is the conduct of a project which results in an improvement to, or the development of a system for pollution control, pollutant fate and transport modeling, or other related process or operation relevant to environmental engineering. Data generation, presentation, and analysis will be required. The project concludes with the preparation of a professional quality report and presentation.
Prerequisite: ENV 494 *3 credits, Spring*

ENV 496: Senior Thesis I
This senior course is the first part of a two-part sequence for all Environmental Science majors. The course is an introduction to the scientific method and the scientific literature. The objective of the course is to lead the student into the world of science by designing an individual scientific study. The class will meet twice a week as a group for presentation of material and discussion of reading assignments. In addition, each student will meet once a week on an individual basis with the Instructor to discuss and develop the student's research plan. The major outcome of the course will be an individual Research Proposal which will be presented to the class and to the departmental seminar. The proposal will include a literature review of the select topic and methodology for the conduct of a study.
Prerequisites: Senior standing, ENV 493 *3 credits, Fall*

ENV 497: Senior Thesis II
This course is the second part of a two-part sequence for all Environmental Science majors. The research proposal prepared the prior semester is conducted. The objective of this course is to mentor the student during the scientific study and to provide support and guidance for the writing of the final Thesis. The class will meet once a week as a group for presentation of material relating to analysis and presentation of data and results. In addition, each student will meet at least once a week with the Instructor on an individual basis to discuss the progress of the student's research. The major outcome of the course is the Senior Thesis which will be presented to the class and to the departmental seminar. The Thesis will include the Literature Review and Methods sections from the Proposal, and Results and Discussion sections reporting the findings of the study.
Prerequisites: ENV 496 *4 credits, Spring*

ENV 498: Environmental Internship *variable 1-3 Credits*

SEECS (101, 102, 201, 202, 301, 302, 401, 402): Professional and Personal Enrichment Seminar
Course description is listed in Computer & Information Science section of the catalog.
0 credit, Fall and Spring

INFORMATION SYSTEMS (IS)

The Information Systems (IS) program is designed to prepare the student for careers in the information processing and technology industries. Students develop skills in the design, modeling, and development of computer-based information systems. These include two primary areas of study: computing and business. To support the development of computing skills, the students learn to utilize and to critique technology associated with the systems, and apply them to business. To support the development of business skills, a portion of the curriculum emphasizes the role and concepts of the different functional areas of business. In addition, students develop communication and interpersonal skills in order to interact positively with their organizations. Students incorporate the facets of their professional education with the facets of the societal awareness and make ethical - professional and personal - decisions. Ultimately, the students leave with the foundations to define a high quality of life for themselves by integrating their professions with life-style decisions.

Aims and Objectives:

The IS program prepares its graduates to achieve significant career and professional accomplishments in four ways: as employable and accountable professionals, competent problem solvers, and selfless contributors.

As employable professionals, IS graduates are well prepared for employment or graduate work in their field, and to continue working in the chosen or related fields. As accountable professionals, the graduates are accountable for their professional roles, and as such, pursue their profession in an ethical manner. This includes the responsibility for, or leadership in research/development projects or teams, aspects of major system components, or business development work. As competent problem solver's, the graduates apply current computing technology knowledge, skills, techniques and methods to develop effective solutions for problems, improve product, process and/or organizational elements, or to innovate. As selfless contributors, our graduates voluntarily give their time, talent, and/or money to their community, profession, church and/or society.

Opportunities:

The field of information systems is one of the fastest growing employment markets in today's society. Individuals are needed in areas of information resource management, data administration, systems analysis, applications development, network coordination, web and e-commerce initiatives, and technical operations. IS majors can address the information-processing and technology needs of any form of business organizations whether it be service, financial, manufacturing, or virtual.

Program Outcomes:

Nationally accredited by the Computing Accreditation Commission (CAC) of ABET as a computing program, and by the Association of Collegiate Business Schools and Programs (ACBSP) as a business program; (ABET, Inc. 111 Market Pl., Suite 1050, Baltimore, MD 21202. See *http://abet.org*). Gannon's IS program has enjoyed a long history of successful students who have learned to specify, design, and build information systems.

The program has a strong focus on problem-solving beginning with the very first course in computing *(CIS 190 Principles of Computing)* and carried through into the senior design sequence *(CIS 457/458 Senior Design)*. Throughout the learning process, students learn how to effectively define and represent both problems and the solutions needed to solve those problems. Throughout the course of study, students learn, and practice making ethical decisions.

All students will learn how to utilize information and computer technology, while developing and maintaining a comprehension of the changing technology used in information systems and their application in business. Through this learning process, we expect students to own a desire for continuous improvement and demonstrate effective verbal, written, and listening communication skills.

Specifically, Information Systems students completing our program learn to:

- **Realize and manage** systems lifecycle processes
- **Integrate** information systems technology to address business needs
- **Comprehend** organizational and business structures and processes
- **Apply** quantitative measures to assess the efficiency and effectiveness of information systems

Integration:

One of the hallmarks of Gannon's IS degree is its integration with traditional liberal-studies education. Gannon's IS majors not only learn computing well, but also learn how to synthesize, think critically and communicate well. In our program, bridging traditional courses like writing, philosophy, theology and ethics begins in the *CIS 103 CIS First-Year Seminar*, and continues throughout the program, culminating in the *CIS 457/458 Senior Design* sequence.

All CIS course descriptions are provided in section *Computer and Information Science*

CIS Core Courses

CIS 103	First-Year Seminar	CIS 255	Database Management Systems
CIS 173	PC Database	CIS 290	Introduction to Networks
CIS 190	Principles of Computing	CIS 302	CIS Professional Seminar
CIS 214/215	Introduction to Programming and Lab	CIS 355	Visual Database Programming
		CIS 457	Senior Design I
CIS 216	Problem Solving with OOP	CIS 458	Senior Design II Lab
CIS 217	Using UNIX		

IS Courses

CIS 195	Principles of Systems	CIS 305	Essentials of UNIX Administration
CIS 207	Introduction to Business Programming: COBOL	CIS 335	Systems Analysis and Design
		CIS 337	IS Architecture and Deployment
CIS 218	UNIX Shell Programming	CIS 340	Multi-Tiered Systems
CIS 240	Web Management and Design	CIS 385/386	Network Design and Management & Lab
CIS 270	Information Technology and Operations		

Business Core

Students complete a majority of the business core, as part of the Dahlkemper School of Business.

MATH 114	Algebra for Business Students	BCOR 221	Business Statistics
		BCOR 241	Principles of Marketing
MATH 115	Calculus for Business	BCOR 251	Principles of Management
BCOR 112	Principles of Macroeconomics	BCOR 306	International Business
BCOR 201	Financial Accounting	BCOR 202	Managerial Accounting *or*
BCOR 203	Legal Environment of Business	BCOR 311	Financial Management I
		ECON 285	Project Economics

Technical Electives

Students select two technical electives with approval of their academic advisor. The goal of

the technical electives is to have a thematic set of courses that helps the student focus their studies on a particular specialty related to their interests.

Common Elective Themes:

- Programming — CIS 220, CIS 224, CIS 286, CIS 317
- Systems Analysis — CIS 310, CIS 315, CIS 318, CIS 350
- Software Quality — CIS 310, CIS 415
- Multimedia / Entertainment — CIS 245/246, CIS 445, COMM 356, COMM 358
- Security / Administration — CIS 375, CIS 387
- Computer Science — CIS 220, CIS 330, CIS 320, CIS 325, CIS 360, CIS 370
- Criminal Justice — CIS 387, CRFO 345, CRFO 350

Other approved technical electives include:
CIS 391-396 Special Topics and CIS 400 Internship

Information Systems Curriculum

FRESHMAN

	Fall		*Spring*
2	First-Year Seminar/CIS 103	3	Principles of Systems/CIS 195
1	PC-Database /CIS 173	2	Intro Programming/CIS 214
3	Principles Computing /CIS 190	1	Intro Programming Lab/CIS 215
3	Intro Business Math /MATH 114	3	Calculus for Business/MATH 115
3	College Composition/LENG 111	3	Financial Accounting/BCOR 201
3	Intro Philosophy/LPHI 131	3	Critical Analysis & Comp/LENG 112
15		15	

SOPHOMORE

	Fall		*Spring*
3	Problem Solving with OOP/CIS 216	3	Database Management Systems/ CIS 255
3	Intro Networks/CIS 290	3	Web Management & Design/CIS 240
3	Discrete Mathematics 2/MATH 222	3	IT and Operations/CIS 270
3	Principles of Macroeconomics/ BCOR 112	3	LS Science
3	Principles of Marketing/BCOR 241	3	Business Statistics/BCOR 221
3	Sacred Scripture/LTHE 121	3	Philosophy II Series/LPHI
18		18	

JUNIOR

	Fall		*Spring*
3	Intro Bus Programming-COBOL/CIS 207	1	CIS Professional Seminar/CIS 302
1	Using UNIX/CIS 217	1	Leadership Seminar/CIS 303
1	UNIX Shell Programming/CIS 218	3	IS Architectures & Development/ CIS 337
3	Systems Analysis & Design/CIS 335	3	Principles of Management/BCOR 251
3	Visual Database Programming/CIS 355	3	Legal Bus Environment/BCOR 203
3	Project Economics/ECON 285	3	Financial Management I/BCOR 311 or Managerial Accounting/BCOR 202
3	History of the West & World/LHST 111	3	Theology or Phil III Series/LTHE or LPHI
17		17	

SENIOR

	Fall		*Spring*
1	Essentials of UNIX Admin./CIS 305	3	Senior Design II Lab/CIS 458
3	Senior Design I /CIS 457	3	Technical Elective
3	Multi-Tiered Systems/CIS 340	3	International Business/BCOR 306
3	Technical Elective	3	Fine Art Series/LFIN
2	Network Design & Management/CIS 385	3	Literature Series/LENG
1	Network Design & Management Lab/CIS 386		
3	Theology II Series/LTHE		
16		15	

Information Systems Minor Requirements (18 credits)

3 Principles of Computing/CIS 190
3 Principles of Systems/CIS 195
3 Introduction to Programming and Lab/CIS 214/215
3 Information Technology and Operations/CIS 270
or Problem Solving with OOP/CIS 216
or Introduction to Business Programming/CIS 207
or Database Management Systems/CIS 255
or Introduction to Networks/CIS 290
3 Systems Analysis and Design/CIS 335
3 IS Technical Elective
18

MECHANICAL ENGINEERING

SCOTT E. STEINBRINK, Ph.D., *Chairperson*

FACULTY: *Professors:* Mahesh C. Aggarwal, Gong Chen, Ludwik A. Medeksza, Michael J. Panza, Hamid Torab. *Associate Professors:* Scott E. Steinbrink, Karinna Vernaza. *Lecturer:* Michael Sirak.

Overview and Objectives:

The overall goal of the Mechanical Engineering Program is to provide the student with a fundamental and application based education. This program is designed to prepare the student for employment in research, development, design and production in industry or government as well as to assure a high level of preparation for those students who continue to advanced studies. A part of this preparation is to recognize and respond to ethical and public issues, including safety, social and environmental concerns.

To facilitate and support student development, the department has up-to-date laboratories for education and research, including strength of materials lab, fluid mechanics lab, heat transfer lab, automatic control lab, computer graphics and CAD lab. A technician and a machine shop support these labs.

The ME Programs maintains an up-to-date curriculum, has modern laboratories, well-qualified faculty and a strong academic and career advising system. Students have access to the University Center for Experiential Learning and to the Faculty.

Program Objectives:

(A) Demonstrate *technical ability* through application of technical knowledge while engaging in careers in industry or government.

(B) Demonstrate *professional leadership* through advancement in their careers, as evidenced by promotion and/or acceptance of increasing professional responsibilities.

(C) Demonstrate *commitment to the ideals of a values-centered education* through workplace conduct, and professional and community activities undertaken for the betterment of the human condition.

(D) Demonstrate *recognition of the value of lifelong learning* through pursuit of continuing education in their field of endeavor or graduate studies.

Design Integration Table

Mechanical Design
- Mechanics
- Machine Design
- Computer Aided Design

Thermal and Energy Design
- Heat Transfer
- Fluid Mechanics
- Thermal System Design

Mechanics/Structures & Thermal Fluid Systems Design
- Intro to Engineering
- Engineering Design
- Vibration
- System Dynamics and Control

Specific Areas in Mechanics/Structures & Thermal/Fluid Design
- 7-8 Technical Electives offered in each area

Non-Technical Issues in Core of Discovery
- Ethics
- Economics and Social Impact

Capstone Senior Design Project

The Program:

Mechanical Engineers are required to take 32 credits of basic science and math, 36 credits of Core of Discovery composed of humanities and social science, and 67 credits of engineering, science, and design. This program leads to a Bachelor of Science degree in Mechanical Engineering.

The program is accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org.

A five year cooperative professional practice program is also available. The student must meet the same course requirements as the four year student. Additionally, a total of four work sessions in industry are included. Students must maintain a 2.75 GPA to participate in this option.

COURSE DESCRIPTIONS:

ENG 100: First-Year Seminar in Engineering
Course description is listed in the Electrical and Computer Engineering section of the catalog.
2 credits, Fall

ENG 201: Engineering and Biological Wonders of Panama
Engineering and Biological Wonders of Panama is a three credit course that includes weekly seminars and a travel trip over spring break in Panama. This course enables the student to explore the technical design of the world famous Panama Canal and the diverse biological ecosystems found in Panama, including the rainforest and the waters and beaches of the Pacific Ocean. Participants stay in Panama City and travel on day trips to different locations within Panama. This course is a Liberal Studies Science option. *3 credits, Spring*

ENG 327: Automatic Control Laboratory
Course description is listed in the Electrical and Computer Engineering section of the catalog.
1 credit, Fall

ENG 399: Co-op Placement
For the students in the five year Co-op option. Students register for each full period in industry. Students are evaluated by an engineer in industry and are under the mentorship of the department faculty.
Prerequisite: Permission of the department. *0 credit*

ME 201: Statics
A study of force systems acting on bodies which are not in motion. Learning the math and engineering skills in using 2-D & 3-D force vectors. Learning how to use freebody diagrams. Learning to use components & resultants, moments & couples. Math and engineering skills in the study of centroids, frames, trusses, beams and friction. Associated computer assignments on Statics problems.
Prerequisites: PHYS 111, ME 205 and ME 206 (may be taken concurrently) *3 credits, Fall*

ME 204: Dynamics
A study of motion and the forces, which affect motion, based on the vectorial approach to kinematics and kinetics of particles & rigid bodies using freebody diagrams. Includes the math and engineering skills used in translation, rotation, and general plane motion as well as dynamic force analysis, conservation of mechanical energy, work-energy methods, methods of momentum and impulse. Associated computer assignments.
Prerequisite: ME 201 *3 credits, Spring*

ME 205: Digital Computer Usage
An introduction to computer programming using Matlab. Emphasis on the logical thought process needed to solve engineering problems, and on the application of engineering principles. Students will use the computer lab to complete assignments. *1 credit, Fall*

ME 206: Digital Computer Lab
Laboratory experience to complement ME 205. Three hours per week.
Concurrent with ME 205 *1 credit, Fall*

ME 207: Engineering Graphics
An introduction to the principles and applications of engineering graphics. Learning drafting convention and the concepts of engineering documentation. Orthographic sketching and drawing. Auxiliary views and cut sections. Familiarization with standard parts such as threaded fasteners. Dimensioning principles. *2 credits, Fall*

ME 208: Engineering Computer Graphics Lab
Introduction to a 2D CAD software (Cadkey) and a 3D CAD solids based software (Pro/Engineer). Extensive hands-on experience in both Cadkey and ProEngineer covering part and assembly design, and production drawings.
Prerequisite: ME 207 *1 credit, Spring*

ME 212: Introduction to Thermal Sciences
Introduction to thermodynamics, fluid flow, and heat transfer for non-Mechanical Engineers. Thermodynamic properties of substances, 1st and 2nd laws and applications to power cycles; control volumes. External and internal flows. Heat transfer through conduction, convection, and radiation.
Prerequisites: PHYS 212, MATH 304 *3 credits, Spring*

ME 214: Strength of Materials
Concepts of stress & strain, Hooke's law, Poisson's ratio, axial tension, compression, torsion & shear. Transverse loading and bending; shear & moment diagrams, and deflections. Compound stress, Mohr's circle & principal stresses, statically indeterminent loading, and column instability. Associated computer problems.
Prerequisite: ME 201 *3 credits, Fall*

ME 215: Strength of Materials Laboratory
Design and conducting experiments to understand basic principles and to compare theory vs. experiment. Experiments are on hardness, impact, tension, torsion, bending, fatigue, strain gages, photoelastic stress, and columns. Learning communication of results using clear technical writing. Use of Excel for processing experimental data, graphing results, and doing statistical analysis.
Prerequisite: ME 214 (may be taken concurrently) *1 credit, Spring*

ME 312: Engineering Thermodynamics
Introduction to concepts of system, control volume and control surface; properties of pure substances; equations of state for ideal and non-ideal gases; first and second laws of thermodynamics and their consequences. Application of first and second law to vapor power cycles, vapor refrigeration cycles and air standard power cycles: air-water vapor mixtures (concept of psychrometric chart).
Prerequisite: PHYS 212 *3 credits, Spring*

ME 315: Materials Science
An introductory study of engineering properties of materials. Learning the engineering science of atomic structure, crystals, crystal imperfections, and diffusion. Learning mechanical properties, dislocations & strengthening, and failure mechanisms. Learning phase diagrams & transformations, thermal processing and alloys. Learning about material selection for design; most commonly used alloys of steel. Associated computer assignments on materials science.
Prerequisite: CHEM 111 *3 credits, Fall*

ME 326: System Dynamics and Control
An introduction to dynamic system modeling, analysis, and control. Representation of mechanical, thermal-fluid, electrical, and control components in various engineering systems, including vibration analysis. Steady state and transient specifications and stability characteristics to design interdisciplinary engineering systems including actuator, process, and control.
Prerequisites: ME 403, ME 204, ECE 231 (may be taken concurrently) *3 credits, Fall*

ME 329: Materials Processing
An introduction to different methods of producing components of machines and structures as well as to the use of modern tools and techniques in materials processing. Application of the previously gained knowledge from the general area of engineering sciences, in particular materials science and strength of materials, to identifying and solving engineering problems encountered in designing various manufacturing processes. Topics covered include: casting, metal forming, welding, powder metallurgy, and machining. Important elements of material selection and heat treatment are also covered. Student will develop the ability to determine the equipment, materials, and processes which are necessary to convert the design into reality in an efficient manner.
Prerequisites: ME 315, ME 214 *3 credits, Spring*

ME 330: Manufacturing Lab
The Manufacturing Processes Laboratory provides students with the opportunity to study selected aspects of manufacturing processes. Students can set up and operate machines, manufacture simple parts (samples), measure process variables, and inspect manufactured elements. The MP Laboratory includes facilities to demonstrate and explore examples of machining processes and rapid prototyping.
Prerequisite: ME 329 *1 credit, Fall*

ME 332: Instrumentation and Measurement Laboratory
This 1 credit laboratory course covers basic topics in instrumentation and measurements in mechanical engineering. Measurement procedures are essential components of engineering practice, from the inception of new ideas through experiments to the manufacturing process through prototype testing to the final product delivery through quality control. The current emphasis on low or no fault production and maintenance requires increasingly more accurate

and reliable measurements. Rapid development of new measurement devices and computer technology has provided a wide array of measurement tools to meet these new demands. Faced with a variety of options, engineers need to make judicious choices and to be able to balance device capability with its limitations. In this course students will conduct experiments, analyze the results, prepare reports and become familiar with several common types of measurement systems and devices for engineering measurements.
Prerequisites: ENG 100, PHYS 212 *1 credit*

ME 334: Kinematics of Mechanisms
Analysis of motion of the mechanism elements. Synthesis of mechanisms based on the known need for motion and/or its geometry. Introduction to the use of modern, simulation software and techniques to solve the problems as well as to design and evaluate motion of kinematic chains.
Prerequisites: ME 204, ME 207 *2 credits, Fall*

ME 335: Machine Elements
Math and engineering sciences (including physics, engineering mechanics and materials) are applied in the study of a variety of machine elements. The basics of lubrication, friction and wear will be studied. Students will learn to apply load concepts, stress concepts and failure prediction criteria to the design of shafts, bearings, gears, springs, screws, brakes and clutches. Students will deal with associated computer assignments for designing, solving and integrating machine elements.
Prerequisite: ME 214 *2 credits, Spring*

ME 336: Fluid Mechanics
Properties of fluids; Hydrostatic pressure, forces on submerged surfaces; Fluid flow, continuity, momentum, and energy (Bernoulli) equations; Similitude and dimensional analysis; Flows in closed conduits (laminar and turbulent flow), major and minor losses; Flow over external surfaces; Open channel flow; Inviscid flow; Basic principles of compressible flow.
Prerequisites: MATH 304, ME 312, MATH 243 *3 credits, Fall*

ME 337: Heat Transfer
Concepts of heat transfer characteristics; Generalized heat conduction equation; Special cases of one or two dimensional steady and non-steady heat conduction; Graphical and numerical solutions of more complex problems; Electrical analogy; Free and forced heat convection in fluids; Fundamental principles of viscous fluid flow and boundary layer concepts; Introduction to radiative properties/shape factors; heat exchange between ideal and non-ideal bodies; Introduction of heat exchangers.
Prerequisites: ME 312, ME 336 *3 credits, Fall*

ME 338: Fluid Mechanics Laboratory
The lab includes the design and conducting of experiments and the analysis and interpretation of the experimental data. Laboratory: Three hours per week.
Prerequisite: ME 336 *1 credit, Spring*

ME 339: Heat Transfer Laboratory
The lab includes the design and conducting of experiments and the analysis and interpretation of the experimental data. Laboratory: Three hours per week.
Prerequisite: ME 337 *1 credit, Spring*

ME 345: Computer Aided Design
A project based course in which student will learn various ways of using computer as a tool in the design of a machine or structure including but not limited to geometric modeling of parts and assemblies. Student will develop the ability to identify and solve problems that occur in the course of designing a machine. Selected interactive software packages to calculate and size as well as solid modeling software to geometrically design will be used as means for aiding the process of designing a part of a machine or structure. In addition, student will write his/her own programs to automate design procedures that are not covered by the commercial software. The

course deals with design application of such engineering disciplines and sciences as engineering mechanics, strength of materials, machine elements design, statistics, heat, power and fluids.
Prerequisites: ME 208, ME 334, ME 335 *3 credits, Fall*

ME 350: Engineering Design
Elements of engineering design, and introduction to the design process. Application of computer-aided methods, such as use of Excel, MINITAB and/or Pro/ENGINEER. Development of awareness of multifaceted design issues, such as social, economic, technical and environmental concerns, and their interrelation. Communication of ideas and results. Course culminates in a formal written proposal for the Senior Design Lab project.
Prerequisites: MATH 242, ME 207 *2 credits, Spring*

ME 354: Senior Design Laboratory in Mechanical Engineering
Capstone project in Mechanical Engineering to be completed individually or in a team. Follow-up course to ME 350. The student will complete the project while demonstrating the following abilities: identification of a design problem, formulation of a team for solution of that problem, complete a preliminary design. In addition the student should show proper concern for ethical issues in design, and demonstrate the ability to speak and write in clear, focused, well developed, logical and grammatically correct English. The student will be expected to demonstrate the ability to gather and synthesize information from various sources and use that information in presentations.
Prerequisites: ME 350, ME 335, ME 337 *3 credits, Fall*

ME 403: Engineering Analysis
The theory and application of matrix and vector algebra, first order, second order, and systems of ordinary differential equations, numerical methods, and Laplace transforms for engineering problems. Application of MATLAB software.
Prerequisite: MATH 304 *3 credits, Spring*

ME 405: Finite Element Method
Basic approach to finite element method, and theoretical foundation of the method, including fundamentals of matrix algebra. Element formulation for solid mechanics and thermal analysis problems, by the direct method, potential energy and Galerkin's method of weighted residuals. Use of modern finite element analysis software such as ANSYS for analysis and design.
Prerequisites: MATH 304, ME 214, ME 337 *3 credits, Fall*

ME 407: Engineering Optimization
Fundamentals of vector and matrix algebra, economic analysis, numerical methods for solution of linear and nonlinear equations. Basic theory, concepts and methods of engineering optimization. Primary techniques from both classical and modern optimization as applied to engineering decision making.
Prerequisites: ME 214, ME 312, ME 350, ME 403 *3 credits, Spring*

ME 410: Thermal Systems Design
This course reviews the fundamentals of thermal systems design and optimization. Basic considerations 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.
Prerequisites: MATH 304, ME 312, ME 336, ME 337 *3 credits, Spring*

ME 440: Advanced Thermodynamics
Application of first, second, and third law of thermodynamics, thermodynamic cycles, mixtures, chemical reactions, phase and chemical equilibrium, irreversibility and availability.
Prerequisite: ME 312 *3 credits, Fall*

ME 441: Lubrication Systems Design
Application of math & engineering science principles of lubrication in the design of mechanical systems. Understanding bearing classes & selection, lubricant properties, and

bearing materials. Design concepts and engineering science in hydrodynamic bearings, gas lubricated bearings, elastohydrodynamic bearings, and antifriction bearings.
Prerequisites: ME 335, ME 336 *3 credits*

ME 444: Advanced Strength of Materials
Application of selected advanced engineering theories for analysis and design of structural components under static loading. Topics include: curved beams, inelastic action, beams on elastic foundation, plate theory, contact stresses; other topics as time and interest permit. Use of computer resources for solution of engineering design problems.
Prerequisite: ME 214 *3 credits, Spring*

ME 460: Machine Design
A project based course that applies the engineering sciences and basic engineering disciplines such as engineering mechanics, strength of materials, materials selection, machine elements design, statistics, and heat transfer as well as economic considerations to design of machines, structures, and apparatus. Student will develop the ability to identify and solve problems that occur in the course of designing a machine. The course integrates knowledge from other courses in the accomplishment of design objective. Student will develop the ability to set a proper sequence of steps in designing a machine. Geometric modeling of the designed machine parts will be performed using computer equipped with solid modeling software.
Prerequisites: ME 207, ME 208, ME 334, ME 335 *3 credits, Spring*

ME 461: Vibrations
Modeling and analysis of linear and torsional mechanical vibratory systems. Study of free vibration and vibration damping. Properties and response for harmonic, periodic, shock, and random inputs. Solutions of systems with two or more degrees of freedom. Vibration of beams. Design for vibration control.
Prerequisites: ME 204, ME 403 *3 credits, Spring*

ME 462: Energy Systems Design
Basic principles and application of solar and biomass energy; fuel cell; basic principles and application of internal combustion engines, gas turbine engines and steam power plants.
Prerequisites: ME 312, ME 336, ME 337 *3 credits, Spring*

ME 463: Dynamic Problems in Machine Design
A project based course that applies the basic principles and methods of dynamics to the design of engineering systems. Special focus is on including the dynamic force analysis in designing translating, rotating, and reciprocating systems. Student will develop the ability to identify and solve problems associated with the dynamics and base design of a machine on the combined force analysis. Computer equipped with modern simulation software will be used to analyze dynamic behavior of the designed systems.
Prerequisites: ME 207, ME 208, ME 334, ME 335 *3 credits, Spring*

ME 464: Thermal Environmental Engineering Design
The engineering principles underlying the current practices of heating, ventilating, air conditioning and refrigeration design including absorption refrigeration; Design of central fan systems; Complete design of residential and industrial systems for heating and cooling requirements.
Prerequisites: ME 336, ME 337 *3 credits, Fall*

ME 465: Computer Assisted Engineering
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.
Prerequisites: ME 204, ME 214, ME 337, ME 403 *3 credits, Spring*

ME 466: Turbomachinery Design
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 stresses, disc stresses and thermal stresses.
Prerequisite: ME 312, ME 317, ME 336 *3 credits, Fall*

ME 470: Heat Exchanger Design
Application of general principles of heat transfer and fluid mechanics (pressure drop) in design of heat exchangers. Different types of heat exchangers will be studied in design-oriented projects.
Prerequisites: ME 336, ME 337 *3 credits, Spring*

ME 490-499: Special Topics in Mechanical Engineering
Special courses developed from student interest in all areas of mechanical engineering. Brief description of current content to be announced in schedule of classes.
Prerequisite: Permission of the Chairperson of the Department. May be taken more than once.
3 credits

SEECS (101, 102, 201, 202, 301, 302, 401, 402): Professional and Personal Enrichment Seminar
Course description is listed in Computer & Information Science section of the catalog.
0 credit, Fall and Spring

Mechanical Engineering Curriculum

(Numerals in front of courses indicate credits)

FRESHMAN

	First Semester		*Second Semester*
3	History of West & World/LHST 111	3	Critical Analysis & Comp/LENG 112
3	College Composition/LENG 111	3	Calculus 2/MATH 141
3	Calculus 1/MATH 140	3	Physics 3/PHYS 111
1	Digital Computer Usage/ME 205	1	Engr. Computer Graphics Lab/ME 208
1	Digital Computer Lab/ME 206	3	Chemistry/CHEM 111
2	First-Year Seminar/ENG 100	1	Chemistry Lab/CHEM 112
2	Engr Graphics/ME 207	3	Sacred Scriptures/LTHE 121
1	Technical Communications/SPCH 110		
16		17	

SOPHOMORE

	First Semester		*Second Semester*
3	Calculus 3/MATH 242	3	Dynamics/ME 204
3	Physics 4/PHYS 212	3	Differential Equations/MATH 304
3	Statics/ME 201	3	Engr. Thermodynamics/ME 312
3	Materials Science/ME 315	3	Calculus 4/MATH 243
3	Theology II Series/LTHE	3	Physics 5/PHYS 214
3	Introduction to Philosophy/LPHI 131	1	Physics Lab/PHYS 218
		1	Instrument and Measure Lab/ME 332
18		17	

JUNIOR

	First Semester		*Second Semester*
3	Strength of Materials I/ME 214	3	Materials Processing/ME 329
3	Intro Electrical Engr/ECE 231	1	Fluid Mechanics Lab/ME 338
1	Intro Electrical Engr Lab/ECE 232	2	Machine Elements/ME 335
2	Kinematics of Mechanisms/ME 334	3	Engr Analysis/ME 403
3	Fluid Mechanics/ME 336	3	Heat Transfer/ME 337

3	Philosophy II Series/LPHI	3	Theology or Phil III Series/LTHE or LPHI
3	Advanced Thermodynamics/ME 440	1	Strength of Mat I Lab/ME 215
		1	Leadership Seminar
18		17	

SENIOR

	First Semester		*Second Semester*
3	System Dynamics & Control/ME 326	1	Automatic Control Lab/ENG 327
3	Computer Aided Design/ME 345	3	Technical Elective*
1	Heat Transfer Lab/ME 339	3	Sr Design Lab in ME/ME 354
3	Technical Elective*	3	Technical Elective*
3	Literature Series/LENG	3	Social Science
1	Manufacturing Lab/ME 330	3	Fine Arts Series/LFIN
2	Engineering Design/ME 350		
16		16	

** With Department Approval*

* The student with the academic advisor's instruction plans an individual course of study consistent with his career objectives. The suggested technical electives for the major options are as follows:

	THERMAL SCIENCE		**MACHINE DESIGN**
3	Thermal Systems Design**	3	Machine Design **
3	Computer Assisted Engineering	3	Computer Assisted Engineering
3	Engineering Optimization	3	Engineering Optimization
3	Finite Element Method	3	Finite Element Method
3	Energy Systems Design	3	Advanced Strength of Materials
3	Environmental Engr. Design	3	Dynamic Problems in Machine Design
3	Heat Exchange Design	3	Lubrication System Design
3	Turbomachinery Design	3	Vibrations

** Either Thermal Systems Design or Machine Design must be taken.

Mechanical Engineering Co-Op Professional Practice Option

Plan A

Year 1	Fall 1	Spring 1	Summer Vacation
Year 2	Fall 2	Spring 2	4 month WP*
Year 3	Fall 3	4 month WP	Summer**
Year 4	4 month WP	Spring 3	4 month WP
Year 5	Fall 4	Spring 4	

Plan B

Year 1	Fall 1	Spring 1	Summer Vacation
Year 2	Fall 2	4 month WP	Summer**
Year 3	4 month WP	Spring 2	4 month WP
Year 4	Fall 3	Spring 3	4 month WP
Year 5	Fall 4	Spring 4	

Plan C

Year 1	Fall 1	Spring 1	Summer Vacation
Year 2	Fall 2	Spring 2	4 month WP
Year 3	Fall 3	Spring 3	4 month WP
Year 4	Fall 4	4 month WP	Summer**
Year 5	4 month WP	Spring 4	

**Work Period*
***Core of Discovery Courses*

Notes:

(1) Fall and Spring follow the regular engineering schedule.

(2) For maximum financial aid, 12 credits of The Core of Discovery Courses should be taken during the 4 month summer session listed.

(3) One credit Co-Op seminar (ME 296) is to be taken during the Spring Semester of freshman year.

(4) Students should register for zero credit Co-Op Placement (ENG 399) for each work period.

Five Year Program - Mechanical Engineering/MBA

The School of Engineering and Computer Science in cooperation with the Dahlkemper School of Business offers a special program for qualified undergraduates leading to a Bachelor of Science in Mechanical Engineering Degree and a Master of Business Administration Degree. The program may be completed in five years of full time study (includes three summers).

Five Year Mechanical Engineering/MBA Curriculum

(Numerals in front of courses indicate credits)

FRESHMAN

	First Semester		*Second Semester*
3	History of West & World/LHST 111	3	Crit Analysis & Comp/LENG 112
3	College Composition/LENG 111	3	Calculus 2/MATH 141
3	Calculus 1/MATH 140	3	Physics 3/PHYS 111
1	Digital Computer Usage/ME 205	1	Engr Computer Graphics Lab/ME 208
1	Digital Computer Lab/ME 206	3	Chemistry/CHEM 111
2	First-Year Seminar/ENG 100	1	Chemistry Lab/CHEM 112
2	Engr Graphics/ME 207	3	Sacred Scriptures/LTHE 121
1	Technical Communications/SPCH 110		
16		17	

SOPHOMORE

	First Semester		*Second Semester*
3	Calculus 3/MATH 242	3	Dynamics/ME 204
3	Physics 4/PHYS 212	3	Differential Equations/MATH 304
3	Statics/ME 201	3	Engr. Thermodynamics/ME 312
3	Materials Science/ME 315	3	Calculus 4/MATH 243
3	Theology II Series/LTHE	3	Physics 5/PHYS 214
3	Introduction to Philosophy/LPHI 131	1	Physics Lab/PHYS 218
		1	Instrument and Measure Lab/ME 332
18		17	

JUNIOR

	First Semester		*Second Semester*
3	Strength of Materials I/ME 214	3	Materials Processing/ME 329
3	Intro Electrical Engr/ECE 231	1	Fluid Mechanics Lab/ME 338
1	Intro Electrical Engr Lab/ECE 232	2	Machine Elements/ME 335
2	Kinematics of Mechanisms/ME 334	3	Engr Analysis/ME 403
3	Fluid Mechanics/ME 336	3	Heat Transfer/ME 337
3	Philosophy II Series/LPHI	3	Theology or Phil III Series/LTHE or LPHI
3	Advanced Thermodynamics/ME 440		
		1	Strength of Mat I Lab/ME 215
		1	Leadership Seminar
18		17	

SUMMER

3	Financial Accounting/GMBA 501
3	Management Concepts/GMBA 531
6	

SENIOR

	First Semester		*Second Semester*
3	System Dynamics & Control/ME 326	1	Automatic Control Lab/ENG 327
3	Computer Aided Design/ME 345	3	Technical Elective*
1	Heat Transfer Lab/ME 339	3	Sr Design Lab in ME/ME 354
3	Technical Elective*	3	Technical Elective*
3	Literature Series/LENG	3	Social Science
1	Manufacturing Lab/ME 330	3	Fine Arts Series/LFIN
2	Engineering Design/ME 350		
16		16	

** With Department Approval*

*The student with the academic advisor's instruction plans an individual course of study consistent with his career objectives. The suggested technical electives for the major options are as follows:

	THERMAL SCIENCE		**MACHINE DESIGN**
3	Thermal Systems Design**	3	Machine Design **
3	Computer Assisted Engineering	3	Computer Assisted Engineering
3	Engineering Optimization	3	Engineering Optimization
3	Finite Element Method	3	Finite Element Method
3	Energy Systems Design	3	Advanced Strength of Materials
3	Environmental Engr. Design	3	Dynamic Problems in Machine Design
3	Heat Exchange Design	3	Lubrication System Design
3	Turbomachinery Design	3	Vibrations

** Either Thermal Systems Design or Machine Design must be taken.

Waive

GMBA 521 Quantitative Techniques

GMBA 525 Statistical Analysis

FIFTH YEAR

Summer	MBA Courses
Fall	MBA Courses
Spring	MBA Courses
Summer	MBA Courses

BIOMEDICAL ENGINEERING

The Program:

The goal of the Biomedical Engineering (BME) program is to provide students with fundamental engineering design and analysis skills to solve medical and biological problems. Biomedical Engineers work with health care professionals to design medical devices and equipment that enhance quality of life for their patients by applying engineering product and process design strategies to medical problems.

Program Objectives:

a. Demonstrate *technical ability* through application of technical knowledge while engaging in careers in industry or government.

b. Demonstrate *professional leadership* through advancement in their careers, as evidenced by promotion and/or acceptance of increasing professional responsibilities.

c. Demonstrate *commitment to the ideals of a values-centered education* through workplace conduct, and professional and social activities undertaken for the betterment of the human condition.

d. Demonstrate *recognition of the value of lifelong learning* through the pursuit of continuing education in their field of endeavor or graduate studies.

COURSE DESCRIPTIONS:

BME 410: Biomaterials
Introduction to the behavior and application of biomaterials used in prosthetic devices, dentures, arterial grafts, orthopedic implants and other medical applications. Study of surface and mechanical properties. Biocompatibility, biomaterial/tissue interactions, and other factors involved in the design of implants, biosensors and neuroprostheses are considered. The course will also include a limited review of properties of cells, nucleic acids, proteins and immunology as these topics relate to biomaterials.
Prerequisite: ME 315 *3 credits*

BME 420: Biomechanics
Mechanics of deformable bodies. Mechanical properties of biomaterials, bone, ligaments, muscle. Uniaxial tension, compression, bending, and torsion applied to orthopedic biomechanics. Rigid body planar kinematics and dynamics, with application to the biomechanics of walking, running, cycling, and other athletic activities. Also studies functions of orthotics and prostheses, including design considerations.
Prerequisites: BIOL 117, 118, ME 214, 215, 334, 336, MATH 312, BME 410, ECE 231, ECE 232 (concurrently) *3 credits*

BME 430: Biomedical Systems Modeling and Analysis
This course introduces the techniques for analysis and modeling of biological and physiological systems including musculoskeletal and cardiovascular systems, cells, tissues, diffusion systems, and other organ systems. Students will derive mathematical models of the systems and apply them to generate simulation data. Time and frequency domain issues will be addressed. Students will use Matlab computer methods to solve problems in data analysis, system identification, and model validation. Basic control principles will be introduced.
Prerequisites: ME 403, 204, BIOL 117, BME 420, ECE 231 or PHYS 214 *3 credits*

BME 440: Bioengineering Lab
Laboratory experiences with measurements for biomaterials and devices including the application of statistical techniques.
Prerequisites: BIOL 117, 118, ME 214, 215, 332, 336, MATH 312, BME 410, BME 420, ECE 231, 232 (concurrently) *1 credit*

Biomedical Engineering Curriculum

(Numerals in front of courses indicate credits)

FRESHMAN

	First Semester		*Second Semester*
3	History of West & World/LHST 111	3	Critical Analysis and Comp/ LENG 112
3	College Composition/LENG 111		

3	Calculus 1/MATH 140	3	Calculus 2/MATH 141
1	Digital Computer Usage/ME 205	3	Physics 3/PHYS 111
1	Digital Computer Lab/ME 206	3	General Chemistry 1/CHEM 111
2	First-Year Seminar/ENG 100	1	General Chemistry 1 Lab/CHEM 112
2	Engineering Graphics/ME 207	3	Molecular and Cell Biology/BIOL 122
1	Technical Communications/SPCH 110	1	Molecular and Cell Biology Lab/ BIOL 123
16		17	

SOPHOMORE YEAR

	First Semester		*Second Semester*
3	Calculus 3/MATH 242	3	Dynamics/ME 204
3	Physics 4/PHYS 212	3	Differential Equations/MATH 304
3	Statics/ME 201	3	Engr. Thermodynamics/ME 312
3	Materials Science/ME 315	3	Calculus 4/MATH 243
3	Sacred Scriptures/LTHE 121	3	Human A & P 1/BIOL 115
3	Intro Philosophy/LPHI 131	1	Human A&P 1 Lab/BIOL 116
		1	Instrumentation Lab/ME 332
18		17	

JUNIOR YEAR

	First Semester		*Second Semester*
3	Strength of Materials/ME 214	3	Engineering Analysis/ME 403
1	Strength of Materials Lab/ME 215	3	Probability and Statistics/MATH 312
3	Human A&P 2/BIOL 117	3	Philosophy II Series/LPHI
1	Human A&P 2 Lab/BIOL 118	3	Physics 5/PHYS 214
3	Fluid Mechanics/ME 336	3	Technical Elective
3	Theology II Series/LTHE	3	Biomaterials/BME 410
3	Fine Arts Series/LFIN		
17		18	

SENIOR YEAR

	First Semester		*Second Semester*
3	Intro to Electrical Eng/ECE 231	3	Technical Elective
1	Intro to EE Lab/ECE 232	3	Senior Design Lab in ME/ME 354 *
2	Engineering Design/ME 350	3	Technical Elective
1	Bioengineering Lab/BME 440	3	Social Science
3	Technical Elective	3	Biomedical Systems Modeling/ BME 430
3	Theology or Philosophy III Series/ LTHE or LPHI	3	Literature Series/LENG
3	Solid Biomechanics/BME 420		
1	Leadership Seminar		
17		18	

** (BME Project)*

SOFTWARE ENGINEERING (SE)

The Software Engineering (SE) program is designed to produce graduates who are capable of developing high-quality software systems. This outcome includes developing technical competency as well as leadership and communication skills necessary to analyze, design, verify, validate, implement, and maintain software systems. Gannon software engineers learn how to apply the principles of computer science, engineering, and analysis to the design,

creation, testing, and evaluation of software and digital systems. As the societal dependence on software systems grows, the students will have the foundations necessary to face ethical dilemmas and to act responsibly as part of their professional training.

Aims and Objectives:

The SE program prepares its graduates to achieve significant career and professional accomplishments in four ways: as employable and accountable professionals, competent problem solvers, and selfless contributors.

As employable professionals, the SE graduates are well prepared for employment or graduate work in their field, and to continue working in the chosen or related fields. As accountable professionals, the graduates are accountable for their professional roles, and as such, pursue their profession in an ethical manner. This includes the responsibility for, or leadership in research/development projects or teams, aspects of major system components, or business development work. As competent problem solvers, our graduates apply current computing technology knowledge, skills, techniques and methods to develop effective solutions for problems, improve product, process and/or organizational elements, or to innovate. As selfless contributors, the graduates voluntarily give their time, talent, and/or money to their community, profession, church and/or society.

Opportunities:

Software engineers specialize in the specification, design and development of quality software systems. Software systems now serve in life-critical as well as business-critical domains, and require professionals who are prepared to develop systems in a reliable manner, balancing business needs, technology, and human factors in order to yield a successful product. Software engineering continues to be listed as one of the fastest growing occupations.

Program Outcomes:

This program of study has been specifically developed using the rigorous engineering accrediting standards issued by the Engineering Accreditation Commission (EAC) of ABET ABET, Inc. 111 Market Pl., Suite 1050, Baltimore, MD 21202. See *http://abet.org*. Similarly, Gannon's Software Engineering program is built around the successes enjoyed by the successful Computer Science and Engineering programs whose students enjoy a long history of success in solving problems and building systems.

The program has a strong focus on problem-solving beginning with the very first course in computing *(CIS 190 Principles of Computing)* and carried through into the senior design sequence *(CIS 457/458 Senior Design)*. Throughout the learning process, students learn how to effectively define and represent both problems and the solutions needed to solve those problems. Throughout the course of study, students learn to and practice making ethical decisions.

All students learn the art and science of specifying, designing, building and testing software for high-quality systems. In addition, they learn how to utilize information and computer technology, while developing and maintaining a comprehension of the changing technology used in computer-based systems. Through this learning process, we expect students to own a desire for continuous improvement and demonstrate effective verbal, written, and listening communication skills.

Specifically, Software Engineering students completing our program learn to:

- **Realize and manage** high quality software development lifecycle processes in one or more application domains
- **Apply** discrete mathematics and abstract structures to system development
- **Apply** quantitative measures in the evaluation of software components and systems

Integration:

One of the hallmarks of Gannon's SE degree is its integration with traditional liberal-studies education. Gannon's SE majors not only learn computing well, but also learn how to synthesize, think critically, and communicate well. In the program, bridging traditional courses like writing, philosophy, theology and ethics begins in the *CIS 103 CIS First-Year Seminar*, and continues throughout the program, culminating in the *CIS 457/458 Senior Design* sequence.

All CIS course descriptions are provided in section *Computer and Information Science*

CIS Core Courses

CIS 103	First-Year Seminar	CIS 255	Database Management Systems
CIS 173	PC Database	CIS 290	Introduction to Networks
CIS 190	Principles of Computing	CIS 302	CIS Professional Seminar
CIS 214/215	Introduction to Programming & Lab	CIS 355	Visual Database Programming
		CIS 457	Senior Design I
CIS 216	Problem Solving with OOP	CIS 458	Senior Design II Lab
CIS 217	Using UNIX		

Software Engineering Courses

CIS 220	Data Structures	CIS 330	Operating Systems
CIS 286	Advanced Object-Oriented Programming	CIS 350	Requirements and Project Management
CIS 310	Software Design and Test	CIS 390	Distributed Programming
CIS 315	Software Engineering	CIS 415	Software Testing and Quality Assurance
CIS 317	Personal Software Process		
CIS 318	Software Architecture	CIS 438	Human Interface Design and Maintenance
CIS 326	Formal Methods in Software Development	ECE 337	Computer Architecture

Math/Science Electives

Students choose one math or science elective, either with approval of their academic advisor. These may not be courses that are prerequisites for other required courses in this major. Science courses with associated labs qualified for majors or minors in that discipline may be used as science electives. Mathematics elective courses include any mathematics course that counts for mathematics majors or minors.

Domain Concentrations and Science Electives

To complete their degree, students select six (6) or more credits of coursework in a specific application domain where software engineering is applied. The purpose of the courses is for the student to gain an understanding of the selected application domain, and its use of software to support functions/operations within that domain. Course selection is done with the guidance of the student's academic advisor so that an appropriate and coherent set of courses is taken. The student's science course set should be selected to complement their domain concentration, and must consist of an approved two-course sequence including labs. Domain concentration and science electives must be approved prior to registration.

SUGGESTED SE APPLICATION DOMAIN CONCENTRATIONS

Domain	Domain Elective 1	Domain Elective 2	Math/Science Elective	Suggested Science Set
Self-Design	Proposed set through discussion with advisor and written approval of chair			1

Domain	Domain Elective 1	Domain Elective 2	Math/Science Elective	Suggested Science Set
Accounting	BCOR 201 Financial Accounting	BCOR 202 Managerial Accounting	• work with advisor	1
Bioinformatics*	BINF 200	BINF 300	General Chem. I/ CHEM 111 and General Chem. I Lab/CHEM 112	5
Biology*	Variety of science selection and coursework options; Consultation with biology faculty encouraged			5
Chemistry*	CHEM 166 Issues in Science & Technology	CHEM 336 Introduction to Modern Analytical Chemistry	CHEM 408 Advanced Instrumental Analysis, & CHEM 409 Lab	2
Computer Engineering*	ECE 140 Digital Logic, & ECE 141 Lab [4 credits]	ECE 345 Advanced Digital Design, & ECE 346 Lab	• work with advisor	4
Computer Science	CIS 320 Analysis & Design of Algorithms	*One of:* CIS 360 Comparative Languages CIS 370 Compilers & Language Design	MATH 314 Numerical Analysis	4
Control Systems*	MATH 242 Calculus 3	ECE 326 Automatic Control and ENG 327 Automatic Control Lab	MATH 304 Differential Equations 1	4
Corporate Crime Analysis	CRJS 110 Introduction to Criminal Justice	CRFO 345 Digital Evidence / Computer Crime	MATH 313 Probability & Statistics 2 or CHEM 170 Introduction to Criminalistics / Forensics, & CHEM 171 Lab	3 or 4
Marketing	BCOR 241 Principles of Marketing	MKTG 350 Business Marketing	• work with advisor	1
Earth Science	ENV 410 Geographic Information Systems (GIS)	Choose 2 from: • ENV 112 Meteorology • ENV 145 Understanding Earth's Dynamics • ENV 210 Environmental Geology • ENV 306 Oceanography • ENV 307 Soil Science		3
Electrical Engineering*	ECE 228 Circuits I, & ECE 229 Lab	ECE 330 Signals and Systems	• work with advisor	4
Embedded Systems Engineering*	ECE 140 Digital Logic Design, & ECE 141 Digital Logic Design Lab	ECE 246 Microprocessors, & ECE 247 Lab	• work with advisor	4
Forensics Science *	CRFO 210 Criminalistics I	Choose 1 of: • CRFO 325 Expert Witnessing	CHEM 170 Introduction to Criminalistics /	2

Domain	Domain Elective 1	Domain Elective 2	Math/Science Elective	Suggested Science Set
		• CRFO Digital Evidence	Forensics, & CHEM 171 Lab *or* • work with advisor	
Human Resource Systems	BCOR 251 Principles of Management	Choose 1 from: • MGMT 211 Human Resource Management • MGMT 213 Labor Management Relations • MGMT 215 Compensation Management	• work with advisor	1
Information Systems	CIS 335 Systems Analysis & Design	CIS 337 IS Architecture & Deployment	• work with advisor	1
Insurance	Choose 2 from: • RISK 220 Fundamentals of Risk Management • RISK 321 Commercial Liability • RISK 335 Claims Adjusting • RISK 340 Health Care Management		• work with advisor	1
Marketing Research	BCOR 241 Principles of Marketing	MKTG 410 Marketing Research	• work with advisor	1
Mathematical Modeling	MATH 242 Calculus III	MATH 304 Differential Equations 1	MATH 320 Mathematical Modeling	1
Numerical Analysis	MATH 314 Numerical Analysis	MATH 315 Numerical Analysis 2	• work with advisor	1
Multimedia Systems	CIS 245 Multimedia, & CIS 246 Lab	CIS 240 Web Management & Design	MATH 314 Numerical Analysis	1
Thermal Science	MATH 242 Calculus 3	ME 212 Intro to Thermal Sci.	MATH 304 Diff Equations 1	4

10-credit application

Suggested Science Sets

Suggested science sets are two-course sequences in a particular science typically taken by software engineering majors and include an appropriate experimental (laboratory) component.

1.	As approved by advisor	Corresponding second science
2.	CHEM 111 General Chemistry I, & CHEM 112 Lab	CHEM 114 General Chemistry II, & CHEM 115 Lab
3.	ENV 101 Physical Geology, & ENV 102 Lab	ENV 104 Historical Geology, & ENV 105 Lab
4.	PHYS 111 Physics III, & PHYS 112 Lab	PHYS 212 Physics IV, & PHYS 213 Lab
5.	BIO 122 Molecular Cell Biology, & BIO 123 Molecular Cell Biology Lab	BIO 124 Biology of Organisms, & BIO 125 Biology of Organisms Lab

Software Engineering Curriculum

FRESHMAN

	Fall		*Spring*
2	First-Year Seminar/CIS 103	2	Intro Programming/CIS 214
1	PC – Database/CIS 173	1	Intro Programming Lab/CIS 215
3	Principles of Computing/CIS 190	3	Calculus 2/MATH 141
3	Calculus 1/MATH 140	3	Critical Analysis & Comp./LENG 112
3	Introduction to Philosophy/LPHI 131	3	Hist. of the West & World/LHST 111
3	College Composition/LENG 111	3	Approved Science 1
		1	Approved Science 1 Lab
15		16	

SOPHOMORE

	Fall		*Spring*
3	Problem Solving with OOP/CIS 216	3	Data Structures/CIS 220
1	Using UNIX/CIS 217	3	Database Mgmt. Systems/CIS 255
3	Intro Networks/CIS 290	3	Adv Object-Oriented Programming/ CIS 286
3	Discrete Mathematics 1/MATH 222	3	Software Design & Test/CIS 310
3	Approved Science 2	3	Discrete Mathematics 2/MATH 223
1	Approved Science 2 Lab	3	Philosophy II Series/LPHI
3	Sacred Scripture/LTHE 121		
17		18	

JUNIOR

	Fall		*Spring*
3	Project Economics/ECON 285	1	CIS Professional Seminar/CIS 302
3	Personal Software Process/CIS 317	1	Leadership Seminar/CIS 303
3	Operating Systems/CIS 330	3	Software Engineering/CIS 315
3	Application Domain 1	3	Software Architecture/CIS 318
3	Visual Database Programming/CIS 355	3	Reqmt. & Project Mgmt/CIS 350
3	Probability & Statistics 1/MATH 312	3	Application Domain 2
		3	Theology or Phil III Series/LTHE or LPHI
18		17	

SENIOR

	Fall		*Spring*
3	Senior Design I/CIS 457	3	Senior Design II Lab/CIS 458
3	Formal Methods in Software/CIS 326	3	Distributed Programming/CIS 390
3	Software Testing & Quality Assurance/CIS 415	3	Computer Architecture/ECE 337
3	Human Interface Design. & Maintenance/CIS 438	3	Literature Series/LENG
3	Math/Science Elective	3	Fine Art Series/LFIN
3	Theology II Series/LTHE		
18		15	

College of Humanities, Education, and Social Sciences

LINDA M. FLEMING, Ph.D., *Dean*
JOHN T. YOUNG, M.A., *Associate Dean*

The College of Humanities, Education and Social Sciences (CHESS) consists of a community of student and faculty and staff dedicated to the academic growth and lifelong learning of its members. We seek to provide the highest quality professional and pre-professional preparation in the context of a broad liberal education in the Judeo-Christian tradition. We continue to be convinced that such an education, rooted in the liberal arts and humanities and undergirded by a foundation of moral and ethical teachings, provide the foundation for a productive, rewarding and ethical life. The richly diverse educational programs within the College include a focus on integrating knowledge and on developing student abilities in critical thinking, communications, information literacy and the application of knowledge across a wide range of social, professional and learning contexts. We are also committed to providing students with opportunities to understand cultural, international and global experiences in order to be informed and effective global citizens. Students from the College of Humanities, Education and Social Sciences are prepared to pursue a wide variety of professions, graduate programs and forthcoming careers of the future.

The College is composed of the **School of Humanities and Social Sciences** and the **School of Education**. Majors are offered in 23 baccalaureate degree programs and 4 two-year, associate degree programs. Students are also offered a wide variety of interdisciplinary learning opportunities as well minor programs and certificates to complement their selected programs of study. The College is committed to promoting an engaged learning environment with students participating in a collaborative learning process; including student research and practical experiences through service learning, internships and cooperative education.

SCHOOL OF HUMANITIES AND SOCIAL SCIENCES

Comprehensive Education

The professional lives of this year's freshmen will extend to the mid-twenty-first century. Given the rapidity of change today, it is almost impossible to predict what professions will be in demand that far into the future. Certainly many of the careers that will be in demand do not yet exist. Furthermore, the U.S. Department of Labor estimates that this generation of college students will change careers on the average of three times. Thus it is important to provide a broad, comprehensive education, fostering skills that will not become obsolete and will be transferable from one profession to another.

Skills for a Lifetime

Communications skills are vital in almost all careers and professions and are central to the development of that capacity for lifelong learning that the 21st century demands. The refinement of our students' reading, writing, speaking, and listening skills along with facility in the use of communications technologies is among the most important objectives of our programs in the Humanities.

Challenging yet reasonable reading assignments are designed to inform, enhance

understanding, and stimulate curiosity. Students come to regard books and professional journals as tools for their continued learning after graduation. It is important to note that they learn to read and understand publications based on sophisticated research methodologies and quantitative analyses.

While the English Department has special responsibilities in the teaching of writing and our Communications Program offers work in introductory and advanced speech, all departments and programs make extensive use of writing assignments as well as formal and informal opportunities for the refinement of oral communications. Essay examinations, research papers, journals, speeches and debates enhance students' abilities to "think on their feet" and communicate well. Many classes make use of sophisticated electronic audio and video equipment and integrate modern computer technology into the curriculum. Increasingly, students and faculty enjoy connectivity with one another and the world outside the classroom through the use of the Internet, e-mail, list serves and the like.

Equally important are the skills of analysis and synthesis, as well as the power to think critically and independently and to make sound ethical decisions and judgments. Courses in the Humanities and Social Sciences complement the University's Core of Discovery to help our students hone these abilities. Quantitative as well as qualitative reasoning is encouraged, and all curricula in the Humanities require at least one math course.

The typical class size permits discussions in which students have the opportunity to express their ideas. Group work, class discussion, and other means of interactive learning encourage students to take responsibility, learn teamwork, and become active rather than passive learners.

International Education

Our students will have to live in a world community and compete in a global economy. Thus Humanities is committed to the notion that we are all international students; that we must know and appreciate our culture as well as those of others; and that we must learn to speak and understand a foreign language.

The Department of Foreign Languages and Cultures is the heart of international education at Gannon, and every humanities student in a four-year major must take a minimum of six credits of a foreign language. This requirement must be fulfilled no later than the fall semester of the junior year. International education is additionally enhanced by courses in history, political science, anthropology, sociology, geography, philosophy and literature.

Fields of Specialization

In addition to career preparation through a comprehensive, international education, the Humanities offers several majors through which students develop the specialized skills of particular professions. The Department of Theatre and Communication Arts prepares students for careers in radio and television, while English majors may explore career options in journalism and other types of professional writing. Through programs in political science, sociology, social work, psychology and criminal justice, students may develop careers in public service or the private sector. The legal profession is served by the Pre-Law and Paralegal Programs, while the International Studies Program, based in the Department of Foreign Languages, leads to careers in government, business and industry. Future teachers participate in these programs, since students pursuing careers in secondary education major in the subjects they wish to teach.

Integration of Knowledge

One of the hallmarks of the Humanities education is a commitment to the integration of knowledge, and a focus on the interrelationships of the various subject areas. The Departments of Philosophy and Theology play a central role in the synthesizing effort, and

also perform a special function in the ethical education of Gannon students. They help to develop professionals who are capable of distinguishing between right and wrong in complex situations, enabling students to become moral leaders in our society.

Fine Arts

Humanities is committed to instilling appreciation of the arts and fostering the development of aesthetic values in our students, including a variety of Fine Arts courses offered through the Department of Theatre, Communications, and Fine Arts. A Fine Arts minor is available. The Schuster Theatre, the Schuster Art Gallery and student poetry readings sponsored by the Department of English provide students with opportunities to showcase their talent and to appreciate the work of their peers. Field trips to the internationally renowned Cleveland Museum of Art and the Albright Knox Gallery in Buffalo, the Erie Art Museum, Erie Philharmonic Orchestra, and the Erie Chamber Orchestra are extraordinarily beneficial to students' cultural growth.

Experiential Education

In the Humanities it is accepted that a great deal of student learning can and should take place outside the classroom. We are committed to the idea of the integration of experiential education throughout the curriculum. Students are encouraged to engage in a wide range of activities in service learning, fieldwork, practical research, internships, and cooperative education. This is facilitated by Gannon's location in Erie's center, close to City Hall, the County and Federal courthouses, other government offices, numerous businesses, banks, health facilities and non-profit organizations.

Co-Curricular Activities

Many activities are sponsored which complement formal course work and provide opportunities for student leadership. Humanities students organize and lead Gannon's Model United Nations each year, and play leadership roles in student publications such as the literary magazine, Totem, and the student newspaper, The Gannon Knight. Cocurricular activities provide the opportunity for students to meet and interact with elite members of various professions and disciplines.

The Faculty

Composed of scholarly teachers whose research is designed primarily for the benefit of the education of our students, the faculty also contributes to their disciplines through research publication, and to the community through professional service. First and foremost, however, they are teachers who challenge and support our students. They are living proof that it is both possible and desirable to be life-long learners. The faculty recognize their responsibility to nurture the curiosity and sense of wonder of youth, and are committed to the idea that we are educating rather than just training our students. More importantly, they are committed to preparing our students to educate themselves throughout their lives. An education in the Humanities is only the beginning for our students.

ARCHAEOLOGY AND CULTURE

SUZANNE RICHARD, Ph.D., *Program Coordinator*

MINOR IN ARCHAEOLOGY AND CULTURE

Description:

The Minor in Archaeology and Culture is intentionally interdisciplinary. The minor is structured to complement the Core of Discovery at Gannon University. Study abroad is

integral to the minor and is structurally ensured, as are exposure to multi-cultural values, a science and technology application and textual analysis.

ARCHAEOLOGY & CULTURE MINOR CURRICULUM OUTLINE

Completion of 18 credits is required to satisfy the requirements of the Minor. In consultation with the program coordinator, the student will develop a Minor focused either on Track 1 or on Track 2.

Cognate Track 1: Near Eastern Archaeology & Culture

Required (12 credits)

3 Sacred Scriptures/LTHE 121
3 Archaeology Methods and Lab/ARCH 202
3 Study Abroad*/ARCH 396
3 Archaeology & History of the Ancient Near East/ARCH 201

Electives (6 credits)

3 World Archaeology/World History I/ARCH/HIST 302
3 Hebrew 111/112 or Greek 111/112
3 Cultural Anthropology/SOC 292 or Physical Anthropology/SOC 293
3 Special Topics in Archaeology/History/Culture/ARCH 390/HIST 390

Cognate Track 2: Pre-Columbian Archaeology & Culture

Required (12 credits)

3 History of Latin American/HIST 271
3 Archaeology Methods and Lab/ARCH 202
3 Study Abroad*/ARCH 396
3 World Archaeology/World History I/ARCH/HIST 302
or Cultures of Mesoamerica/MDFL 280
or Literature of the Native Americas 1/MDFL 281
or Literature of the Native Americas 2/MDFL 282

Electives (6 credits)

3 Spanish 111/112
3 Cultural Anthropology/SOC 292 or Physical Anthropology/SOC 293
3 World Archaeology/World History I/ARCH/HIST 302
3 ARCH 390 Special Topics in Archaeology or/HIST 390 Special Topics in History
or Cultures of Mesoamerica/MDFL 280
or MDFL 281 Literatures of the Native Americas 1: Pre Columbian and Colonial
or MDFL 282 Literatures of the Native Americas 2: Postcolonial to Present

***Study Abroad**

3 Gannon University Archaeological Expedition to Khirbet Iskander, Jordan
3 Gannon University approved Meso-American/Latin American Tour and/or Archaeological Expedition
3 Gannon University sponsored-study tour to the Near East
3 Gannon University sponsored-study tour to Greece/HIST 394
3 Or under special circumstances Internship in the Gannon University Collins Institute for Archaeological Research/ARCH 395

COURSE DESCRIPTIONS:

ARCH 201: Archaeology and History of the Ancient Near East
This course will offer a basic survey of the archaeological culture and history of the ancient Near East, including the Biblical Lands of Israel and Transjordan and contemporary societies

in neighboring Mesopotamia and Egypt. The purpose of this particular course is specifically to introduce the student to a broad sweep of civilizations, peoples, and ancient lifeways, dating primarily to the Bronze and Iron Ages (4th - 1st millennia BCE roughly). *3 credits*

ARCH 202: Archaeology Methods and Lab
This course will offer a basic introduction to the theoretical and scientific aspects of archaeology. Archaeology relies on a body of theories and methods for reading human prehistory from the incomplete record left by past cultures; likewise in the historical era, this body of theories and methods serves to provide a comprehensive view of ancient lifeways, by including artifact analysis. Topics include techniques of excavation and artifact analysis and classification of materials, e.g., ceramics, objects, lithics, faunal and floral analysis, among others. The course is divided between lecture and laboratory sessions in which students analyze archaeological data. *3 credits*

ARCH 302: Becoming Human–Becoming the World
This course intends to study culture continuity and change by concentrating on the most important turning points and developments in Asia, Europe, Africa, and the Americas, covering the time span from Human Origins to the edge of the Renaissance. The orientation is global, the themes integrative, the overall goal being to show interconnections in the development of civilization(s), along with divergence across cultural and societal boundaries. The course stresses the archaeological and textual evidence. Some of the over-arching themes that express both culture and cultural diversity in antiquity include: becoming human, first states, nomadic movements, empires, and universal religions. *3 credits*

ARCH 390: Special Topics in Archaeology
This course focuses on a particular region or topics in the Ancient Near East. Special topics include: The Archaeology Egypt, Prehistoric Civilizations and the Rise of the State, The Archaeology of the Greco-Roman World in the Near East, Archaeological Remains of Religion and Cult in the Ancient Near East, Correlations between the Mediterranean World and the Ancient Near East in the Bronze Age. *3 credits*

ARCH 395: Archaeological Laboratory Internship
This internship in the Gannon University Institute for Archaeological Research is designed to substitute for the Summer Study Abroad (ARCH 396) course, under special circumstances. The intent of this internship is to provide the student practice in archaeological post-excavation research, in lieu of actual field experience on an archaeological dig: The intern will, among other things, work on artifact analysis, classification, drafting, restoration, data entry. *3 credits*

ARCH 396: Study Abroad
Credit awarded for participation in archaeological field season at Khirbet Iskander, approved study-tour abroad or other approved activities/internships. *3 credits*

Liberal Studies Integration

This minor is designed to correlate well with the identified core outcomes of the Gannon University Liberal Studies core. The minor explicitly contributes to the following Core of Discovery outcomes:

- Understand major philosophical and theological principles: emphasis on History
- Synthesize and apply principles of science: archaeology methods and lab
- Awareness and appreciation of diverse cultures: study abroad experience

The following course list suggests the various ways in which the courses in the Ancient Near Eastern Studies Minor could satisfy Liberal Studies requirements:

- Introduction to Sacred Scripture: satisfies current LS requirement
- Archaeology and History of the Ancient Near East: can satisfy social science requirement
- Archaeology Methods and Lab: satisfies current science and technology requirement for non-science majors

- Elective: can satisfy current social science elective requirement
- Study Abroad: can satisfy either Fine Arts requirement or social science elective requirement for science majors

COMMUNICATION ARTS, ELECTRONIC MEDIA

ANTHONY J. MICELI, *Program Director*

See full program under Theatre and Communication Arts.

Description and Objectives

The Department of Communication Arts offers undergraduate study leading to a Bachelor of Arts Degree in Communications Arts, specifically the electronic media. This degree sequence, outlined in the Theatre & Communication section, provides classroom and practical experience in the areas of television and radio production, management, instructional telecommunications, technical aspects of broadcasting and a complement of courses in history and criticism and the new digital media, including internet and web management.

The department uses the facilities of Gannon's WERG-FM, the University's 3000 watt broadcast non-commercial FM radio station to provide opportunities to students. The department also operates a television studio, digital editing suites, and a multimedia studio.

CRIMINAL JUSTICE

CHRISTOPHER N. MAGNO, Ph.D., *Program Director*

FACULTY: *Assistant Professors:* Christopher N. Magno. *Lecturers:* William Benner, Keith A. Hardner, Elizabeth Hirz, Ted Marnen, C. Robert McDowell, Jeffrey Shaw, Stanley S. Walkiewicz, Karen S. Weston.

The **Department of Criminal Justice and Social Work** is dedicated to developing critical thinking, diversity appreciation, civic responsibility, leadership and social justice in our students. We prepare students for careers in the helping professions, for leadership in community affairs, and for the pursuit of advanced degrees. Engaging students in sustained and civil conversations about the relationship between individual and community well-being is both an objective and a means of realizing other objectives.

Criminal Justice Program Mission Statement

The Criminal Justice Program (CRJS) at Gannon University is an interdisciplinary, undergraduate major that is dedicated to education, research, and service in the fields of criminal justice, public safety, and social justice. With the capacity to develop graduates who have intellectual curiosity, moral commitment and professional competence to confront the challenges of crime and justice, CRJS strives to provide students with critical thinking and effective communication skills as well as cultivate their capacity for personal growth and creative problem solving. Essentially, we seek to inspire students to become responsible citizens and public servants. Building on this foundation, CRJS offers its students a diverse curriculum that balances the arts, sciences and humanities with professional training, and challenges them to make a difference in the lives of others.

Consistent with contemporary standards of education in Criminal Justice, our curriculum emphasizes the need for students to be exposed to the most significant areas of study in the criminal justice system – law enforcement, policing, corrections, probation, parole, juvenile justice, criminal law and criminology. In each of these areas, course offerings stress both

theoretical concepts and practical applications. The program has minors in Applied Forensic Investigation, Juvenile Justice, and Corrections. As a complement to the classroom experiences, the program requires students to engage in experiential learning such as field placement, internships, and service-learning projects. These allow the student to observe the day to day operation of specific agencies.

In addition to preparing students for initial criminal justice careers, the Criminal Justice Program provides students with a solid academic foundation for subsequent graduate education in criminal justice, related social science disciplines and law.

The Gannon University – Duquesne School of Law, 3/3 Early Admissions Program has been designed for qualified students to earn an undergraduate and a law degree in six years rather than seven. Under the early admissions program students may receive a **Bachelors Degree in Criminal Justice after three years of undergraduate work and the successful completion of the first year of full time study at the Duquesne School of Law.** The student would then receive their Law Degree after successful completion of Duquesne School of Law. Qualified students may wish to pursue this Criminal Justice Program option.

There is an increasing need for para-professionals to earn a minimum of an Associate Degree to gain entry into the criminal justice system or related occupations. **The Criminal Justice Program offers an Associate Degree (AA) in Criminal Justice.** Corrections, policing, applied forensic investigation, and computer forensics courses are also available through the Associate Degree Program. The Associate Degree is offered through the Gannon University Center for Adult Learning.

Recognizing the importance of language proficiency among criminal justice professionals has led to the development of a special sequence of language courses necessary for degree completion in the area of Criminal Justice. The Department of Foreign Language and Cultures in conjunction with the Criminal Justice Program offer the opportunity to acquire relevant language skills and familiarity with the associated culture, sufficient to enhance effective communication in criminal justice settings. The Criminal Justice Program highly recommends Spanish fluency for its students.

With the need for knowledge of Spanish language becoming apparent in all aspects of social life, Criminal Justice majors are encouraged to develop competency in this language as a means of broadening professional skills and expanding employment opportunities.

All criminal justice students are encouraged to concentrate their general elective courses in areas which enhance career goals, such as foreign language, social and behavioral sciences, business administration, computer science and chemistry/biology sequences.

COURSE DESCRIPTIONS:

CRFO 210: Criminalistics I: Introduction to Investigative Forensics
An introduction to Forensic Science course that introduces the non-scientific student as well as the science based student to the field of forensic science through an exploration of its applications to criminal investigations, with clear explanations of the techniques, abilities, and limitations of the modern crime laboratory. Forensic science is the application of science to those criminal and civil laws that are enforced by agencies in a criminal justice system. This course will familiarize the student with the most current technologies in forensic analysis that private, police and law enforcement professionals rely on to apprehend criminal perpetrators and to link them through trace evidence to crime scenes. You will also be introduced to the various forensic sciences that make up a typical full service crime laboratory and the role it plays as part of the criminal justice system. The term 'evidence' is defined and in addition this course will provide students with insight into the issues surrounding physical evidence; introduce students to basic concepts and encourage their exploration of the latest websites.

Fundamental principles of forensic investigations are established and will be built upon in subsequent courses. Actual cases enable students to see the role of forensic science in criminal investigations, and highlight the integral part forensic science plays in modern criminal investigations. *3 credits*

CRFO 312: Biological Evidence
This course focuses on the biology and technology behind serology and a DNA analysis method used today and provides a thorough introduction to students who are less familiar with biological evidence and DNA. This comprehensive course provides an overview of conventional Forensic Serology and DNA Profiling and the role of this section of the crime laboratory as part of the criminal justice system. Evidence collection and preservation, acquisition of known standards for comparison purposes, chain of custody issues and crime scene reconstruction techniques will be discussed. Safety issues regarding biological hazards will also be reviewed. This course concludes with reviews of the DNA testing performed in high-profile cases such as the O.J. Simpson trial, the President Clinton-Monica Lewinsky affair, identifying the remains of Russia's Romanov family and the Tomb of the Unknown Soldier, the Thomas Jefferson-Sally Hemings affair, and others.
Prerequisite: (CRFO 210, CRJS 310) or (CRJS 310, CHEM 170) *3 credits*

CRFO 318: Crime Scene Forensic Techniques
This course is designed to help you collect and process physical evidence correctly, analyze it thoroughly, and understand its relevance in a criminal case. There is a strong focus on a systematic approach that uses proven, reliable methods for field applications in the investigation of criminal cases and evidence collection. Traditional and new technologies will be discussed in the framework of actual cases. This is an essential hands-on course for everyone involved with physical evidence, from the first responding officers, to crime scene processors, laboratory technicians, investigators, and attorneys trying a criminal case. The students will be exposed to the newest chemical and instrumental techniques, and covers new areas such as forensic analysis of computers and advanced shooting scene reconstruction methods.
Prerequisite: CRJS 202, 310 *3 credits*

CRFO 325: Expert Witnessing
This course incorporates the court's concern with reliability, relevance, and the admissibility of expert testimony along with the proper court room demeanor. It will also define the avenues of attack used by opposing attorneys regarding expert qualifications and examine the significance of the expert's use of sophisticated technologies to present demonstrative evidence in the courtroom. The student will explore the increased importance of deposition testimony by experts in the light of the recent trend to mediate and settle cases, rather than go to jail. Case studies are provided for the student's critique and analysis. Actual courtroom testimony for forensic scientists and crime scene investigators will be studied and critiqued. In-class mock crime scene investigations will be conducted resulting in scientific findings. These findings will be thoroughly discussed and the student will have an opportunity to present his/her findings in 'court'.
Prerequisite: CFRO 210 or (CRJS 310 and CHEM 170) *3 credits*

CRFO 345: Digital Evidence/Computer Crime
This course is designed to introduce the student to what investigators do to collect, preserve, and authenticate digital evidence. How the legal admissibility of digital evidence can be assured and how digital evidence can be used to reconstruct crimes and generate leads. This course is important to train criminal justice students, police, lawyers, programmers or System administrators, and forensic scientists involved in the investigation or prosecution of Computer-related crimes. The course will provide step-by-step instructions for dealing with an assortment of evidentiary problems and will also illustrate how these details fit within the broader contexts of forensic science, crime, and society in general. The difficult balancing act between a secure computing environment and individual privacy will also be evaluated.
Prerequisites: CIS 170, 171, 172, 173 or CIS 150 *3 credits*

CRFO 350: Investigation Internet Crime
The objective of this course is to teach students about technical aspects of the Internet and how the Internet can be used as an investigative tool. As detailed in the syllabus, this is a demanding technical course, requiring participants to submit weekly assignments to demonstrate their understanding of the materials. Participants who are not already familiar with Internet crime should take the Introduction to Internet Crime course (CRFO 345). Topics covered include advanced Internet searching, locating the origin of e-mail messages, tracking criminals who operate on chat networks, investigating computer fraud and intrusions, and dealing with personal computers as an extension of the crime scene. Articles and case examples are used to give a sense of current crimes and law enforcement efforts on the Internet. The course ends with a final investigative assignment those ties together many of the lessons and techniques taught throughout the course. *3 credits*

CRFO 360: Principles of Forensic (Kinesic) Interview and Interrogation
Kinesic interview and interrogation is viewed as a multiphase behavioral analysis system used to conduct more effective and efficient interpersonal communications. The foundation of the techniques used in this course is to conduct more effective and efficient interpersonal communications. This technique rests on the observation of common everyday behavior of human beings and their diverse communication abilities.The course will explore principles of basic kinesics in terms of speech and body language, and also the same behaviors exhibited in written statements. It is suggested that speech and body language behaviors can give insight into the individual's personality type, indicating the "psychological fingerprint" of the person. By combining the information received through diagnosis of verbal and nonverbal behavior with this psychological fingerprint, an interviewer can conduct an interview and interrogation that is specifically tailored for the subject.
Prerequisites: CRJS 202, CRJS 310 *3 credits*

CRJS 101: Defense Tactics and Safe Physical Management
This course is designed to focus on the application of the use of force by criminal justice personnel and the benefit that traditional martial arts can have in carrying out this aspect of law enforcement/criminal justice responsibility. Law enforcement agencies advocate a use of force continuum that indicates options available in response to levels of resistance that may be encountered by enforcement personnel. This course has been developed to meet the needs of students that are anticipating careers in criminal justice agencies. Students from other academic disciplines will also derive benefits in the use of personal self-defense. CRJS 101 is intended to be a general elective for criminal justice majors. *3 credits*

CRJS 105: Introduction to Basic Firearms
This course will presume that there are students that have had no prior experience with firearms. This section will be devoted to providing basic accurate information, proper form, procedure and habits. Each student will have a full working familiarity with the firearm and ammunition that they will encounter and have at least a basic understanding of ballistics. The first three sections, "A. Introduction to firearms", "B. Shooting Fundamentals", "C. Range Behavior/Safety" are taught in the classroom. *CRJS 105 is an absolute prerequisite for CRJS 106.* All participants must attend CRJS 105 for safety protocol. Students are responsible for the acquisition of their own firearm and associated ammunition, holster, ear and eye protection. The course is taught by a team of certified firearm instructors at an off campus indoor range. Availability for course is *restricted to upper level criminal justice majors* and all others only by permission of the Director of the Criminal Justice Program. CRJS 105 is intended as a general elective for criminal justice majors. *1 credit*

CRJS 106: Basic Firearms II
This portion of the firearm instruction focuses upon basic marksmanship techniques. The five principles of marksmanship will include *proper stance grip, sight picture, trigger control, presentation and follow-through.* The training paradigm will also encompass the entire scope of the use of force continuum from command presence to deadly force. *Students are responsible for*

the acquisition of their own firearm and associated ammunition, holster, ear and eye protection. You will need at least 600 rounds of ammunition for this section. Instruction is held at an indoor range for application of proper techniques. The course is taught by a team of certified firearm instructors at an off campus indoor range. Availability for course is *restricted to upper level criminal justice majors* and all others only by permission of the Director of the Criminal Justice Program. CRJS 106 is intended as a general elective for criminal justice majors.
Prerequisite: CRJS 105 *2 credits*

CRJS 108: First-Year Seminar: Issues in Crime and Justice
Applied Concepts in Crime and Justice is a First-Year Seminar that is required of all CRJS students and *open* to all students at Gannon University. This is a discussion/experience-based course intended to orient the new student to Gannon University, to introduce the Liberal Studies Core and LIFECORE, to assist in the transition from high school to university life, and to encourage development of academic, personal and spiritual aspects of the student's life. This course is unique to the *investigation of crime and justice issues and ethical responsibility.* The course is offered in the freshman year and is designed to help make your first year of college a positive experience and prepare you for (4) years of success at Gannon University and the Criminal Justice Program. *2 credits*

CRJS 110: Introduction to Criminal Justice
This course introduces students to the field of criminal justice through the examination of police, courts, and correctional arenas. It includes a review of historical data, statistical information, and evaluation of criminal justice system policies, procedures, and trends. Students learn the terminology of the field, gain an awareness of the methods of inquiry utilized in the field, and have the opportunity to examine personal attitudes and values regarding crime and responses to crime. Students will examine how criminal justice decision-making involves a delicate balance between community and individual rights as it responds to crime in society. *3 credits, Fall, Spring and Distance Learning (Internet)*

CRJS 111: Service Learning Seminar
Service Learning Seminar is a course open to all students whereby the student learns and develops through thoughtfully-organized service that is conducted in and meets the needs of the community, and is coordinated with an institution of higher education, and with the community; helps foster civic responsibility; is integrated and enhances the academic curriculum of the students enrolled; and includes structured time for students to reflect on the service experience. *3 credits, Spring*

CRJS 201: Correctional Process
Analysis of punishment in our criminal justice system, with focus on why we punish and how we punish, all examined within the context of correction philosophies. The history and development of corrections, including relevant theories, practices, systems analysis, and treatment modalities is also evaluated.
Prerequisites: CRJS 110 *3 credits, Fall and Spring*

CRJS 202: The Police Function
An introduction to American policing that will provide an analytical framework for understanding the police as a product of a balance of social, historical, political, legal, individual, and organizational forces. The course will examine theoretical propositions about the police in light of current research literature and analyze the three major functions of policing in the United States: law enforcement, service provision, and the maintenance of order. The legal parameters of policing and police administration are reviewed in relation to contemporary issues that pose substantial challenges to police officers and administrators and finally probes contemporary concerns and future challenges such as the critical issues of deadly force, AIDS, affirmative action, and police deviance. The student will also explore the contemporary police industry including public and private agencies at the federal, state and municipal levels.
Prerequisite: CRJS 110 *3 credits, Spring and Distance Learning (Internet)*

CRJS 205: Principles of Private Security and Loss Prevention
An introduction to principles of private security and loss prevention, including the history and role of private security; threat assessment and security survey; and principles of physical security, including personnel security and functional area security systems. This course will also focus on the legal aspects of private security, touching on civil and criminal liabilities. *3 credits*

CRJS 230: Juvenile Delinquency and Adolescent Development
This course examines delinquency in American society, the history of delinquency and major theoretical concepts that have been utilized to explain criminal behavior and juvenile delinquency with suggestions for the future. Ethnographic research methods will be utilized to identify behaviors and place qualitative meaning to the observed behaviors. *3 credits*

CRJS 240: Criminological Theory
This course is designed to provide an overview of the scientific study of crime as a social phenomenon of criminal behavior. Criminological theory will be addressed from a sociological perspective and issues related to the measurement and extent of crime. The major schools of thought will be discussed utilizing the founders of each school and supplementing their premises with supporting criminology research. *3 credits, Fall*

CRJS 250: Criminal Justice Research Methods
This course is designed to introduce the student to the basic concepts, terminology, and techniques germane to criminal justice research. More specifically, the student will become familiar with both qualitative and quantitative research designs, formulating research hypotheses, asking appropriate questions on a survey or interview, data recording, data analysis, and ethical responsibilities. The skills acquired in this course will be beneficial for both the future graduate student and the criminal justice practitioner.
Prerequisite: CRJS 240 *3 credits, Spring*

CRJS 261: Introduction to Crime Mapping
Crime is often a function of time and place, the right or wrong people coming together at a specific location at a particular time. Certain areas in cities and towns draw criminals for the purpose of committing crimes, while others draw people for non-criminal reasons and simply increase the number of potential victims for those seeking a criminal opportunity. Place plays a large role in police decisions about enforcement and special projects. Crime hot spots are identifiable and require specific types of enforcement and programs to decrease criminal activity in those areas. Students who take the class will deepen their knowledge of theories of environmental criminology, criminogenic and non-criminogenic land use, as well as place based crime prevention. Students will gain practical experience in geographical profiling and crime mapping. CRJS majors/minors.
Recommended Prerequisite: CRJS 240 *3 credits*

CRJS 302: Contemporary Correctional Programs
This course introduces the student to modern American correctional programs. It examines the nature of programs as well as a wide variety of contemporary programs, both inside and outside institutions, judged to be exemplary by correctional professionals. This course provides a broad overview of effective correctional treatment as well as career opportunities in the field. Through research, class presentations and a paper focusing on one effective program per student, this course will expose the student to both the variety and complexity of modern correctional programs.
Prerequisites: CRJS 110, 201 *3 credits*

CRJS 303: Issues in Law Enforcement
Topics of current interest will be discussed, including police-community relations, police decision-making, and concepts in police practice and administration.
Prerequisite: CRJS 202 *3 credits*

CRJS 304: Issues in Corrections
This course will focus on alternatives to traditional modes of incarceration, current trends in the treatment of offenders and innovations and problems in correctional administration. *3 credits*

CRJS 310: Investigative Concepts
This course of study should help the Criminal Justice student to gather and analyze data gathered in the process of criminal and civil investigations including: investigative techniques, photography, note taking, sketching; identifying, collecting, examining, processing physical evidence; obtaining information, developing, identifying and locating suspects.
Prerequisites: CRJS 110, 202 *3 credits, Fall and Distance Learning (Internet)*

CRJS 315: Introduction to Criminal Law
This course is a generic study of criminal law in the United States, and does not cover any specific federal or state law. Topics include principles of criminal law, principles of criminal liability, complicity, inchoate crimes, defenses, justifications, excuses, crimes against persons, crimes against property, and crimes against public order. (No prerequisites)
3 credits, Distance Learning (Internet)

CRJS 320: Criminal Law and Procedure
This course examines the dynamic balance of the power of the government (to enforce the criminal law) against the rights of the individual to come and go as they please without government interference. Additionally, we will study about judicial review, constitutional supremacy, and the protections of state constitutional rights concerning criminal procedure as related to federal constitutional protections. The course will cover the area of search and seizure law, its current status as well as its historical development (through the tracing of case law); the ever-changing laws on interrogation, confessions, identifications, and courtroom procedures such as right to counsel, right to jury trials, the laws governing sentencing and direct and collateral attacks on convictions. There will be a review of the remedies afforded by law to an individual when the government violates the rights its constitution and statutes provides. This is a required Criminal Justice Upper level core course.
Recommended prerequisite: Intro to Criminal Law, Intro to Criminal Justice
3 credits, spring and Distance Learning (Internet)

CRJS 321: Criminal Evidence
This course provides a thorough study of the evidence rules, with specific emphasis on the application of these rules in preparing and presenting evidence. This includes a discussion of the history and approach to the study of evidence; proof by evidence and substitutes; general admissibility tests, including relevancy and materiality; opinion and expert testimony, and hearsay rule; evidence by way of witness testimony, documents, scientific and real evidence; and exclusion of evidence on constitutional grounds. For better understanding of the evidence rules, judicial decisions are cited and some are included in Part II of the required text. This is a Criminal Justice upper level Elective course.
Recommended but not required: CRJS 110, 320, 315 *3 credits, Distance Learning (Internet)*

CRJS 322: Correctional Counseling and Case Management
An examination of strategies for affecting offender behavior change by correctional counseling and case management in both institutional and community based settings. Emphasis will be on functional and contemporary approaches. CRJS elective.
Prerequisite: CRJS 201 *3 credits*

CRJS 324: Issues in Criminal Justice
This course will examine the nature and extent of crime in society. It will emphasize issues selected from, but not limited to, crime prevention/crime control, emerging patterns of offending and incarceration, and the globalization of crime. Primarily discussion/seminar oriented. *3 credits*

CRJS 326: White Collar, Occupational, and Organized Crime
The focus of this course is crime committed in professional organized and other occupational

settings. The emphasis will be on current research and case histories, and will include material on etiology and law enforcement. CRJS elective.
Prerequisites for Criminal Justice majors: CRJS 110, 240 *3 credits*

CRJS 327: Gangs in Society
This course will examine contemporary gangs, gang life and law enforcement efforts to study and coordinate the community's response to them. A wide variety of topics and issues will be covered, including: female gangs and ganging, ethnic diversity, economic, neighborhood, and school gang behavior; gun and drug relationships, and research methods used in the study of gangs. There will also be discussions on recruiting, gang identification, gang slang, graffiti, and major national gangs. *3 credits, Spring*

CRJS 328: Drugs of Abuse
The U.S. has the highest rate of drug abuse of any industrialized country in the world. This course is designed to provide the student with a broad understanding and insight into drug use and abuse with American society and its impact upon society in general. Students will gain an understanding on current trends in drug use, specifically the types of drugs on the American market today and how they are used and abused. The primary focus will be on how the criminal justice system attempts to deal with the nation's drug problem. The course will focus on the drug themselves, interdiction, drug enforcement policy, drug courts and drug abuse treatment. *3 credits, Spring*

CRJS 330: The Juvenile Justice System
This course will provide an overview of our juvenile justice system. Students will review the history, theories and origin of juvenile justice. Consideration will be given to influential factors and explore various causes that contribute to delinquent behavior. This includes issues confronting status offenders as well as deprived, dependent, neglected and abused children. Our approach will include issues of early development by the family, school, community and peer relationships. Throughout the course, we will examine these behaviors and take into account several variables. These variables will be analyzed to determine how they contribute to proper development and/or anti-social behavior. The course will examine victim's rights and the roles of law enforcement, juvenile courts, probation officers, and social workers. Discussions will focus on the community service providers, preventative techniques and treatment modes, each of which are aimed at impacting the dependent/delinquent youth.
3 credits, Spring and Distance Learning (Internet)

CRJS 332: Balanced and Restorative Justice
This course introduces the student to the state of the art in juvenile justice. It provides the student with an understanding and a working knowledge of the key principles in balanced and restorative justice. Key issues that will be addressed are how to implement and measure these principles. *3 credits, Fall*

CRJS 333: Victimology
This course will examine the plight of victims including child maltreatment, domestic violence, victimization at work and school. It further explores the extent of homicide victimization. In reviewing the above mentioned topics, guest speakers with expertise in these areas will present their viewpoints on the extent of victimology. Throughout this course, the BARJ principle will be the focus in balancing the victim's role in the criminal justice system. *3 credits, Spring*

CRJS 335: Administrative Management of Criminal Justice Agencies
This course introduces the student to the realities of both administration and management of criminal justice agencies in contemporary America. It provides a comprehensive perspective regarding interpersonal skills, basic management techniques, training, motivating and supervising and appraising others, dealing with difficult people, and getting things done through others. This is a CRJS upper level elective.
Prerequisites: CRJS 110, 201, 202 *3 credits*

CRJS 336: Introduction to Terrorism
This course provides an overview of terrorism as it relates to the discipline of criminal justice. Murder, theft, kidnapping, weapons violations, destruction of private and public property are all crimes encompassed by terrorism. Terrorists are criminals and terrorist organizations are similar to other criminal groups. Because of this, a criminological approach to terrorism can assist in the development of antiterrorism and homeland security policy, as criminological theories identify many of the root causes of terrorism. This course will cover international groups, agro and environmental terrorism, and narco-terrorism. CRJS majors/minors. *3 credits*

CRJS 340: Seminar: Women and Crime
This course examines how the Criminal Justice System, and the influences of formal and informal social controls to which women have been subjected. Historical perspective is integrated with contemporary reality, and attention is focused on women as professionals, offenders, and victims. Theoretical perspectives on gender inequality will be explored by reviewing the strengths and the limitations of traditional Social Theories. Marxism, Rational choice theories, Psychoanalysis, Ethnomethodology, and Expectation states theory will be some of the theories reviewed. This is a CRJS upper level elective and an accepted course in the Women's Studies minor. *3 credits, offered in the Fall-Odd years*

CRJS 350: Criminal Justice Ethics
An introduction into the application of ethical theories relevant to the practice of the criminal justice system. The course is designed to focus upon and emphasize the most significant moral issues faced by criminal justice professionals today. The student will be required to conduct a detailed examination of these issues and to apply the various ethical theories, codes, and canons to arrive at a moral decision. CRJS majors/minors. Upper level.
Prerequisite: CRJS 240 *3 credits, Fall*

CRJS 360: Criminal Justice Statistics
Statistics are used (and misused) in the criminal justice system on a regular basis. This course is designed to familiarize students how data is collected and analyzed in the criminal justice field so that students are comfortable with performing the quantitative tasks that will be required of them as practitioners in the criminal justice system. This course is open to all majors/minors. No specific prerequisite is required, but an understanding of basic mathematical functions is expected. *3 credits*

CRJS 390-394: Special Topics in Criminal Justice *1-3 credits*

CRJS 395-399: Independent Study
By permission only. *1-3 credits*

CRJS 490: Internship Field Placement
An opportunity for students to engage in participant observation, task performance or other related activities in an agency of the criminal justice system. The student is required to engage in such activities for a minimum of 10-20 hours per week during an entire semester. Open only to students with a minimum QPA of 2.5 and who have completed 15 credit hours of the criminal justice concentration.
Prerequisite: CRJS 110, 201, 202. By permission only. *1-9 credits, Every semester*

CRJS 495: Criminal Justice Capstone/Senior Seminar
This course examines the current status of the criminal justice system, specifically what constitutes a healthy community and how communities respond to crime and the reintegration of ex-offenders. We will analyze assets and pitfalls of communities as well as the programs and pitfalls to successful reintegration of ex-offenders. Students will be able to apply what they have learned in both a descriptive paper and a presentation format. Further-more, students will complete professional development activities. Students will also engage in a service learning project or conduct a neighborhood assessment of crime. The Criminal Justice Capstone course is interchangeable for the LS 383 requirement. Thesis: seniors, Criminal Justice majors.
Prerequisites: CRJS 240, 250 *3 credits, Every Semester*

Criminal Justice Curriculum

(Numerals in front of courses indicate credits)

FRESHMAN

	Fall		*Spring*
3	College Comp/LENG 111	3	Crit Analysis & Comp/LENG 112
3	Modern Language	3	Police Function/CRJS 202
3	Sacred Scripture/LTHE 121	3	Modern Language
3	Intro to CRJS/CRJS 110	3	U.S. Govt & Politics/POLI 111
3	Business Technology I/CIS 150	3	Service Learning Sem/CRJS 111
2	First-Year Seminar: Issues in CRJS/CRJS 108	3	History of West & World/LHST 111
17		18	

SOPHOMORE

	Fall		*Spring*
3	Theology II Series/LTHE	3	Basic Sociology/SOCI 110
3	Public Policy Analysis/POLI 122	3	Correctional Process/CRJS 201
3	Intro to Psych/PSYC 111	3	Fund. Speech/SPCH 111
3	Introduction to Philosophy/LPHI 131	3	Cognate
3	Criminalogical Theory/CRJS 240	3	Research Methods/CRJS 250
15		15	

JUNIOR

	Fall		*Spring*
3	Fine Art Series/LFIN	3	Juv Justice/CRJS 330
3	Philosophy II Series/LPHI	3	Cognate or Upper Level CRJS Electives
3	Ethics/CRJS 350		
3	Investigative Concepts/CRJS 310	3	Crim Law & Proc/CRJS 320
3	Cognate or upper level CRJS electives	3	MATH
		3	Theology or Phil III Series/LTHE or LPHI
		1	Leadership Seminar
15		16	

SENIOR

	Fall		*Spring*
6	CRJS upper level or Cognate Electives	3	Senior Seminar/LBST 383 or Professional Capstone/CRJS 495
3	Cognate		
3	LS Science	3	CRJS upper level Electives
3	Literature Series/LENG	11	General Electives
15		17	

**It is recommended that students take at least 15 credits of curriculum requirements each semester and at least 2 elective credits to obtain full benefit from tuition fees. This practice will insure that the student accrues more credit hours (137) at no additional cost, than the required (128) for graduation. (This is in addition to the (1) 18 credit semester).*

Criminal Justice Associate Degree Curriculum

3	College Composition/LENG 111
3	Sacred Scripture/LTHE 121
3	Introduction to Philosophy/LPHI 131
3	Basic Sociology/SOCI 110 or Introduction to Psychology/PSYC 111
2	First-Year Seminar: Issues in CRJS/CRJS 108
3	Introduction to Criminal Justice/CRJS 110
3	Correctional Process/CRJS 201
3	Police Function/CRJS 202
3	Criminological Theory/CRJS 240

3 Investigative Concepts/CRJS 310
3 Criminal Law and Procedure/CRJS 320
9 Criminal Justice Courses level 300 or 400
3 U.S. Government and Politics/POLI 111
3 Fundamentals of Speech/SPCH 111
3 Mathematics or Quantitative Reasoning
3 Business Technology I/CIS 150
12 Electives
65 credits

Minors in the areas of Corrections, Juvenile Justice, and Applied Forensic Investigation are also available through the Criminal Justice Program.

CORRECTIONS MINOR

3 Introduction to Criminal Justice/CRJS 110
3 Correctional Process/CRJS 201
3 Criminological Theory/CRJS 240
3 Contemporary Correctional Programs/CRJS 302
6 Issues in Criminal Justice/CRJS 324 or Correctional Counseling and Case Management/CRJS 322 or Balanced and Restorative Justice/CRJS 332 or Administrative Management of Criminal Justice Agencies/CRJS 335 or Internship Field Placement/CRJS 490
18 credits

CRIMINAL JUSTICE MINOR

A total of 18 credits will be required for a minor in Criminal Justice. Non-majors who desire a minor with specific concentrations are required to complete the following courses.

3 Introduction to Criminal Justice/CRJS 110
3 Criminological Theory/CRJS 240
3 Correctional Process/CRJS 201
3 Police Function/CRJS 202
3 Criminal Law and Procedure/CRJS 320
3 Investigative Concepts/CRJS 310, Introduction to Criminal Law/CRJS 315, Criminal Evidence/CRJS 321, Juvenile Justice/CRJS 330, Juvenile Delinquency and Adolescent Development/CRJS 230, Gangs in Society/CRJS 327, Drugs of Abuse/CRJS 328, or Internship Field Placement/CRJS 490
18 credits

CRIMINAL JUSTICE APPLIED FORENSIC INVESTIGATION MINOR

The Applied Forensic Investigation curriculum is designed to provide students with the skills in the area of criminology, civil and criminal investigations, the collection and analysis of crime scene evidence, ensuring the reliability, relevance and the admissibility (integrity) of the chain of evidence, and preparing evidence for presentation in court.

3 Introduction to Criminal Justice/CRJS 110
3 Criminological Theory/CRJS 240
3 Investigative Concepts/CRJS 310
3 Criminalistics I: Intro to Investigative Forensics/CRFO 210 or CHEM 170

Take 9 credits from the following courses:

3 Introduction to Criminal Law/CRJS 315
3 Criminal Evidence/CRJS 321
3 Biological Evidence/CRFO 312
3 Crime Scene Forensic Techniques/CRFO 318

3 Expert Witnessing/CRFO 325
3 Digital Evidence/Computer Crime/CRFO 345
3 Investigation Internet Crime/CRFO 350
3 Principles of Forensic (Kinesic) Interview and Interrogation/CRFO 360
3 Introduction to Computer Forensics/CIS 392
21 total credits

JUVENILE JUSTICE MINOR

3 Introduction to Criminal Justice/CRJS 110
3 Correctional Process/CRJS 201
3 Criminological Theory/CRJS 240
3 Juvenile Delinquency-Adolescent Development/CRJS 230
3 Juvenile Justice/CRJS 330
3 Correctional Counseling & Case Management/CRJS 322
or Drugs of Abuse/CRJS 328 or Balanced & Restorative Justice/CRJS 332
or Victimology/CRJS 333 or Internship Field Placement/CRJS 490
18 credits

THE NEXT STEP

Baccalaureate Degree Program for Graduates of Two Year Colleges

Criminal Justice

(Numerals in front of courses indicate credits)

	Pre-Senior Year		*Senior Year*
3	Basic Sociology/SOCI 110	3	Investigative Concepts/CRJS 310
3	CRJS Research Methods/CRJS 250	3	Juvenile Justice/CRJS 330
3	Criminal Justice Ethics/CRJS 350	3	Criminal Law and Procedure/ CRJS 320
3	Police Function/CRJS 202	9	Criminal Justice Upper Level Elect
3	Criminological Theory/CRJS 240	6	Foreign Language
3	Cognate	3	Senior Seminar/LBST 383 or Professional Capstone/CRJS 495
3	Sacred Scriptures/LTHE 121	3	Business Technology/CIS 150
3	Introduction to Philosophy/LPHI 131	3	Theology or Phil III Series/ LTHE or LPHI
3	General Electives	1	Leadership Seminar
3	Literature Series/LENG		
3	Fine Arts Series/LFIN		
33		34	

PREREQUISITES:
The above course requirements presume that the student has completed the following courses, or their equivalent, prior to matriculation. If not, they become additional required courses in the program.

Introduction to Criminal Justice (CRJS 110)
Correctional Process (CRJS 201)

Students will be permitted to take other courses in substitution for any course listed above which they have satisfactorily completed prior to admission into the Next Step program. Students are required to complete 7-19 credits in the Core of Discovery. Students may transfer courses equivalent to Sacred Scripture, Introduction to Philosophy, the Literature Series and/or the Fine Arts Series. Students must take the Leadership Seminar, the Theology/ Philosophy III Series, and the Senior Seminar or approved capstone at Gannon.

All students graduating from the College of Humanities must have completed six credits of a Modern Foreign Language.

SCHOOL OF EDUCATION

KEVIN B. ZOOK, Ph.D., *Director, School of Education*

FACULTY: *Associate Professors:* Kathleen Kingston, Kevin Zook. *Assistant Professors:* Michele Campbell, Monica Erdos, Leighann Forbes, Robin Quick, Janice Whiteman. *Instructor:* Jill Merritt.

Mission of the Gannon School of Education:

The School of Education is committed to the preparation of teachers as reflected through the Gannon University Judeo-Christian tradition. Through the practice of modeling, professionalism, and collaboration, we deliver a student-centered teacher education program that provides opportunities for diverse community experiences and promotion of continuous learning.

All Gannon University teacher certification programs have Pennsylvania Department of Education approval. Gannon University's undergraduate programs have been identified by the Pennsylvania Department of Education as model, innovative programs in the areas of:

- Development, cognition, and learning coursework
- Use of academic standards and assessment anchors to design instruction
- Assessment skills and use of data to design instruction
- Faculty qualifications
- Use of educational technology
- Field experiences and student teaching
- New teacher support

The School of Education currently offers the following initial certification baccalaureate program options:

Early Childhood Education PreK-4

Early Childhood Education PreK-4 and Special Education PreK-8

Middle Level 4-8

- English/Language Arts and Reading
- Mathematics
- Science
- Social Studies
- English/Language Arts and Mathematics
- English/Language Arts and Science
- Mathematics and Science
- Social Studies and Mathematics
- Social Studies and Science

Middle Level 4-8 and Special Education PreK-8

- English/Language Arts and Reading AND Special Education PreK-8
- Mathematics AND Special Education PreK-8
- Science AND Special Education PreK-8
- Social Studies AND Special Education PreK-8

Secondary Education grades 7-12

- Biology (BA and BS programs)
- English
- Mathematics
- Social Studies

K-12 certification
- Foreign Languages - Spanish K-12

Associate Degrees
- Early Childhood Education
- Early Childhood Education/Early Intervention

Teacher Certification

In compliance with Pennsylvania Law, Act 354, all individuals entering School of Education programs must have and maintain an overall GPA of 3.0 or greater. All individuals seeking teacher certification in Pennsylvania must fulfill the requirements of the University for the Baccalaureate Degree as well as the professional education requirements of the School of Education. Teacher candidates must also achieve passing scores, as determined by the Pennsylvania Department of Education (PDE), on the required Praxis Teacher Examinations. The process and requirements for teacher certification are described in the Gannon University Teacher Certification Handbook as well as this catalog. To obtain specific information about certification in other states, teacher candidates should review information online at each state's Department of Education web site.

Please note that current Pennsylvania Department of Education standards and regulations take precedence over any information described in this document. Should these standards and regulations change, Gannon will change its requirements. Teacher candidates will be responsible for meeting the new guidelines for certification. Please refer to the PDE web site at http://www.pde.state.pa.us for changes in regulations.

Admission to the School of Education

Acceptance and enrollment at Gannon University does not automatically guarantee acceptance into the School of Education as a teacher candidate. Each teacher candidate must apply for official admission to the School of Education. Applications are available in the School of Education office. Teacher candidates are required to formally apply to the School of Education at the conclusion of their first 48 credit hours. This usually occurs between the first and second semester of the sophomore year, but application must be made no later than the end of the sophomore year. Continuation in the Education program is dependent upon acceptance into the School of Education.

The Education Review Committee evaluates applications for admission to the School of Education each semester. Individuals who meet the criteria are recommended to the Director of the School of Education for admission. The standards for admission/retention have been developed by the School of Education and require that teacher candidates accomplish the following academic requirements:
- Candidates must earn a grade of C or better in all education courses.
- An overall GPA of 3.0 or greater is required for acceptance into the School of Education. Computation of the overall grade point average considers all coursework completed at the point of application to the program.
- The School of Education is authorized by the Pennsylvania Department of Education to permit candidates to proceed with Education coursework when the overall GPA is lower than 3.0 but at least 2.8. When all other criteria for admission to the School of Education have been met, candidates with GPAs between 2.8 and 3.0 may be granted permission to continue taking upper level Education courses for one additional semester. Please refer to the Teacher Certification Handbook for further details of the 2.8 GPA policy.
- All candidates, regardless of area of specialization, must have completed LENG 111, LENG 112, three credits of an approved literature course, six credits of math (105 or higher), EDCR 101, and EDCR 103 with a C or better.

- Early Childhood PreK-4 and Special Education PreK-8 majors also must have completed ECED 100, ECED 101, ECED 102, ECED 103, ECED 200, and SPED 101 with a C or better.
- Middle Level 4-8 majors also must complete MLED 200, MLED 201, MLED 202, and SPED 101 with a C or better.
- Secondary and K-12 majors also must have passed EDFL 101.
- Candidates must submit performance scores at or above the passing level on the Pre-service Academic Performance Assessment (PAPA) in the areas of reading, writing, and mathematics. **The School of Education has no control or responsibility for the timely receipt of test scores.** Applications to the School of Education are assessed upon the most recent test scores on file.
- Candidates must earn an overall satisfactory rating in the area of professional dispositions. Details are provided to teacher candidates during their first semester as Education majors.

Field Practicum and Student Teaching Requirements

As freshmen, teacher candidates will complete their first practicum experience as part of EDCR 104 First-Year Seminar. This is an opportunity for candidates to observe for a total of 9 hours in two different educational settings. A variety of practicum experiences in public, private, and diocesan schools located in urban, suburban, and rural locations are directly linked to coursework. Expectations for each experience are described in the School of Education Practicum Handbooks.

Prior to beginning the first practicum experience, all teacher candidates must complete the following:

- Submit a valid Act 34 Criminal Background Clearance, Act 33/151 Child Abuse Clearance, and an FBI fingerprinting clearance. All clearances are required by the School of Education and mandated by Pennsylvania School Code, Act 114. If a teacher candidate is continuously enrolled in an education preparation program, the criminal background, child abuse, and fingerprint information originally submitted shall remain valid during the period of enrollment. Application forms are available in the School of Education office.
- The FBI fingerprinting must be done in Pennsylvania, following these directions:
  1. Go to www.pa.cogentid.com
  2. Click on PA Department of Education.
  3. Register online.
  4. Once an individual registers, a code number is given. This number must be retained by the individual.
  5. To be fingerprinted, an individual must go to a designated fingerprinting site, taking the code number and a picture ID. Refer to www.pa.cogentid.com for a list of all designated sites.
  6. Once the individual has been fingerprinted, he/she must submit the registration identification PAE number to the School of Education.
  7. After processing the PAE number, the individual will receive a copy of the clearance via email.
- ACT 24 of 2011 Background Checks for Teacher Candidates: Act 24 of 2011 includes amendments to Section 111 of the School Code to enhance the safety of students. Act 24 of 2011 adds several offenses under the Pennsylvania Crimes Code that specifically qualify as Section 111(e) offenses. Under Act 24, any person convicted of a Section 111(e) offense, at any time, will be subject to a life-time ban from employment by any school entity. The Arrest or Conviction Report and Certification Form, known as the PDE-6004, must be completed by teacher preparation candidates prior to participation in classroom teaching, internship, clinical or field experience. The form is also to be used by candidates to report arrests or convictions of Section 111(e) crimes within 72

hours of the occurrence of such arrest or conviction. The PDE-6004 form is available in the School of Education office.
- Candidates whose clearances are not on file during the first month of the semester in which they are enrolled for their first practicum will be required to drop the course from their schedules.
- Out-of-state candidates are also subject to background checks and must follow the same directions as residents of Pennsylvania.
- Candidates must have attended a Diocesan Child Protective Policy training session prior to the first field practicum. The one hour training is offered free of charge at Gannon University.
- Candidates must have a valid negative TB test on file in the School of Education prior to the first field practicum. Arrangements for the test are the responsibility of the teacher candidate.
- All secondary and K-12 majors also must earn a passing grade on each practicum before the next practicum can be completed.
- The grades for practicums in the PreK-4, 4-8, and Special Education PreK-8 programs are included as part of specific courses.

Student teaching is a capstone experience. In order to qualify for student teaching, teacher candidates must have met or exceeded all program requirements. In addition, candidates for student teaching must do the following:
- Demonstrate acceptance into the School of Education.
- Apply for student teaching one year prior to beginning the experience.
- Demonstrate overall satisfactory ratings in the area of professional dispositions.
- Have a valid negative TB test on file in the School of Education prior to the first day of student teaching. Arrangements for the test are the responsibility of the teacher candidate.

If candidates are graduating in the semester of their student teaching experience, they are encouraged to complete the content specific exams designated by the Pennsylvania Department of Education prior to student teaching. Passage of these exams is required for recommendation for Level I teaching certification in Pennsylvania.

Individuals Returning for Initial Certification

Individuals with a BA or BS degree who are returning for certification must apply and be accepted through the University's Center for Adult Learning and meet all criteria for admission to the School of Education.

Denial of Admission to the School of Education

An overall grade point average of 3.0 must be maintained. Individuals who do not meet state mandated minimums are not eligible for admission into the School of Education. Incomplete School of Education applications will result in denial of admission.

Application essays that earn a score of less than 15 will have one opportunity for revision. If the second revision earns a score of less than 15, the candidate will be denied admission to the School of Education.

Retention in the School of Education

Once admitted to the School of Education, candidates must abide by the following retention policies to remain in the program:
- **Candidates must maintain a minimum grade point average of 3.0 or greater in all coursework.**
- Candidates must maintain a C or better in all required coursework in professional education and the chosen teaching specialization(s).

- Candidates must successfully complete field practicum requirements prescribed in the chosen teaching specialization(s).
- Candidates must demonstrate professional dispositions that are appropriate for teaching and managing instruction in diverse learning environments.
- Candidates must successfully complete specialty Praxis II examinations prior to making application for state certification.
- The Director of the School of Education may recommend re-evaluation of status for any candidate previously admitted to the program when evidence exists that the individual may be unsuitable for the teaching profession.
- Only candidates meeting the Pennsylvania Department of Education requirements at the time of application are eligible to be recommended for certification.
- In some instances, the University may award a degree although the candidate is not eligible to be recommended for teacher certification.

Early Childhood Education PreK-4

Gannon's Early Childhood Education curriculum provides a solid foundation in development and learning theory as well as instruction in content areas including language and literacy, mathematics, physical activity, creative arts, social studies, and science.

Gannon's unique developmental field experiences provide a practical hands-on application of knowledge with a diverse population of young children across all socioeconomic and cultural levels.

When combined with the Special Education PreK-8 curriculum, teacher candidates in the Early Childhood program will also be qualified to work with students with special needs who are in grades PreK-4.

Middle Level 4-8

Gannon's Grades 4-8 Middle Level Certification programs lead to a Bachelor of Science degree with certification in 13 possible areas. The curriculum provides extensive field-based experiences in both self-contained and content-specific classrooms in rural, urban, and suburban classrooms.

The professional education core creates a foundation for successful clinical practice. This core set of courses emphasizes middle level philosophy and strategies for success with young adolescents, regardless of whether the school is an elementary, middle, or junior high school. The curriculum includes courses designed to provide content-area expertise as well as foundational knowledge in all core subject areas. These courses require field-based experiences that total approximately 420 hours before student teaching.

When combined with the Special Education PreK-8 curriculum, teacher candidates in the Middle Level program will also be qualified to work with students with special needs who are in grades 4-8.

Special Education PreK-8

A wide variety of practicum experiences are available to special education candidates. Experiences are available in life skills, emotional support, learning support, and autistic support classrooms.

The special education program contains specific content geared for learners with disabilities guided by the standards of the Council for Exceptional Children.

Through coursework, candidates develop extensive knowledge of law, policies, and procedures required of a special education professional.

Candidates are invited to join the Gannon University for Exceptional Children (GUSEC), a professional organization that participates in worthwhile community events providing beneficial experiences for individuals with disabilities, volunteers, and teacher candidates.

Gannon has a close affiliation with the Barber National Institute, a multi-faceted facility that provides education and services to individuals and their families.

The Special Education program exposes teacher candidates to the latest in assistive technologies and best practices in the field of special education.

SECONDARY AND K - 12 EDUCATION

Secondary and K - 12 teacher candidates receive a degree in their content area and are prepared for certification in the following areas:

Biology 7-12	Mathematics 7-12
English 7-12	Social Studies 7-12
Foreign Languages – Spanish K-12	

These programs prepare teacher candidates to work in content-specific, inclusive, and diverse settings through a combination of required courses in Special Education and English as a Second Language as well as practical experiences in rural, urban, and suburban classrooms.

Secondary majors have unique opportunities to develop content-area expertise through internships in summer programs, international travel, completing coursework in off-campus locations such as Yellowstone National Park, writing for the Gannon newspaper and literary magazine, or working in the academic tutoring centers.

SECONDARY AND K-12 PROFESSIONAL EDUCATION CORE – 37 CREDITS

3	Psychology of Learning and Teaching/EDCR 101
1	Foundations of Teaching/EDCR 103
3	Methods and Materials of Instruction/Practicum/EDCR 320
3	Concepts and Methods: Reading across the Content Areas/EDCR 326
3	Assessment and Evaluation/EDCR 330
3	Professional Seminar in Education/EDCR 401
3	Methods/Materials for ESL/ELL/Practicum/EDCR 420
0	Secondary/K-12 Education Practicum/EDFL 101
0	Secondary/K-12 Education Practicum/EDFL 102
0	Scondary/K-12 Education Practicum/EDFL 103
12	Student Teaching/EDFL 410
3	Special Education Overview/SPED 101
3	Meeting the Need of Students with Exceptionalities Grades 7-12/ Practicum/SPED 340

EARLY CHILDHOOD EDUCATION

Associate Degree

This 64-credit two-year program is designed to meet entry-level Pennsylvania requirements for assistant teachers in preschools and kindergartens, as well as childcare/learning centers and Head Start programs. A GPA of 2.0 is required for graduation with an Associate degree.

For those individuals who complete the Associate degree and decide to continue their education, all qualifying credits earned in the program within a seven year time frame will transfer to the four year baccalaureate degree in Early Childhood PreK-4. Qualifying credits refer to those Education courses and the LENG 111 course with a grade of C or better.

Candidates who wish to earn teacher certification in Early Childhood PreK-4 will need to meet the Pennsylvania Department of Education requirements in effect at the time of application for certification.

EARLY CHILDHOOD EDUCATION/ EARLY INTERVENTION
Associate Degree

This 68-credit two-year program is designed to meet entry-level Pennsylvania requirements for assistant teachers in preschools and kindergartens, as well as childcare/learning centers and Head Start programs. A GPA of 2.0 is required for graduation with an Associate degree.

For those individuals who complete the Associate degree and decide to continue their education, all qualifying credits earned in the program within a seven year time frame will transfer to the four year baccalaureate degree in Early Childhood PreK-4 **or** Early Childhood PreK-4/Special Education PreK-8. Qualifying credits refer to those Education courses and the LENG 111 course with a grade of C or better.

Candidates who wish to earn teacher certification in Early Childhood PreK-4 **or** Early Child PreK-4/Special Education PreK-8 will need to meet the Pennsylvania Department of Education requirements in effect at the time of application for certification.

Early Childhood Education PreK-4 Curriculum

(Numerals in front of courses indicate credits)

FRESHMAN

	Fall		*Spring*
3	Psychology of Learning/Teaching/ EDCR 101	3	Early Childhood Overview/ ECED 100 *
1	Foundations of Teaching/EDCR 103	3	Child Development: Birth-Age 5/ ECED 101 *
2	First-Year Seminar/EDCR 104 *	3	Planning/Managing the Learning Environment/ECED 103 +
3	Fundamentals of Speech/SPCH 111	3	Critical Analysis/Composition/ LENG 112
3	College Composition/LENG 111	3	Fundamentals of Mathematics/ MATH 105
3	History of West/World/LHST 111	3	Special Education Overview/ SPED 101
3	Introduction to Sacred Scripture/ LTHE 121		
18		18	

SOPHOMORE

	Fall		*Spring*
3	Child Development: K-4th Grade/ ECED 102	3	Concepts/Methods: Early Lit/ Reading PreK-1/ECED 202 **
3	Early Language/Literacy Development/ECED 200 **	2	Concepts/Methods: Math II/ ECED 205 *
2	Concepts/Methods: Math I/ECED 204 *	3	Literature Series/LENG
3	Introduction to Philosophy/LPHI 131	3	Philosophy of Ethical Responsibility/ LPHI 237
3	Applied Statistics/MATH 213 **or** Psychological Statistics I/PSYC 211	1	Leadership Seminar
3	Meeting Learning Needs Students w/Except: PreK-8/SPED 245*	3	Science Series
17		15	

JUNIOR

	Fall		*Spring*
3	Concepts/Methods: Literacy/ Reading 2-4/ECED 203	3	Integrated Curriculum PreK-4/ ECED 300 **
3	Data Driven Instruction: PreK-4/ ECED 306 *	3	Concepts/Methods: Science/ Technology/ECED 308
3	Concepts/Methods: Social Studies/ ECED 307	3	Family Involvement in Educational System/ECED 309
3	Expressive Arts/EDCR 302	3	Children's Literature/EDCR 300
3	Literacy for Students w/ Exceptionalities/SPED 320 **	3	Program/Assessment in Special Ed/ SPED 343 *
15		15	

SENIOR

	Fall		*Spring*
3	Physical Well-Being of the Child/ ECED 310	3	Professional Seminar/EDCR 401
3	Concepts/Methods: ESL/ELL/ EDCR 420 *	12	Student Teaching/EDFL 410
3	Philosophy II Series/LPHI		
3	Theology II Series/LTHE		
3	Collaboration/Partnerships in Special Ed/SPED 242		
15		15	

Total credits: 128

*Practicum embedded throughout the semester (6-15 hrs.)

+Practicum embedded throughout the semester (60 hrs.)

**Three-week practicum experience (90 hrs.)

{ Cohort Courses

Early Childhood Education PreK-4 and Special Education PreK-8 Curriculum

(Numerals in front of courses indicate credits)

FRESHMAN

	Fall		*Spring*
3	Psychology of Learning/Teaching/ EDCR 101	3	Early Childhood Overview/ ECED 100 *
1	Foundations of Teaching/EDCR 103	3	Child Development: Birth-Age 5/ ECED 101 *
{ 2	First-Year Seminar/EDCR 104 *	3	Planning/Managing the Learning Environment/ECED 103 +
{ 3	Fundamentals of Speech/SPCH 111	3	Critical Analysis/Composition/ LENG 112
3	College Composition/LENG 111	3	Fund. of Mathematics/MATH 105
3	History of West/World/LHST 111	3	Special Education Overview/SPED 101
3	Introduction to Sacred Scripture/ LTHE 121		
18		18	

SOPHOMORE

	Fall		*Spring*
3	Child Development: K-4th Grade/ ECED 102	3	Concepts/Methods: Early Lit/ Reading PreK-1/ECED 202 **
3	Early Language/Literacy Development/ ECED 200 **	2	Concepts/Methods: Math II/ ECED 205 *
2	Concepts/Methods: Math I/ECED 204 *	3	Adolescent Literature (Literature Series)/MLED 201
3	Introduction to Philosophy/LPHI 131	3	Philosophy of Ethical Responsibility/ LPHI 237
3	Applied Statistics/MATH 213 **or** Psychological Statistics I/PSYC 211	1	Leadership Seminar
3	Meeting Learning Needs Students w/Except: PreK-8/SPED 245*	3	Science Series
		3	Strategies for Accommodations/ Adaptation/SPED 250 *
17		18	

JUNIOR

	Fall		*Spring*
3	Concepts/Methods: Literacy/ Reading 2-4/ECED 203	3	Concepts/Methods: Science/ Technology/ECED 308
3	Integrated Curriculum: PreK-4/ ECED 300 **	3	Family Involvement in Educational System/ECED 309
3	Concepts/Methods: Social Studies/ ECED 307	3	Literacy for Students w/ Exceptionalities/SPED 320 **
3	Expressive Arts/EDCR 302	3	Positive Behavior Supports/ Interventions/SPED 322
3	Data-Driven Instruction: Special Education/SPED 306 *	3	Program/Assessment in Special Ed/ SPED 343 *
3	High Incidence Disabilities/SPED 308		
18		15	

SENIOR

	Fall		*Spring*
3	Physical Well-Being of the Child/ ECED 301	3	Professional Seminar/EDCR 401
3	Concepts/Methods: ESL/ELL/EDCR 420 *	12	Student Teaching/EDFL 410
3	Philosophy II Series/LPHI		
3	Theology II Series/LTHE		
3	Collaboration/Partnerships in Special Ed/SPED 242		
3	Low Incidence Disabilities/SPED 307		
18		15	

Total credits: 137

*Practicum embedded throughout the semester (6-15 hrs.)

+Practicum embedded throughout the semester (60 hrs.)

**Three-week practicum experience (90 hrs.)

{ Cohort Courses

Middle Level Education 4-8
Concentration: English/Language Arts and Reading Curriculum

(Numerals in front of courses indicate credits)

FRESHMAN

	Fall		*Spring*
1	Foundations of Teaching/EDCR 103	3	Psychology of Learning/Teaching/ EDCR 101
2	First-Year Seminar/EDCR 104 *	3	Intro. to Engineering/ENG 101
3	Fundamentals of Speech/SPCH 111	3	Critical Analysis/Composition/ LENG 112
3	College Composition/LENG 111	3	College Algebra/MATH 111
3	History of West/World/LHST 111	3	U.S. Government/Politics/POLI 111
3	Intro. to Sacred Scripture/LTHE 121	3	Special Education Overview/SPED 101
3	Funda. of Mathematics/MATH 105		
18		18	

SOPHOMORE

	Fall		*Spring*
3	Issues in Science/Technology/CHEM 166	3	World Geography/GEOG 201
3	Introduction to Literature/LENG 247	3	Philosophy of Ethical Responsibility/ LPHI 237
3	Introduction to Philosophy/LPHI 131	1	Leadership Seminar
3	Quantitative Literacy/MATH 103	3	Applied Statistics/MATH 213 **or** Psychological Statistics I/PSYC 211
3	Planning for the Differentiated Classrooms/MLED 200 +	3	Adolescent Literature/MLED 201 **
3	Meet Needs Students Exceptionalities: PreK-8/SPED 245 *	3	Adolescent Development/MLED 202 *
18		16	

JUNIOR

	Fall		*Spring*
3	Human Biology/BIOL 104	3	Expressive Arts/EDCR 302
3	Introduction to Linguistics/ENGL 217	3	Concepts/Methods: Reading Across the Content Area/EDCR 326 *
3	Philosophy II Series/LPHI	3	Concepts/Methods: ESL/ELL/ EDCR 420 *
3	Theology II Series/LTHE	3	Data- Driven Instruction: 4-8/ MLED 300 **
3	Read Dev Strategies Assessment: 4-8/ MLED 301 **	3	Program Plan/Assessment Special Education/SPED 343 *
15		15	

SENIOR

	Fall		*Spring*
3	Concepts/Methods: Math, Science, Social Studies/EDCR 320 *	3	Professional Seminar/EDCR 401
3	Advanced Composition/ENGL 211	12	Student Teaching/EDFL 410
3	Structure of English Language/ ENGL 363		
3	Concepts Natural Science/MLED 302 **		
3	Teach/Support Writing: 4-8/ MLED 305 *		
15		15	

Total credits: 130

*Practicum embedded throughout the semester (6-15 hrs.)

+Practicum embedded throughout the semester (60 hrs.)

**Three-week practicum experience (90 hrs.)

{ Cohort Courses

Middle Level Education 4-8
Concentration: Mathematics Curriculum

(Numerals in front of courses indicate credits)

FRESHMAN

	Fall		*Spring*
1	Foundations of Teaching/EDCR 103	3	Psychology of Learning/Teaching/ EDCR 101
{ 2	First-Year Seminar/EDCR 104 *	3	Intro. to Engineering/ENG 101
3	Fundamentals of Speech/SPCH 111	3	Critical Analysis/Composition/ LENG 112
3	College Composition/LENG 111	3	Calculus I/MATH 140
3	History of West/World/LHST 111	3	U.S. Government/Politics/POLI 111
3	Intro. to Sacred Scripture/LTHE 121	3	Special Education Overview/SPED 101
3	Precalculus/MATH 135		
18		18	

SOPHOMORE

	Fall		*Spring*
3	Introduction to Philosophy/LPHI 131	3	World Geography/GEOG 201
3	Fundamentals of Math/MATH 105	{ 3	Philosophy of Ethical Responsibility/ LPHI 237
3	Calculus II/MATH 141	{ 1	Leadership Seminar
3	Discrete Mathematics/MATH 222	3	History of Mathematics/MATH 260
3	Planning for the Differentiated Classrooms/MLED 200 +	3	Adolescent Literature/MLED 201 **
3	Meet Needs Students Exceptionalities: PreK-8/SPED 245 *	3	Adolescent Development/MLED 202 *
18		16	

JUNIOR

	Fall		*Spring*
3	Human Biology/BIOL 104	3	Expressive Arts/EDCR 302
3	Philosophy II Series/LPHI	3	Concepts/Methods: Reading Across the Content Areas/EDCR 326 *
3	Theology II Series/LTHE	3	Linear Algebra/MATH 252
3	Applied Statistics/MATH 213	3	Data-Driven Instruction: 4-8/ MLED 300 **
3	Calculus III/MATH 242	3	Program/Plan Assessment Special Education/SPED 343 *
3	Applications of Mathematics/ MLED 303 **		
18		15	

SENIOR

	Fall		*Spring*
3	Issues in Science/Technology/ CHEM 166	3	Professional Seminar/EDCR 401
3	Concepts/Methods: Math, Science, Social Studies/EDCR 320 *	12	Student Teaching/EDFL 410

3	Concepts/Methods: ESL/ELL/ EDCR 420 *		
3	Geometry/MATH 226		
3	Concepts of Natural Science/ MLED 302 **		
15		15	

Total credits: 133

*Practicum embedded throughout the semester (6-15 hrs.)

+Practicum embedded throughout the semester (60 hrs.)

**Three-week practicum experience (90 hrs.)

{ Cohort Courses

Middle Level Education 4-8
Concentration: Science Curriculum

(Numerals in front of courses indicate credits)

FRESHMAN

	Fall		*Spring*
1	Foundations of Teaching/EDCR 103	3	Psychology of Learning/Teaching/ EDCR 101
{ 2	First-Year Seminar/EDCR 104 *	3	Intro. to Engineering/ENG 101
{ 3	Fundamentals of Speech/SPCH 111	3	Critical Analysis/Composition/ LENG 112
3	College Composition/LENG 111	3	College Algebra/MATH 111
3	History of West/World/LHST 111	3	U.S. Government/Politics/POLI 111
3	Intro. to Sacred Scripture/LTHE 121	3	Special Education Overview/SPED 101
3	Funda. of Mathematics/MATH 105		
18		18	

SOPHOMORE

	Fall		*Spring*
3	General Biology/BIOL 101	3	Human Biology/BIOL 104
3	Introduction to Philosophy/LPHI 131	{ 2	Multimedia Production/CIS 245
3	Quantitative Literacy/MATH 103	{ 1	Multimedia Production Lab/CIS 246
3	Planning for the Differentiated Classrooms/MLED 200 +	{ 3	Philosophy of Ethical Responsibility/ LPHI 237
3	Meet Needs Students Exceptionalities: PreK-8/SPED 245 *	{ 1	Leadership Seminar
		3	Adolescent Literature/MLED 201 **
		3	Adolescent Development/MLED 202 *
15		16	

JUNIOR

	Fall		*Spring*
3	Issues in Science/Technology/ CHEM 166	3	Expressive Arts/EDCR 302
3	Concepts/Methods: ESL/ELL/ EDCR 420 *	3	Concepts/Methods: Reading Across the Content Areas/EDCR 326 *
3	Intro. to Environmental Science I/ ENV 120	3	World Geography/GEOG 201
3	Philosophy II Series/LPHI	3	Data-Driven Instruction: 4-8/ MLED 300 **
3	Theology II Series/LTHE	3	Program/Plan Assessment Special Education/SPED 343 *

3	Applied Statistics/MATH 213 **or** Psychological Statistics I/PSYC 211		
18		15	

SENIOR

	Fall		*Spring*
3	Environmental Issues/BIOL 103	3	Professional Seminar/EDCR 401
{ 3	Physiological Chemistry/CHEM 105	12	Student Teaching/EDFL 410
{ 1	Physiological Chemistry Lab/CHEM 108		
3	Concepts/Methods: Math, Science, Social Studies/EDCR 320 *		
{ 3	Physical Geology/ENV 101		
{ 1	Physical Geology Lab/ENV 102		
3	Concepts of Natural Science/ MLED 302 **		
17		15	

Total credits: 132

*Practicum embedded throughout the semester (6-15 hrs.)

+Practicum embedded throughout the semester (60 hrs.)

**Three-week practicum experience (90 hrs.)

{ Cohort Courses

Middle Level Education 4-8
Concentration: Social Studies Curriculum

(Numerals in front of courses indicate credits)

FRESHMAN

	Fall		*Spring*
1	Foundations of Teaching/EDCR 103	3	Psychology of Learning/Teaching/ EDCR 101
{ 2	First-Year Seminar/EDCR 104 *		
{ 3	Fundamentals of Speech/SPCH 111	3	Intro. to Engineering/ENG 101
3	College Composition/LENG 111	3	Critical Analysis/Composition/ LENG 112
3	History of West/World/LHST 111		
3	Intro. to Sacred Scripture/LTHE 121	3	College Algebra/MATH 111
3	Funda. of Mathematics/MATH 105	3	U.S. Government/Politics/POLI 111
		3	Special Education Overview/SPED 101
18		18	

SOPHOMORE

	Fall		*Spring*
3	Human Biology/BIOL 104	3	Issues in Science/Technology/ CHEM 166
3	Introduction to Philosophy/LPHI 131		
3	Quantitative Literacy/MATH 103	3	World Geography/GEOG 201
3	Planning for the Differentiated Classrooms/MLED 200 +	{ 3	Philosophy of Ethical Responsibility/ LPHI 237
3	Meet Needs Students Exceptionalities: PreK-8/SPED 245 *	{ 1	Leadership Seminar
		3	Adolescent Literature/MLED 201 **
		3	Adolescent Development/MLED 202 *
15		16	

JUNIOR

	Fall		*Spring*
3	History of U.S. to 1865/HIST 221	3	Expressive Arts/EDCR 302
3	Philosophy II Series/LPHI	3	Concepts/Methods: Reading Across the Content Areas/EDCR 326 *
3	Applied Statistics/MATH 213 **or** Psychological Statistics I/PSYC 211	3	Concepts/Methods: ESL/ELL/ EDCR 420 *
3	Inquiry/Analysis in PA History/ Government/MLED 304 **	3	Data-Driven Instruction: 4-8/ MLED 300 **
3	Intro to International Relations/ POLI 133	3	Program/Plan Assessment Special Education/SPED 343 *
3	Intro to Anthropology/SOCI 111		
18		15	

SENIOR

	Fall		*Spring*
3	Basic Economics/ECON 101	3	Professional Seminar/EDCR 401
3	Concepts/Methods: Math, Science, Social Studies/EDCR 320 *	12	Student Teaching/EDFL 410
3	U.S. History 1865 to Present/HIST 222		
3	Theology II Series/LTHE		
3	Concepts of Natural Science/ MLED 302 **		
15		15	

Total credits: 130

*Practicum embedded throughout the semester (6-15 hrs.)

+Practicum embedded throughout the semester (60 hrs.)

**Three-week practicum experience (90 hrs.)

{ Cohort Courses

Middle Level Education 4-8
Concentration: English/Language Arts and Reading & Mathematics Curriculum

(Numerals in front of courses indicate credits)

FRESHMAN

	Fall		*Spring*
1	Foundations of Teaching/EDCR 103	3	Psychology of Learning/Teaching/ EDCR 101
{ 2	First-Year Seminar/EDCR 104 *	3	Intro. to Engineering/ENG 101
{ 3	Fundamentals of Speech/SPCH 111	3	Critical Analysis/Composition/ LENG 112
3	College Composition/LENG 111	3	Calculus I/MATH 140
3	History of West/World/LHST 111	3	U.S. Government/Politics/POLI 111
3	Intro. to Sacred Scripture/LTHE 121	3	Special Education Overview/SPED 101
3	Precalculus/MATH 135		
18		18	

SOPHOMORE

	Fall		*Spring*
3	Introduction to Philosophy/LPHI 131	{ 3	Philosophy of Ethical Responsibility/ LPHI 237
3	Issues in Science/Technology/ CHEM 166	{ 1	Leadership Seminar
3	Fundamentals of Math/MATH 105	3	Calculus II/MATH 141

3	Discrete Mathematics/MATH 222	3	Applied Statistics/MATH 213
3	Planning for the Differentiated Classrooms/MLED 200 +	3	Adolescent Literature/MLED 201 **
3	Meet Needs Students Exceptionalities: PreK-8/SPED 245 *	3	Adolescent Development/MLED 202 *
18		16	

JUNIOR

	Fall		*Spring*
3	Human Biology/BIOL 104	3	Concepts/Methods: Reading Across the Content Areas/EDCR 326 *
3	Geometry/MATH 226	3	Concepts/Methods: ESL/ELL/ EDCR 420 *
3	Theology II Series/LTHE	3	World Geography/GEOG 201
3	Read Dev Strategies Assessment: 4-8/ MLED 301 **	3	Data- Driven Instruction: 4-8/ MLED 300 **
3	Applications of Math/MLED 303 **	3	Program Plan/Assessment Special Education/SPED 343 *
15		15	

SENIOR

	Fall		*Spring*
3	Expressive Arts/EDCR 302	3	Professional Seminar/EDCR 401
3	Concepts/Methods: Math, Science, Social Studies/EDCR 320 *	12	Student Teaching/EDFL 410
3	Philosophy II Series/LPHI		
3	Structure of English Language/ ENGL 363		
3	Concepts Natural Science/MLED 302 **		
3	Teach/Support Writing: 4-8/MLED 305 *		
18		15	

Total credits: 133

*Practicum embedded throughout the semester (6-15 hrs.)

+Practicum embedded throughout the semester (60 hrs.)

**Three-week practicum experience (90 hrs.)

{ Cohort Courses

Middle Level Education 4-8
Concentration: English/Language Arts and Reading & Science Curriculum

(Numerals in front of courses indicate credits)

FRESHMAN

	Fall		*Spring*
1	Foundations of Teaching/EDCR 103	3	Psychology of Learning/Teaching/ EDCR 101
{ 2	First-Year Seminar/EDCR 104 *	3	Intro. to Engineering/ENG 101
{ 3	Fundamentals of Speech/SPCH 111	3	Critical Analysis/Composition/ LENG 112
3	College Composition/LENG 111	3	College Algebra/MATH 111
3	History of West/World/LHST 111	3	U.S. Government/Politics/POLI 111
3	Intro. to Sacred Scripture/LTHE 121	3	Special Education Overview/SPED 101
3	Fundamentals of Math/MATH 105		
18		18	

SOPHOMORE

	Fall		*Spring*
3	General Biology/BIOL 101	2	Multimedia Production/CIS 245
3	Introduction to Philosophy/LPHI 131	1	Multimedia Production Lab/CIS 246
3	Quantitative Literacy/MATH 103	3	World Geography/GEOG 201
3	Planning for the Differentiated Classrooms/MLED 200 +	3	Philosophy of Ethical Responsibility/ LPHI 237
3	Meet Needs Students Exceptionalities: PreK-8/SPED 245 *	1	Leadership Seminar
		3	Adolescent Literature/MLED 201 **
		3	Adolescent Development/MLED 202 *
15		16	

JUNIOR

	Fall		*Spring*
3	Human Biology/BIOL 104	3	Expressive Arts/EDCR 302
3	Issues in Science/Technology/ CHEM 166	3	Concepts/Methods: Reading Across the Content Areas/EDCR 326 *
3	Philosophy II Series/LPHI	3	Concepts/Methods: ESL/ELL/ EDCR 420 *
3	Theology II Series/LTHE		
3	Applied Statistics/MATH 213 **or** Psychological Statistics I/PSYC 211	3	Data-Driven Instruction: 4-8/ MLED 300 **
3	Read Dev Strategies Assessment: 4-8/ MLED 301 **	3	Program Plan/Assessment Special Ed/SPED 343 *
18		15	

SENIOR

	Fall		*Spring*
3	Concepts/Methods: Math, Science, Social Studies/EDCR 320 *	3	Professional Seminar/EDCR 401
3	Structure of English Language/ENGL 363	12	Student Teaching/EDFL 410
3	Physical Geology/ENV 101		
1	Physical Geology Lab/ENV 102		
3	Concepts of Natural Science/ MLED 302 **		
3	Teach/Support Writing: 4-8/MLED 305 *		
16		15	

Total credits: 131

*Practicum embedded throughout the semester (6-15 hrs.)

+Practicum embedded throughout the semester (60 hrs.)

**Three-week practicum experience (90 hrs.)

{ Cohort Courses

Middle Level Education 4-8
Concentration: Mathematics and Science Curriculum

(Numerals in front of courses indicate credits)

FRESHMAN

	Fall		*Spring*
1	Foundations of Teaching/EDCR 103	3	Psychology of Learning/Teaching/ EDCR 101
2	First-Year Seminar/EDCR 104 *	3	Intro. to Engineering/ENG 101
3	Fundamentals of Speech/SPCH 111		

3	College Composition/LENG 111	3	Critical Analysis/Composition/ LENG 112
3	History of West/World/LHST 111	3	Calculus I/MATH 140
3	Intro. to Sacred Scripture/LTHE 121	3	U.S. Government/Politics/POLI 111
3	Precalculus/MATH 135	3	Special Education Overview/SPED 101
18		18	

SOPHOMORE

Fall		*Spring*	
3	Issues in Science/Technology/ CHEM 166	{ 3	Philosophy of Ethical Responsibility/ LPHI 237
3	Introduction to Philosophy/LPHI 131	{ 1	Leadership Seminar
3	Fundamentals of Math/MATH 105	3	Calculus II/MATH 141
3	Discrete Mathematics/MATH 222	3	Applied Statistics/MATH 213
3	Planning for the Differentiated Classrooms/MLED 200 +	3	Adolescent Literature/MLED 201 **
3	Meet Needs Students Exceptionalities: PreK-8/SPED 245 *	3	Adolescent Development/MLED 202 *
18		16	

JUNIOR

Fall		*Spring*	
{ 3	General Biology/BIOL 101	{ 2	Multimedia Production/CIS 245
{ 3	Physical Geology/ENV 101	{ 1	Multimedia Production Lab/CIS 246
1	Physical Geology Lab/ENV 102	3	Concepts/Methods: Reading Across the Content Areas/EDCR 326 *
3	Theology II Series/LTHE	3	World Geography/GEOG 201
3	Geometry/MATH 226	3	Data-Driven Instruction: 4-8/ MLED 300 **
3	Applications of Math/MLED 303 **	3	Program/Plan Assessment Special Ed/SPED 343 *
16		15	

SENIOR

Fall		*Spring*	
3	Human Biology/BIOL 104	3	Professional Seminar/EDCR 401
3	Expressive Arts/EDCR 302	12	Student Teaching/EDFL 410
3	Concepts/Methods: Math, Science, Social Studies/EDCR 320 *		
3	Concepts/Methods: ESL/ELL/ EDCR 420 *		
3	Philosophy II Series/LPHI		
3	Concepts Natural Science/MLED 302 **		
18		15	

Total credits: 134

*Practicum embedded throughout the semester (6-15 hrs.)

+Practicum embedded throughout the semester (60 hrs.)

**Three-week practicum experience (90 hrs.)

{ Cohort Courses

Middle Level Education 4-8
Concentration: Social Studies and Mathematics Curriculum

(Numerals in front of courses indicate credits)

FRESHMAN

	Fall		*Spring*
1	Foundations of Teaching/EDCR 103	3	Psychology of Learning/Teaching/ EDCR 101
2	First-Year Seminar/EDCR 104 *	3	Intro. to Engineering/ENG 101
3	Fundamentals of Speech/SPCH 111	3	Critical Analysis/Composition/ LENG 112
3	College Composition/LENG 111	3	Calculus I/MATH 140
3	History of West/World/LHST 111	3	U.S. Government/Politics/POLI 111
3	Intro. to Sacred Scripture/LTHE 121	3	Special Education Overview/SPED 101
3	Precalculus/MATH 135		
18		18	

SOPHOMORE

	Fall		*Spring*
3	Issues in Science/Technology/ CHEM 166	3	Philosophy of Ethical Responsibility/ LPHI 237
3	Introduction to Philosophy/LPHI 131	1	Leadership Seminar
3	Fundamentals of Math/MATH 105	3	Calculus II/MATH 141
3	Discrete Mathematics/MATH 222	3	Applied Statistics/MATH 213
3	Planning for the Differentiated Classrooms/MLED 200 +	3	Adolescent Literature/MLED 201 **
3	Meet Needs Students Exceptionalities: PreK-8/SPED 245 *	3	Adolescent Development/MLED 202 *
18		16	

JUNIOR

	Fall		*Spring*
3	Human Biology/BIOL 104	3	Concepts/Methods: Reading Across the Content Areas/EDCR 326 *
3	History of U.S. to 1865/HIST 221	3	Concepts/Methods: ESL/ELL/ EDCR 420 *
3	Theology II Series/LTHE	3	World Geography/GEOG 201
3	Geometry/MATH 226	3	Data-Driven Instruction: 4-8/ MLED 300 **
3	Applications of Math/MLED 303 **	3	Program/Plan Assessment Special Ed/SPED 343 *
15		15	

SENIOR

	Fall		*Spring*
3	Expressive Arts/EDCR 302	3	Professional Seminar/EDCR 401
3	Concepts/Methods: Math, Science, Social Studies/EDCR 320 *	12	Student Teaching/EDFL 410
3	History of U.S. 1865 to Present/ HIST 222		
3	Philosophy II Series/LPHI		
3	Concepts Natural Science/MLED 302 **		
3	Inquiry/Analysis in PA History/ Government/MLED 304 **		
18		15	

Total credits: 133

*Practicum embedded throughout the semester (6-15 hrs.)

+Practicum embedded throughout the semester (60 hrs.)

**Three-week practicum experience (90 hrs.)

{ Cohort Courses

Middle Level Education 4-8
Concentration: Social Studies and Science Curriculum

(Numerals in front of courses indicate credits)

FRESHMAN

	Fall		*Spring*
1	Foundations of Teaching/EDCR 103	3	Psychology of Learning/Teaching/ EDCR 101
{ 2	First-Year Seminar/EDCR 104 *	3	Intro. to Engineering/ENG 101
{ 3	Fundamentals of Speech/SPCH 111	3	Critical Analysis/Composition/ LENG 112
3	College Composition/LENG 111	3	College Algebra/MATH 111
3	History of West/World/LHST 111	3	U.S. Government/Politics/POLI 111
3	Intro. to Sacred Scripture/LTHE 121	3	Special Education Overview/SPED 101
3	Fundamentals of Math/MATH 105		
18		18	

SOPHOMORE

	Fall		*Spring*
3	General Biology/BIOL 101	{ 2	Multimedia Production/CIS 245
3	Introduction to Philosophy/LPHI 131	{ 1	Multimedia Production Lab/CIS 246
3	Quantitative Literacy/MATH 103	3	World Geography/GEOG 201
3	Planning for the Differentiated Classrooms/MLED 200 +	{ 3	Philosophy of Ethical Responsibility/ LPHI 237
3	Meet Needs Students Exceptionalities: PreK-8/SPED 245 *	{ 1	Leadership Seminar
		3	Adolescent Literature/MLED 201 **
		3	Adolescent Development/MLED 202 *
15		16	

JUNIOR

	Fall		*Spring*
3	Human Biology/BIOL 104	3	Expressive Arts/EDCR 302
3	Issues in Science/Technology/ CHEM 166	3	Concepts/Methods: Reading Across the Content Areas/EDCR 326 *
3	Philosophy II Series/LPHI	3	Concepts/Methods: ESL/ELL/ EDCR 420 *
3	History of U.S. to 1865/HIST 221	3	Data-Driven Instruction: 4-8/ MLED 300 **
3	Applied Statistics/MATH 213 **or** Psychological Statistics I/PSYC 211	3	Program Plan/Assessment Special Ed/SPED 343 *
3	Inquiry/Analysis in PA History/ Government/MLED 304 **		
18		15	

SENIOR

	Fall		*Spring*
3	Concepts/Methods: Math, Science, Social Studies/EDCR 320 *	3	Professional Seminar/EDCR 401
{ 3	Physical Geology/ENV 101	12	Student Teaching/EDFL 410
{ 1	Physical Geology Lab/ENV 102		
3	History of U.S. 1865 to Present/ HIST 222		

3	Concepts of Natural Science/ MLED 302 **		
3	Theology II Series/LTHE		
16		15	

Total credits: 131

*Practicum embedded throughout the semester (6-15 hrs.)

+Practicum embedded throughout the semester (60 hrs.)

**Three-week practicum experience (90 hrs.)

{ Cohort Courses

Middle Level Education 4-8 and Special Education PreK-8
Concentration: English/Language Arts and Reading Curriculum

(Numerals in front of courses indicate credits)

FRESHMAN

	Fall		*Spring*
1	Foundations of Teaching/EDCR 103	3	Psychology of Learning/Teaching/ EDCR 101
{ 2	First-Year Seminar/EDCR 104 *	3	Intro. to Engineering/ENG 101
{ 3	Fundamentals of Speech/SPCH 111	3	Critical Analysis/Composition/ LENG 112
3	College Composition/LENG 111	3	College Algebra/MATH 111
3	History of West/World/LHST 111	3	U.S. Government/Politics/POLI 111
3	Intro. to Sacred Scripture/LTHE 121	3	Special Education Overview/SPED 101
3	Funda. of Mathematics/MATH 105		
18		18	

SOPHOMORE

	Fall		*Spring*
3	Issues in Science/Technology/ CHEM 166	3	World Geography/GEOG 201
3	Introduction to Literature/LENG 247	{ 3	Philosophy of Ethical Responsibility/ LPHI 237
3	Introduction to Philosophy/LPHI 131	{ 1	Leadership Seminar
3	Quantitative Literacy/MATH 103	3	Applied Statistics/MATH 213 **or** Psychological Statistics I/PSYC 211
3	Planning for the Differentiated Classrooms/MLED 200 +	3	Adolescent Literature/MLED 201 **
3	Meet Needs Students Exceptionalities: PreK-8/SPED 245 *	3	Adolescent Development/MLED 202 *
		3	Strategies for Acc/Mod: PreK-8/ SPED 250 *
18		19	(no charge for 19th credit)

JUNIOR

	Fall		*Spring*
3	Introduction to Linguistics/ENGL 217	3	Human Biology/BIOL 104
3	Philosophy II Series/LPHI	3	Expressive Arts/EDCR 302
3	Read Dev Strategies Assessment: 4-8/ MLED 301 **	3	Theology II Series/LTHE
3	Collaboration/Partnerships/SPED 242	3	Concepts/Methods: ESL/ELL/ EDCR 420 *
3	Data-Driven Instruction: Special Education/SPED 306 *	3	Literature for Student Exceptionalities: PreK-8/SPED 320 **
3	High Incidence Disabilities/SPED 308	3	Program Plan/Assessment Special Education/SPED 343 *
18		18	

SENIOR

	Fall		*Spring*
3	Concepts/Methods: Math, Science, Social Studies/EDCR 320 *	3	Professional Seminar/EDCR 401
3	Advanced Composition/ENGL 211	12	Student Teaching/EDFL 410
3	Structure of English Language/ ENGL 363	3	Positive Behavior Supp/Interv/ SPED 322
3	Concepts Natural Science/MLED 302 **		
3	Teach/Support Writing: 4-8/MLED 305 *		
3	Low Incidence Disabilities/SPED 307		
18		18	

Total credits: 145

*Practicum embedded throughout the semester (6-15 hrs.)

+Practicum embedded throughout the semester (60 hrs.)

**Three-week practicum experience (90 hrs.)

{ Cohort Courses

Middle Level Education 4-8 and Special Education PreK-8
Concentration: Mathematics

(Numerals in front of courses indicate credits)

FRESHMAN

	Fall		*Spring*
1	Foundations of Teaching/EDCR 103	3	Psychology of Learning/Teaching/ EDCR 101
{ 2	First-Year Seminar/EDCR 104 *		
{ 3	Fundamentals of Speech/SPCH 111	3	Intro. to Engineering/ENG 101
3	College Composition/LENG 111	3	Critical Analysis/Composition/ LENG 112
3	History of West/World/LHST 111		
3	Intro. to Sacred Scripture/LTHE 121	3	Calculus I/MATH 140
3	Precalculus/MATH 135	3	U.S. Government/Politics/POLI 111
		3	Special Education Overview/SPED 101
18		18	

SOPHOMORE

	Fall		*Spring*
3	Introduction to Philosophy/LPHI 131	3	World Geography/GEOG 201
3	Calculus II/MATH 141	{ 3	Philosophy of Ethical Responsibility/ LPHI 237
3	Discrete Mathematics/MATH 222		
3	Planning for the Differentiated Classrooms/MLED 200 +	{ 1	Leadership Seminar
		3	History of Mathematics/MATH 260
3	Collaborations/Partnerships/SPED 242	3	Adolescent Literature/MLED 201 **
3	Meet Needs Students Exceptionalities: PreK-8/SPED 245 *	3	Adolescent Development/MLED 202 *
		3	Strategies for Acc/Mod: PreK-8/ SPED 250 *
18		19	(no charge for 19th credit)

JUNIOR

	Fall		*Spring*
3	Philosophy II Series/LPHI	3	Expressive Arts/EDCR 302
3	Applied Statistics/MATH 213	3	Human Biology/BIOL 104
3	Calculus III/MATH 242	3	Fundamentals of Math/MATH 105

3	Applications of Mathematics/ MLED 303 **	3	Linear Algebra/MATH 252
3	Data-Driven Instruction: Special Education/SPED 306 *	3	Literature for Student Exceptionalities: PreK-8/SPED 320 **
3	High Incidence Disabilities/SPED 308	3	Program/Plan Assessment Special Education/SPED 343 *
18		18	

SUMMER

3 Theology II Series/LTHE (online)

SENIOR

	Fall		*Spring*
3	Issues in Science/Technology/ CHEM 166	3	Professional Seminar/EDCR 401
3	Concepts/Methods: Math, Science, Social Studies/EDCR 320 *	12	Student Teaching/EDFL 410
3	Concepts/Methods: ESL/ELL/ EDCR 420 *	3	Positive Behavior Supp/Interv/ SPED 322
3	Geometry/MATH 226		
3	Concepts of Natural Science/MLED 302 **		
3	Low Incidence Disabilities/SPED 307		
18		18	

Total credits: 148

*Practicum embedded throughout the semester (6-15 hrs.)

+Practicum embedded throughout the semester (60 hrs.)

**Three-week practicum experience (90 hrs.)

{ Cohort Courses

Middle Level Education 4-8 and Special Education PreK-8
Concentration: Science Curriculum

(Numerals in front of courses indicate credits)

FRESHMAN

	Fall		*Spring*
1	Foundations of Teaching/EDCR 103	3	Psychology of Learning/Teaching/ EDCR 101
{ 2	First-Year Seminar/EDCR 104 *		
{ 3	Fundamentals of Speech/SPCH 111	3	Intro. to Engineering/ENG 101
3	College Composition/LENG 111	3	Critical Analysis/Composition/ LENG 112
3	History of West/World/LHST 111		
3	Intro. to Sacred Scripture/LTHE 121	3	College Algebra/MATH 111
3	Funda. of Mathematics/MATH 105	3	U.S. Government/Politics/POLI 111
		3	Special Education Overview/SPED 101
18		18	

SOPHOMORE

	Fall		*Spring*
3	General Biology/BIOL 101	3	Human Biology/BIOL 104
3	Issues in Science/Technology/ CHEM 166	{ 2	Multimedia Production/CIS 245
		{ 1	Multimedia Production Lab/CIS 246

3	Introduction to Philosophy/LPHI 131	3	Philosophy of Ethical Responsibility/ LPHI 237
3	Quantitative Literacy/MATH 103	1	Leadership Seminar
3	Planning for the Differentiated Classrooms/MLED 200 +	3	Adolescent Literature/MLED 201 **
3	Meet Needs Students Exceptionalities: PreK-8/SPED 245 *	3	Adolescent Development/MLED 202 *
		3	Strategies for Acc/Mod: PreK-8/ SPED 250 *
18		19	(no charge for 19th credit)

SUMMER

3	Theology II Series/LTHE (online)

JUNIOR

Fall		*Spring*	
3	Introduction to Environmental Science I/ENV 120	3	Environmental Issues/BIOL 103
3	Philosophy II Series/LPHI	3	Expressive Arts/EDCR 302
3	Collaboration/Partnership: Special Ed/SPED 242	3	Concepts/Methods: ESL/ELL/ EDCR 420 *
3	Applied Statistics/MATH 213 **or** Psychological Statistics I/PSYC 211	3	World Geography/GEOG 201
3	Data-Driven Instruction: Special Ed/ SPED 306 *	3	Literature for Student Exceptionalities: PreK-8/SPED 320 **
3	High Incidence Disabilities/SPED 308	3	Program/Plan Assessment Special Education/SPED 343 *
18		18	

SENIOR

Fall		*Spring*	
3	Physiological Chemistry/CHEM 105	3	Professional Seminar/EDCR 401
1	Physiological Chemistry Lab/ CHEM 108	12	Student Teaching/EDFL 410
3	Concepts/Methods: Math, Science, Social Studies/EDCR 320 *	3	Positive Behavior Supp/Interv/ SPED 322
3	Physical Geology/ENV 101		
1	Physical Geology Lab/ENV 102		
3	Concepts of Natural Science/ MLED 302 **		
3	Low Incidence Disabilities/SPED 307		
17		18	

Total credits: 147

*Practicum embedded throughout the semester (6-15 hrs.)

+Practicum embedded throughout the semester (60 hrs.)

**Three-week practicum experience (90 hrs.)

{ Cohort Courses

Middle Level Education 4-8 and Special Education PreK-8
Concentration: Social Studies Curriculum

(Numerals in front of courses indicate credits)

FRESHMAN

	Fall		*Spring*
1	Foundations of Teaching/EDCR 103	3	Psychology of Learning/Teaching/ EDCR 101
{ 2	First-Year Seminar/EDCR 104 *	3	Intro. to Engineering/ENG 101
{ 3	Fundamentals of Speech/SPCH 111	3	Critical Analysis/Composition/ LENG 112
3	College Composition/LENG 111	3	College Algebra/MATH 111
3	History of West/World/LHST 111	3	U.S. Government/Politics/POLI 111
3	Intro. to Sacred Scripture/LTHE 121	3	Special Education Overview/SPED 101
3	Funda. of Mathematics/MATH 105		
18		18	

SOPHOMORE

	Fall		*Spring*
3	Human Biology/BIOL 104	3	Issues in Science/Technology/ CHEM 166
3	Introduction to Philosophy/LPHI 131	3	World Geography/GEOG 201
3	Quantitative Literacy/MATH 103	{ 3	Philosophy of Ethical Responsibility/ LPHI 237
3	Planning for the Differentiated Classrooms/MLED 200 +	{ 1	Leadership Seminar
3	Collaboration/Partnerships/SPED 242	3	Adolescent Literature/MLED 201 **
3	Meet Needs Students Exceptionalities: PreK-8/SPED 245 *	3	Adolescent Development/MLED 202 *
		3	Strategies for Acc/Mod: PreK-8/ SPED 250 *
18		19	(no charge for teh 19th credit)

JUNIOR

	Fall		*Spring*
3	History of U.S. to 1865/HIST 221	3	Expressive Arts/EDCR 302
3	Applied Statistics/MATH 213 **or** Psychological Statistics I/PSYC 211	3	Concepts/Methods: ESL/ELL/ EDCR 420 *
3	Inquiry/Analysis in PA History/ Government/MLED 304 **	3	Intro to Anthropology/SOCI 111
3	Intro to International Relations/ POLI 133	3	Philosophy II Series/LPHI
3	Data-Driven Instruction: Special Ed/SPED 306 *	3	Literature for Student Exceptionalities: PreK-8/SPED 320 **
3	High Incidence Disabilities/SPED 308	3	Program/Plan Assessment Special Education/SPED 343 *
18		18	

SENIOR

	Fall		*Spring*
3	Basic Economics/ECON 101	3	Professional Seminar/EDCR 401
3	Concepts/Methods: Math, Science, Social Studies/EDCR 320 *	12	Student Teaching/EDFL 410
3	U.S. History 1865 to Present/HIST 222	3	Positive Behavior Supp/Interv/ SPED 322
3	Theology II Series/LTHE		
3	Concepts of Natural Science/ MLED 302 **		

3	Low Incidence Disabilities/SPED 307		
18		18	

Total credits: 145

*Practicum embedded throughout the semester (6-15 hrs.)

+Practicum embedded throughout the semester (60 hrs.)

**Three-week practicum experience (90 hrs.)

{ Cohort Courses

Early Childhood Education Curriculum/Associate Degree

(Numerals in front of courses indicate credits)

FRESHMAN

	Fall		*Spring*
3	Psychology of Learning/Teaching/ EDCR 101	3	Early Childhood Overview/ ECED 100 *
1	Foundations of Teaching/EDCR 103	3	Child Development: Birth-Age 5/ ECED 101 *
{ 2	First-Year Seminar/EDCR 104 *		
{ 3	Fundamentals of Speech/SPCH 111	3	Planning/Managing the Learning Environment/ECED 103 +
3	College Composition/LENG 111		
3	Introduction to Sacred Scripture/ LTHE 121	3	Introduction to Philosophy/ LPHI 131
		3	Special Education Overview/ SPED 101
15		15	

SOPHOMORE

	Fall		*Spring*
3	Early Language/Literacy Development/ECED 200 **	3	Concepts/Methods: Early Lit/ Reading PreK-1/ECED 202 **
2	Concepts/Methods: Math I/ECED 204 *	2	Concepts/Methods: Math II/ ECED 205 *
3	Integrated Curriculum: PreK-4/ ECED 300 +	3	Family Involvement in Education System/ECED 309
3	Data Driven Instruction: PreK-4/ ECED 306 *	3	Physical Well-Being of the Child/ ECED 310
3	Expressive Arts/EDCR 302	3	Collaboration/Partnerships/SPED 242
3	Meeting Learning Needs Students w/Except: PreK-8/SPED 245*	3	Program Planning/Assessment in Sp Ed/SPED 343 *
17		17	

Total credits: 64

*Practicum embedded throughout the semester (6-15 hrs.)

+Practicum embedded throughout the semester (60 hrs.)

**Three-week practicum experience (90 hrs.)

{ Cohort Courses

Early Childhood Education/Early Intervention Curriculum/Associate Degree

(Numerals in front of courses indicate credits)

FRESHMAN

Fall		*Spring*	
3	Psychology of Learning/Teaching/ EDCR 101	3	Early Childhood Overview/ ECED 100 *
1	Foundations of Teaching/EDCR 103	3	Child Development: Birth-Age 5/ ECED 101 *
{ 2	First-Year Seminar/EDCR 104 *	3	Planning/Managing the Learning Environment/ECED 103 +
{ 3	Fundamentals of Speech/SPCH 111	3	Critical Analysis/Composition/ LENG 112
3	College Composition/LENG 111	3	Introduction to Philosophy/LPHI 131
3	Introduction to Sacred Scripture/ LTHE 121	3	Special Education Overview/ SPED 101
15		18	

SOPHOMORE

Fall		*Spring*	
3	Early Language/Literacy Development/ECED 200 **	3	Concepts/Methods: Early Lit/ Reading PreK-1/ECED 202 **
2	Concepts/Methods: Math I/ECED 204 *	3	Family Involvement in Education System/ECED 309
3	Integrated Curriculum: PreK-4/ ECED 300 +	3	Physical Well-Being of the Child/ ECED 310
3	Data Driven Instruction: PreK-4/ ECED 306 *	3	Collaboration/Partnerships/ SPED 242
3	Expressive Arts/EDCR 302	3	Positive Behavior Supports/Inter/ SPED 322
3	Meeting Learning Needs Students w/Except: PreK-8/SPED 245*	3	Program Planning/Assessment in Sp Ed/SPED 343 *
17		18	

Total credits: 68

*Practicum embedded throughout the semester (6-15 hrs.)

+Practicum embedded throughout the semester (60 hrs.)

**Three-week practicum experience (90 hrs.)

{ Cohort Courses

EDUCATION COURSE DESCRIPTIONS

ECED 100: Early Childhood Overview/Practicum
This course examines the structure of early childhood education. Social and cultural foundations are addressed in the context of interpersonal relations among children, families, and communities. An introduction to curricular approaches, observation and assessment of young children, play, and developmentally appropriate practice is provided. The practicum associated with this course is an Observation and Exploration (Stages 1 and 2) experience which is embedded throughout the course (six to ten hours). *3 credits, Spring*

ECED 101: Child Development: Birth through Age 5
This course provides a broad study of child development theories and concepts from

conception through age 5. Teacher candidates explore the physical, emotional, social, and cognitive development of typical and atypical children from birth through 5 years of age. The practicum associated with this course is an Observation and Exploration (Stages 1 and 2) experience which is embedded throughout the course (six to ten hours). *3 credits, Spring*

ECED 102: Child Development: Kindergarten through Fourth Grade
This course provides a broad study of child development theories and concepts from kindergarten through fourth grade. Teacher candidates explore the physical, emotional, social, and cognitive development of typical and atypical children from kindergarten through fourth grade. *3 credits, Fall*

ECED 103: Planning and Managing the Learning Environment/Practicum
This course introduces teacher candidates to creating and managing instruction in the learning environment which fosters quality teaching and learning. Teacher candidates develop lessons connecting learning theories, academic standards, subject matter, student learning, and student achievement. Emphasis is given to the connections among curriculum, instruction, and assessment that result in successful learning. Teacher candidates will develop effective techniques and strategies for classroom management, ensuring a safe, valued, and respectful environment for all students. The practicum associated with this course is an Observation and Exploration (Stages 1 and 2) experience for two-half days per week or one-full day per week for 10 weeks (60 hours).
Prerequisites: EDCR 101, EDCR 103 *3 credits, Spring*

ECED 200: Early Language and Literacy Development/Practicum
This course focuses on how language develops and how this development can be enhanced and sustained. The teacher's role in supporting language development and the characteristics of a language-rich classroom are studied. The importance of emergent literacy, children's literature, and appropriate assessment are emphasized. The practicum associated with this course is an Observation and Exploration (Stages 1 and 2) experience which takes place for three-weeks (90 hours) at the end of the course. *3 credits, Fall*

ECED 202: Concepts and Methods of Instruction: Early Literacy and Reading PreKindergarten through First Grade/Practicum
This course focuses on developing effective instructional strategies for the teaching of reading and literacy in prekindergarten through first grade. Traditional and holistic approaches in reading instruction are studied. The importance of instructional reading strategies, writing assessment, and the National Reading Panel's research findings are emphasized as teacher candidates understand and learn how to facilitate children becoming independent readers. The practicum associated with this course is an Observation and Exploration (Stages 1 and 2) experience which takes place for three-weeks (90 hours) at the end of the semester.
Prerequisites: ECED 103 and ECED 200 *3 credits, Spring*

ECED 203: Concepts and Methods of Instruction: Literacy and Reading Second through Fourth Grade
This course takes an in depth look at the reading and writing processes across the content areas as they pertain to diverse learners in second through fourth grade. Instructional methodology and materials, appropriate assessments, and the use of technology are presented and modeled during this course.
Prerequisite: ECED 103 *3 credits, Fall*

ECED 204: Concepts and Methods of Instruction: Mathematics I/Practicum
This course provides teacher candidates with the conceptual framework, appropriate strategies, and methods to teach mathematics to diverse learners in the early childhood classroom. Using technology and a variety of materials, teacher candidates learn to assess children's needs and evaluate instruction with an emphasis on integrating mathematics across the curriculum. The practicum associated with this course is an Observation and Exploration

(Stages 1 and 2) experience which is embedded throughout the course (six to ten hours).
Prerequisite: ECED 103 *2 credits, Fall*

ECED 205: Concepts and Methods of Instruction: Mathematics II/Practicum
This course is a continuation of ECED 204 Concepts and Methods: Mathematics I, providing teacher candidates with the conceptual framework, appropriate strategies, and methods to teach mathematics to diverse learners in the early childhood classroom. Using technology and a variety of materials, teacher candidates learn to assess children's needs and evaluate instruction with an emphasis on integrating mathematics across the curriculum. The practicum associated with this course is an Observation and Exploration (Stages 1 and 2) experience which is embedded throughout the course (six to ten hours).
Prerequisite: ECED 204 *2 credits, Spring*

ECED 221: Early Care and Education
This course emphasizes making appropriate choices to plan and implement a developmentally appropriate environment for infants and toddlers at home or in a child care center. Cognitive and psychosocial learning theories are applied to the selection and adaptation of materials and strategies to meet the particular needs of very young children, including those who are at risk. *3 credits, Spring*

ECED 300: Integrated Curriculum PreKindergarten through Fourth Grade/Practicum
This course provides the conceptual framework for developing and implementing appropriate curriculum for children prekindergarten through fourth grade. Instruction utilizing research-based approaches will be focused upon while linking instruction, curriculum, and assessment to plan effectively. The integration of content is stressed as teacher candidates plan, adapt, and analyze curriculum content, instructional materials, and strategies to enhance learning. The practicum associated with this course is PreStudent Teaching (Stage 3) experience which takes place for three-weeks (90 hours) at the end of the semester.
Prerequisite: ECED 103 *3 credits, Spring*

ECED 306: Data Driven Instruction: PreKindergarten through Fourth Grade/Practicum
This course focuses on how to choose assessment tools and how to utilize data from informal, formal, and anecdotal assessments to improve student achievement. This course teaches participants how to collect, analyze, and use various forms of data to drive instruction, inform curriculum decisions, and improve instructional practices. Strong emphasis is placed on state and local assessments. The practicum associated with this course is a PreStudent Teaching (Stage 3) experience which is embedded throughout the course (six to ten hours).
Prerequisite: ECED 103 *3 credits, Fall*

ECED 307: Concepts and Methods of Instruction: Social Studies
This course is designed to introduce teacher candidates to the various disciplines and approaches to teaching social studies for diverse learners in prekindergarten through fourth grade. Teacher candidates will learn planning, resource selection, and developmentally appropriate methods and materials to enhance classroom instruction. Emphasis is on social studies as a powerful integrative force across the curriculum. Teacher candidates will be reintroduced to social studies content and concepts traditionally covered in a primary setting. Particular attention will be paid to curriculum development and alignment with state and national standards.
Prerequisite: ECED 103 *3 credits, Fall*

ECED 308: Concepts and Methods of Instruction: Science and Technology
This course provides prekindergarten through fourth grade teacher candidates with the conceptual framework, appropriate strategies, and methods used to teach inquiry-based science that supports standards across the curriculum. Using a variety of instructional models, teacher candidates will learn to design, implement, assess, modify, and evaluate science curriculum and lessons. This course is aligned with the National Research Council's

National Science Education Standards as well as the Pennsylvania Academic Standards for Science and Technology and Environment and Ecology.
Prerequisite: ECED 103 *3 credits, Spring*

ECED 309: Family Involvement in the Educational System
This course examines the complex relationship that exists between family and school. Specifically, this course focuses on the practical components of family involvement that teachers encounter: home and school communications; parent and teacher conferences; administrative issues; and obstacles or barriers to parent and family involvement in the educational system. *3 credits, Spring*

ECED 310: Physical Well-being of the Child
This course prepares teacher candidates to promote physical well-being of children. Through active participation, the teacher candidates learn games, techniques, and strategies appropriate for prekindergarten through sixth grade school age children as well as students with special needs. Candidates learn to teach children how to become physically, emotionally, and socially healthy. Emphasis is given to important current issues affecting a healthy lifestyle for children. This course is cross-listed with EDCR 301.
Prerequisite: ECED 103 or EDCR 200 *3 credits, Fall, Spring*

EDCR 101: Psychology of Learning and Teaching
Participants explore the nature of learning, theories of motivation, and cultural and individual differences found in the classroom which affect learning. Through an investigation of behaviorist, cognitivist, constructivist, and social psychology perspectives and approaches, teacher candidates begin to apply concepts and principles of psychology to educational settings in their practicums. *3 credits, Fall, Spring*

EDCR 102: Instructional Technology
Instructional Technology provides teacher candidates with laboratory-based experiences using various and emergent technologies. Teacher candidates demonstrate competency in the integration of selected programs and examine the ethical ramifications of the instructional choices they make. Strategies and tools to cope with rapid changes are presented.
3 credits, Fall, Spring

EDCR 103: Foundations of Teaching
This course introduces teacher candidates to the philosophical and pedagogical aspects of the profession, including the structure of effective schools, lesson planning, and classroom management. As part of this course, reflective examination of the decision to pursue teaching as a career begins the building of professional portfolios. *1 credit, Fall, Spring*

EDCR 104: First-Year Seminar
The First-Year Seminar is a discussion and experience-based course intended to orient the new student to Gannon University, to introduce the Liberal Studies Core and LIFECORE, to assist in the transition from high school to University life, and to encourage development of academic, personal, and spiritual aspects of the student's life. Each seminar is unique, depending upon the instructor and/or program in which it is offered. The practicum associated with this course is an Observation and Exploration (Stage 1) experience which is embedded throughout the course (nine hours). *2 credits, Fall*

EDCR 301: Physical Well-being of the Child
This course prepares teacher candidates to promote physical well-being of children. Through active participation, the teacher candidates learn games, techniques, and strategies appropriate for prekindergarten through sixth grade school age children as well as students with special needs. Candidates learn to teach children how to become physically, emotionally, and socially healthy. Emphasis is given to important current issues affecting a healthy lifestyle for children. This course is cross-listed with ECED 310.
Prerequisite: ECED 103 or EDCR 200 *3 credits, Fall, Spring*

EDCR 302: Expressive Arts
This course emphasizes the importance of the arts in children's lives. Teacher candidates examine and explore how to help all children use art, music, dance, drama, and literature to express and communicate their developing ideas, experiences, and feelings about themselves and the world. Through active experiences with various media, strategies, technology, and resources, teacher candidates create lesson plans to integrate the arts into the classroom. Prerequisite: ECED 103 or EDCR 200 or MLED 200 *3 credits, Fall, Spring*

EDCR 320: Methods and Materials of Instruction/Practicum
This course is designed for middle level, secondary, and K-12 majors. It emphasizes instructional planning, teaching methodologies, and classroom management for academically diverse settings. Emphasis is given to the preparation of effective lessons in the content area, selection of instructional methods and materials, and organization of classroom procedures. Fifteen hours of pre-student Teaching (Stage 3) practicum are embedded throughout the course, providing teacher candidates with an opportunity to work with a content expert in their field. *3 credits, Fall*

EDCR 326: Methods and Materials of Instruction: Reading across the Content Areas
This course focuses on an in-depth look at the reading process as it pertains to the middle and secondary school levels. Practical strategies and materials to promote literacy as well as assessments, integrative strategies, including integration of technology and viable learner literacy competencies in content area are presented and modeled during this course. Fifteen hours of pre-student Teaching (Stage 3) practicum are embedded throughout the course. *3 credits, as offered*

EDCR 330: Assessment and Evaluation/Practicum
Teacher candidates investigate a variety of traditional and alternative assessments in the context of classroom instruction; meeting the needs of diverse learners; recognizing measurement principles; and national, state, and local standards. Teacher candidates construct and evaluate content specific classroom assessments. This course also gives teacher candidates an opportunity to develop an understanding of the need for and interpretation of the results of standardized tests. *3 credits, Fall*

EDCR 400: Critical Inquiry Seminar
This course provides teacher candidates with the opportunity to synthesize their work from both Liberal Studies and education courses in an inquiry-based participatory seminar. The course focuses on issues, reflection, and research relevant to education. Through extensive reading, independent research, writing, questioning, and discussion teacher candidates pursue areas of particular interest in depth. They share their work with each other, presenting the results of their inquiry in professional presentations. *3 credits, as offered*

EDCR 401: Professional Seminar in Education
In this course, teacher candidates reflect upon the student teaching experience. The seminar emphasizes concurrent professional problems encountered during clinical practice. Discussion topics deal with the prediction and solution of problems in a variety of school situations. Teacher candidates also prepare for employment through activities connected with the construction of their professional portfolios. This course is taken in conjunction with EDFL 410 Student Teaching. *3 credits, Fall, Spring*

EDCR 414: Sociology of Education
This course addresses the intersection of education and various other institutions and structures in American society such as family, marriage, economics, politics, religion, gender, ability, social class, race, and ethnicity. Participants study: theoretical perspectives underlying education systems; learning theories that inform educational curricula and programs; the structure, positions, roles, and processes involved in schools; and the relationship between educational systems and societies. *3 credits, as offered*

EDCR 420: Methods and Materials for Teaching English as a Second Language (ESL)/ Teaching English Language Learners (ELL)/Practicum
This course will provide participants with a survey of current research and theory in English as a second language (ESL)/teaching English language learners (ELL). The participants explore and practice traditional and innovative methodologies for teaching language skills to non-native speakers in kindergarten through grade 12. Nine hours of PreStudent Teaching (Stage 3) practicum are embedded throughout the course, providing teacher candidates with an opportunity to work in an ESL setting.
Prerequisite: SOE Acceptance. *3 credits, Fall, Spring*

EDFL 101: Secondary/K-12 Education Practicum I
This 10 week experiential learning practicum takes place two one-half days per week or one-full day per week in an educational setting assigned by the Coordinator of Practicum Placement. This practicum focuses on classroom interaction and student observation. *0 credit, Fall, Spring*

EDFL 102: Secondary/K-12 Education Practicum II
This 10 week experiential learning practicum takes place in an educational setting assigned by the Coordinator of Practicum Placement. In addition to observation, this practicum offers teacher candidates the opportunity to teach all or part of several lessons. Candidates also complete tasks at the direction of their cooperating teacher. *0 credit, Fall, Spring*

EDFL 103: Secondary/K-12 Education Practicum III
This 10 week experiential learning practicum takes place in an educational setting assigned by the Coordinator of Practicum Placement. The requirements of this practicum include teaching at least three lessons and completing tasks at the direction of the cooperating teacher.
0 credit, Fall, Spring

EDFL 310: Elementary/Early Childhood/Special Education Practicum IV
This 3 week experiential learning practicum experience takes place in conjunction with the Children's Literature, Concepts and Methods of Math, and Physical Well-Being courses. Teacher candidates also complete tasks at the direction of their cooperating teacher.
1 *credit, Fall, Spring*

EDFL 311: Elementary/Early Childhood/Special Education Practicum V
This 3 week experiential learning practicum experience takes place in conjunction with the Concepts and Methods of Reading and Literacy and Expressive Arts. Students also complete tasks at the direction of their cooperating teacher. *1 credit, Fall, Spring*

EDFL 312: Associate Degree Intensive Practicum
This experiential learning practicum takes place in an early childhood program and includes directed observation and supervision, with gradual assumption of classroom responsibilities appropriate for an assistant teacher. The candidate is required to successfully complete seven weeks of full-day classroom experience or 14 weeks of half-day classroom experience. This course is taken in conjunction with EDCR 205 Associate Degree Professional Seminar.
6 credits, Fall, Spring

EDFL 410: Student Teaching
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 EDCR 401 Professional Seminar.
Prerequisite: All methods courses; SOE acceptance. *12 credits, Fall, Spring*

EDUC 355: Museum Internship
This internship introduces participants to the field of museum education which is object or art centered. Teacher candidates have an opportunity to examine museum education as an enrichment to their classroom teaching activities, and they design activities which integrate curriculum with the museum collection. *3 credits, as offered*

EDUC 357: Adult Literacy
This course explores a variety of approaches and materials used for reading and numeracy instruction of the adult learner. Familiarity with the social and psychological characteristics of the adult learner is stressed. Participants will be expected to spend contact hours in direct tutoring of adult literacy students. *3 credits, Fall, Spring*

EDUC 358: American Sign Language I
This course will teach a basic vocabulary of 300 – 500 signs used in American Sign Language in conversational settings by Deaf and hearing signers. Students will learn important aspects of ASL grammar and ASL culture and will be given a brief introduction to hearing loss and some practical issues in the education of Deaf children. *3 credits, Fall, Spring*

EDUC 359: American Sign Language II
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.
Prerequisite: EDUC 358 *3 credits, Spring*

EDUC 390-394: Special Topics in Education *1-6 credits, as offered*

EDUC 395-399: Independent Study
Students choose a topic of study with faculty approval and supervision.
1-6 credits. By arrangement

MLED 200: Planning for the Differentiated Classroom/Practicum
This course introduces teacher candidates to creating and managing instruction in the learning environment. Teacher candidates develop standards-based lessons and instruction as part of the scope and sequence of instructional planning. Assessment anchors are included as they relate to instruction. Emphasis is given to the connections among curriculum, instruction, and assessment that result in successful learning. Teacher candidates are introduced to the approaches for differentiating instruction for adolescents with academic diversity and other special needs. They also learn how to interact effectively with instructional support staff, paraprofessionals, and parents. The practicum associated with this course is an Observation and Exploration (Stages 1 and 2) 60 hour experience.
Prerequisite: EDCR 103 *3 credits, Fall*

MLED 201: Adolescent Literature/Practicum
This course helps teacher candidates to develop an appreciation, understanding, and evaluation of literature appropriate for young adolescents ages nine-15. Through the study of a variety of prose, drama, and poetry, teacher candidates have the opportunity to focus on the diverse characteristics and needs of adolescents; to examine cultural differences; and to develop criteria for selection and use of literature across the curriculum. Strategies for instruction are modeled and practiced. During this course, the participants become familiar with the PA Academic Standards and Assessment Anchors and utilize them when planning instruction. The practicum associated with this course is an Observation and Exploration (Stages 1 and 2) 90 hour experience.
Prerequisite: ECED 103 or MLED 200 *3 credits, Spring*

MLED 202: Adolescent Development/Practicum
This course provides a broad study of major concepts, principles, theories, and research related to middle childhood and adolescent development. Teacher candidates explore the physical, cognitive, behavioral, and social changes that take place during the middle level years as well as the events, circumstances, and strategies that influence and promote normal development. An examination of the middle school philosophy and how it supports adolescent development through the transitions from an early childhood school environment to the middle school environment and then to the high school environment is important for

teachers in fourth through eighth grade. The practicum associated with this course is an Observation and Exploration (Stages 1 and 2) experience which is embedded throughout the course (six hours).
Prerequisite: EDCR 101 *3 credits, Spring*

MLED 300: Data-Driven Instruction/Practicum
This course focuses on how to choose assessment tools and how to utilize data from informal, formal, and anecdotal assessments to improve academic achievement for young adolescent learners. Teacher candidates investigate a variety of traditional and alternative assessments in the context of the following: classroom instruction; meeting the needs of diverse learners; recognizing measurement principles; and national, state, and local standards. This course teaches participants how to collect, analyze, and use various forms of data to drive instruction, inform curriculum decisions, and improve instructional practices. Teacher candidates construct and evaluate specific classroom assessments. Strong emphasis is placed on state and local assessments and gives teacher candidates an opportunity to develop an understanding of the need for and interpretation of the results of standardized tests, including PSSA. The practicum associated with this course is a PreStudent Teaching (Stage 3) 90 hour experience.
Prerequisite: MLED 200 *3 credits, Spring*

MLED 301: Reading Development, Strategies, and Assessments/Practicum
The purpose of this course is for teacher candidates to develop knowledge and implement best practices with regard to reading strategies and assessments in the middle grades. Emphasis is placed on in-depth studies of teaching research-based reading fundamentals, instructional strategies, content area reading, best practices, and reading research. This course is taken by teacher candidates with English/language arts and reading concentration and focuses on the reading classroom. The practicum associated with this course is a PreStudent Teaching (Stage 3) 90 hour experience.
Prerequisites: MLED 200; SOE acceptance. *3 credits, Fall*

MLED 302: Concepts of Natural Science/Practicum
This is a descriptive and conceptual course in natural sciences designed for education majors. Teacher candidates engage in the Earth Force Community Action and Problem Solving approach to explore selected topics from life sciences, physical science, and earth/space sciences to develop a necessary scientific attitude and background for teaching in today's society. The practicum associated with this course is a PreStudent Teaching (Stage 3) 90 hour experience.
Prerequisite: MLED 200 *3 credits, Fall*

MLED 303: Applications of Mathematics/Practicum
Middle level teacher candidates will develop, implement, assess, and modify middle level curriculum and lessons which build new mathematical knowledge through problem solving, mathematical representations, and technology; solve problems that arise in math and other discipline areas; and learn how to apply appropriate strategies to solve these problems. This course is only taken by middle level teacher candidates with a mathematics concentration. The practicum associated with this course is a PreStudent Teaching (Stage 3) 90 hour experience.
Prerequisites: MLED 200; SOE acceptance. *3 credits, Fall*

MLED 304: Inquiry and Analysis in Pennsylvania History and Government/Practicum
The course design helps teacher candidates identify and explain the political and cultural contributions of individuals and groups in Pennsylvania history; identify and explain primary documents, material artifacts, and historic sites important in Pennsylvania history; identify and explain how continuity and change have influenced the history of Pennsylvania. Curriculum development and alignment with state and national standards are emphasized. This course is taken only by middle level teacher candidates with a social studies concentration. The practicum associated with this course is a PreStudent Teaching (Stage 3) 90 hour experience.
Prerequisites: MLED 200; SOE acceptance. *3 credits, Fall*

MLED 305: Teaching and Supporting Writing: Fourth through Eighth Grade/Practicum
The purpose of this course is for teacher candidates to develop in-depth knowledge of the writing process, instructional strategies, and assessments appropriate to meet the needs of all students in fourth through eighth grade. Emphasis is placed on research-based writing across the curriculum. This course is taken by teacher candidates with an English/language arts and reading concentration. Fifteen hours of PreStudent Teaching (Stage 3) practicum are embedded throughout the course.
Prerequisites: MLED 200; SOE acceptance. *3 credits, Fall*

SPED 101: Special Education Overview
This course provides teacher candidates with a basic understanding of the federal mandates associated with special education. Teacher candidates are introduced to: characteristics of various exceptionalities; pre-referral strategies and interventions; cultural diversity; curricular and behavioral modifications, adaptations, and instructional strategies; educational assessment; historical legislations and current legal issues in special education; and the collaboration of regular education and special education teachers. Focus is given to the special education process for evaluation, identification, eligibility determination, and placement of students with exceptionalities in special education. *3 credits, Spring*

SPED 242: Collaboration and Partnerships in Special Education: PreKindergarten through Eighth Grade
This course examines the various human resources and support services available to build partnerships that meet the needs of diverse student populations. Specifically, this course focuses on collaborative problem-solving, consultation, and co-teaching in education. Attention is given to ethical interpersonal and conflict resolution skills required for effective collaboration and partnerships in professional education environments. *3 credits, Fall*

SPED 245: Meeting the Learning Needs of Students with Exceptionalities: PreKindergarten through Eighth Grade/Practicum
This course examines the educational programming for prekindergarten through eighth grade children with delays or exceptionalities. In this course, teacher candidates are introduced to: historical legislations and current legal issues in special education; the concept of early intervention; the Individual Family Service Plan (IFSP) and the Individual Education Plan (IEP); and the best practices in teaching, managing, and supporting children with exceptionalities in the educational environment. The practicum associated with this course is an Observation and Exploration (Stages 1 and 2) experience which is embedded throughout the course (nine hours).
Prerequisite: SPED 101 *3 credits, Fall*

SPED 250: Strategies for Accommodations and Modification: PreKindergarten through Eighth Grade/Practicum
This course is designed to focus on modifications, accommodations, and adaptations for students with exceptionalities in regular education content area courses for reading, writing, and mathematics. Specifically, this course will address: utilization of assessment information to plan for reasonable accommodations in the classroom; the evidence–based practices for providing adaptations, accommodations, and modifications; progress monitoring for evaluation of the effectiveness of adaptations, accommodations, and modifications; utilization of differentiated instruction and/or universal design models; selection of research-based strategies for adaptations, accommodations, and modifications for reading, writing, and mathematics; and the impact of reading, writing, and mathematics in regular education content area courses. Teacher candidates research, select, develop, and practice implementing a variety of adaptations, accommodations, and modifications strategies and techniques for reading, writing, and mathematic skill development for students with exceptionalities. Nine hours of PreStudent Teaching (Stage 3) practicum are embedded throughout the course.
Prerequisite: SPED 101 *3 credits, Spring*

SPED 306: Data-Driven Instruction: Special Education/Practicum
This course focuses on how to choose an assessment tool and how to utilize data from formal, informal, and anecdotal assessments to improve the achievement of students with special needs. This course teaches participants how to ethically collect, analyze, and use various forms of data to drive instruction related to Individualized Education Plans (IEP) goals, inform program decisions, and improve instructional practices. Strong emphasis will be placed on state and local assessments as they relate to students with special needs. Nine hours of PreStudent Teaching (Stage 3) practicum are embedded throughout the course.
Prerequisite: SPED 101 *3 credits, Fall*

SPED 307: Low Incidence Disabilities: PreKindergarten through Eighth Grade
This course is designed to focus on specific issues related to a variety of significant disabilities that are included in the general category of low incidence. The following aspects of low incidence are included: pervasive development disorders; moderate to significant mental retardation; medically fragile; multiple disabilities; functional and sensory curriculum; instructional techniques and strategies; community-based instruction; assistive technology; and service and program options and coordination. Teacher candidates are exposed to a variety of instructional environments on the least restrictive environment (LRE) continuum that serve children with low incidence disabilities.
Prerequisite: SPED 101 *3 credits, Fall*

SPED 308: High Incidence Disabilities: PreKindergarten through Eighth Grade
This course is designed to focus on specific issues related to high incidence disabilities in both special education and regular education environments. The following aspects of high incidence disabilities are included: communication disorders; specific learning disabilities; emotional disturbance; curricular adaptations and modifications; instructional techniques and strategies; and service and program options and coordination. Teacher candidates are exposed to a variety of instructional environments on the least restrictive environment continuum that serve children with high incidence disabilities.
Prerequisite: SPED 101 *3 credits, Fall*

SPED 320: Literacy for Students with Exceptionalities: PreKindergarten through Eighth Grade/Practicum
This course is designed to focus on specific corrective, remedial, and compensatory strategies for all aspects of language, reading, and writing development of children with exceptionalities. Specifically, this course will address: utilization of assessment information to choose and plan for teaching reading and writing; the evidence-based connection between literacy and behavior; progress monitoring; use of explicit and systematic instruction; selection of research-based writing strategies and interventions; and the impact of language development and literacy. Teacher candidates research, select, develop, and practice implementing a variety of development for children with exceptionalities. The practicum associated with this course is a PreStudent Teaching (Stage 3) experience which takes place for three-weeks (90 hours) at the end of the semester.
Prerequisites: SPED 101; SOE acceptance. *3 credits, Fall*

SPED 322: Positive Behavioral Supports and Interventions
This course is designed to introduce teacher candidates to a variety of positive behavioral supports and interventions in order to create and maintain a classroom environment that is conducive to learning. Included in this course are the following areas: Response to Intervention (RTI); school-wide positive behavioral supports; classroom-based positive behavioral intervention approaches; selecting, instructional planning, and teaching social skills; identification of the causes and functions of behaviors; the assessment of behavioral issues; and the development and implementation of effective positive behavioral support plans. The teacher candidates complete a functional behavior assessment and develop, implement, and evaluate effective positive behavioral support plans through the use of a variety of progress monitoring and data gathering techniques.
Prerequisites: SPED 101; SOE acceptance. *3 credits, Spring*

SPED 340: Meeting the Needs of Students with Exceptionalities: Seventh through Twelfth Grade/Practicum
This course examines intervention strategies appropriate for the instruction and classroom management of students with exceptionalities in seventh through twelfth grades. Focus is given to planning, implementing, and evaluating strategies appropriate for maintaining an effective learning environment and for creating adaptations across all content areas, as well as developing and practicing authentic collaboration techniques. The practicum associated with this course is a PreStudent Teaching (Stage 3) experience which is embedded throughout the course (six to ten hours).
Prerequisites: SPED 101; SOE acceptance. *3 credits, Fall*

SPED 341: Contemporary Issues in Special Education
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.
Prerequisite: SOE acceptance. *3 credits, Spring*

SPED 343: Program Planning and Assessment in Special Education/Practicum
This course examines the purposes and kinds of assessment procedures used to identify, evaluate, place, and plan instruction for children and adolescents with special needs. In order for teacher candidates to take part in the writing of an Individualized Education Plan (IEP) and engage in a full range of progress monitoring strategies, this course addresses: the assessment process; formal and informal procedures; assessment of general performance areas; assessment of academic areas; and using assessments to plan instruction. Focus is given to a variety of assessments, including authentic, screening, benchmark, diagnostic, formative and summative. Nine hours of PreStudent Teaching (Stage 3) practicum are embedded throughout the course.
Prerequisites: SPED 101 or SPED 201 or EDCR 201; SOE acceptance. *3 credits, Spring*

SPED 355: Seminar in Emotional and Behavior Disorders
This course examines children and adolescents with behavior and emotional disorders. Specially, this course will examine the incidence, prevalence, etiology, characteristics, controversies, instruction, and interventions for individuals identified with emotional or behavior disorders.
Prerequisite: SOE acceptance. *3 credits, as offered*

SPED 358: Instructional and Therapeutic Interventions for Treatment Design
This course is designed to identify the instructional and therapeutic interventions for children and adolescents with emotional and behavioral disorders in the home, community, and schools. This course will provide hands-on experience with assessment, evaluations, curriculum, treatment plans, and individualized educational programs. Content includes evaluating therapeutic and instructional interventions, social skills development, group and individual counseling techniques, positive behavioral support plans, and conflict resolution techniques.
Prerequisite: SOE acceptance. *3 credits, as offered*

SPED 365: Applied Behavioral Analysis and Intervention
This course is designed to identify the components of applied behavioral analysis and the development of effective behavioral interventions for children and adolescents with emotional and behavioral disorders. Focus is given to identification of the causes and functions of behaviors, the assessment and diagnosis of behavioral issues, and the development and implementation of effective behavioral and therapeutic plans. Students will be able to assess, develop, implement, and evaluate effective behavioral and therapeutic plans using a variety of positive behavioral support and behavioral management techniques.
Prerequisite: SOE acceptance. *3 credits, as offered*

SPED 370: Interagency Collaboration and Consultation
This course is designed to develop the role of the behavior specialist as an effective collaborator in the various agencies and within the home, community, and school settings. The course will develop communication skills, differentiate between the roles of collaboration and consultation, develop effective resolution skills, and discuss the ethical and legal responsibilities of the behavior specialist.
Prerequisite: SOE acceptance. *3 credits, as offered*

SPED 390: Autism Spectrum Disorder
This is an introduction to Autism Spectrum Disorder (ASD). Specifically, it will focus on the learning, communication, and social skill deficits of children with ASD. Attention will also be given to various intervention, academic, and therapeutic strategies.
Prerequisite: SOE acceptance. *3 credits, as offered*

SPED 475: Behavioral Specialist Practicum
This course is an opportunity for criminal justice, education, social work and psychology majors with a Behavior Specialist minor to engage in participant observation, Skill Streaming and Applied Behavior Analysis. Students participate as interns in supervised settings with juvenile clients. Each intern is required to engage in such activities for a minimum of 6 credit hours during an entire semester or over several semesters to satisfy 300 hours. This practicum is open only to students with a minimum 2.5 GPA and who have fulfilled all prerequisite courses. A maximum of 6 credits can be attributed to this field placement. The Alternative Education Program, in which interns will participate, is designed to provide experience with the behavioral, emotional, and educational needs of the disruptive secondary level student in a school setting. Through the use of small groups, academic instruction, technology enhancement, mentorship, and life skills counseling, severe behavioral and academic needs will be addressed.
Prerequisites: SPED 355; SOE acceptance. *6 credits, as offered*

ENGLISH

PENELOPE SMITH, Ph.D., *Chairperson*

FACULTY: *Professors:* Philip H. Kelly, Sally LeVan, Patrick O'Connell. *Associate Professors:* Douglas King, Berwyn Moore, Laura Rutland, John Young. *Assistant Professors:* Ann Bomberger, Matthew Darling, Penelope Smith. *Instructor:* Frank Garland, Carol Hayes. *Lecturers:* Dennis Fletcher, Emmett Lombard, Sr. James Francis Mulligan, S.S.J., Mary Wagner. *Retired Professors:* Edward B. Babowicz, Paul J. DeSante, Walter Minot, John S. Rouch, Dolores Sarafinski, Michael Tkach, Robert L. Vales.

Mission Statement:

The Gannon University English Department inspires students to be informed readers and seasoned writers. Guided by the belief that the study of language and literature enriches the imagination, promotes lifelong learning, and enhances appreciation of diversity, it engages students in ongoing critical and cultural debates whose implications extend beyond the classroom.

Program Description:

The Department offers four different emphases for its majors: literature, writing, applied communications, and English secondary education. All emphases cultivate the student's ability to write in a variety of genres for different audiences and purposes. The Department also offers students a variety of internships, and a 3-3 program in legal studies with Duquesne University, and features student-run publications such as the Gannon Knight (the University

newspaper) and *Totem* (a literary magazine). Whether they seek careers in education, publishing, journalism, media, public relations, government, business, industry or law, Gannon English Majors acquire the scholarly focus, broad preparation and intellectual awareness that form the basis of an intensive liberal arts education.

A major in this program requires 16 upper level courses including the Senior Research Project and Oral Exam (ENGL 400); this totals 48 credits.

The English Department also offers the Journalism Communications major, an interdisciplinary program in print and electronic journalism. (See Journalism Communications section of the catalog.)

LENG 111 and LENG 112, are normally prerequisites for upper level literature and writing courses.

**These courses meet Department diversity outcomes.*

COURSE DESCRIPTIONS:

LENG 111, 112, 241, 243, 245, 247, 249, LFIN 252 and 254 are courses taught by the English Department. See the section on the Liberal Studies Core Curriculum for course descriptions of these courses.

ENGL 206: Pursuits of English
Pursuits of English introduces students to the dynamic, evolving field of English and prepares them for advanced course work. Students will explore ways to approach and understand literature, linguistics, composition, and career and graduate studies opportunities for English majors. LENG 112 should be taken either before or concurrently with Pursuits of English.
Prerequisite: LENG 111 *3 credits*

ENGL 210: Creative Writing
An introductory course providing instruction and practice in the techniques and principles of writing poetry and short fiction.
Prerequisites: LENG 111, LENG 112 *3 credits*

ENGL 211: Advanced Composition
A rhetorical approach to problems of written communication. Although primary stress will be on developing the student's writing ability, knowledge of rhetorical theory and of critical norms for prose will be required.
Prerequisites: LENG 111, LENG 112 *3 credits*

ENGL 212: Business and Professional Communications
A detailed study of the various methods of communication used in the professions, business, and industry, for audiences both within and outside the organization. Numerous written exercises. (This course is also listed as BCOR 231).
Prerequisites: LENG 111, LENG 112 *3 credits*

ENGL 214: Writing for Print Media
This workshop course introduces new students to the basics of journalistic reporting and writing. Students receive practice in how to identify, gather, and write news; and make ethical judgments about news. The course should help students who want to work for newspapers and magazines as well as for broadcast and online media. This course is a prerequisite for ENGL 216 and ENGL 252.
Prerequisites: LENG 111, 112 *3 credits*

ENGL 215: Editing/Production of Print Media
The course introduces students to the production of printed material, whether for newspaper, magazines, advertising, in-house publications, brochures, books, or anything else on paper.
Prerequisites: LENG 111, LENG 112 *3 credits*

ENGL 216: Advanced and Specialized Reporting
This workshop course focuses on specialized news beats including police, courts, government, education and the environment and introduces students to computer-assisted reporting and research techniques.
Prerequisites: ENGL 214 *3 credits*

ENGL 217: Introduction to Linguistics *
An introduction to the basic concepts of linguistics with an emphasis on both theory and application of linguistic principles. Topics include origin, structure, morphology, syntax, dialects, oral, and written language.
Prerequisites: LENG 111, LENG 112 *3 credits*

ENGL 218: Feature Writing
This workshop course introduces students to various genres of feature writing for newspapers, magazines and on-line publications, including profile, entertainment pieces and trend stories.
Prerequisites: LENG 111, LENG 112 *3 credits*

ENGL 225: Special Topics
Prerequisites: LENG 111, LENG 112 *1 credit*

ENGL 250: Introduction to Photography
Taking effective and well-composed photographs; using the 35mm camera, its lenses, filters, and flash; developing black and white film; printing artistic enlargements.
Corequisite: ENGL 251 *3 credits*

ENGL 251: Photography Lab
Corequisite: ENGL 250 *0 credit*

ENGL 252: Photojournalism
This course introduces students to the principles of photojournalism. Students study and practice photojournalism techniques, with consideration of the ethical issues involved with creating and using visual images.
Prerequisite: ENGL 214 *3 credits*

ENGL 301: Workshop: Special Topics in Writing
Specialized forms of writing in a workshop format for advanced writing.
Prerequisite: ENGL 210 or 211 *3 credits*

ENGL 312: Poetry Writing Workshop
An advanced seminar and workshop focusing on student's original poetic composition.
Prerequisites: LENG 111, LENG 112 & (ENGL 210 is recommended). *3 credits*

ENGL 313: Fiction Writing Workshop
An advanced seminar and workshop focusing on student's original composition of short fiction.
Prerequisites: LENG 111, LENG 112 & (ENGL 210 is recommended). *3 credits*

ENGL 321: Literature For Young Adults
A study of distinguished literature for young adults and of the historical development and current trends in adolescent literature.
Prerequisites: LENG 111, LENG 112 *3 credits*

ENGL 322-326: Author Seminars
These seminars are opportunities for students to study and enjoy the work of a particular author, whose work is not usually studied in depth in other departmental courses.
Prerequisites: LENG 111, LENG 112 *1 credit*

ENGL 331: American Literature to 1865
American prose and poetry to 1865. Major figures include Taylor, Edwards, Franklin, Hawthorne, Melville, Emerson, and Thoreau.
Prerequisites: LENG 111, LENG 112 *3 credits*

ENGL 332: American Literature, 1865 to 1914
American prose and poetry from the Civil War to World War I. Major figures include Whitman, Twain, James, Dickinson, Crane, Dreiser.
Prerequisites: LENG 111, LENG 112 *3 credits*

ENGL 333: American Literature, 1915 to 1945 *
American prose, poetry and drama between the World Wars. Major figures include Frost, Hemingway, O'Neill, Faulkner.
Prerequisites: LENG 111, LENG 112 *3 credits*

ENGL 334: American Literature after 1945 *
American prose and poetry from WW II to the present. Major figures include Arthur Miller, Ralph Ellison, Sylvia Plath, Flannery O'Connor, Toni Morrison, and Thomas Pynchon.
Prerequisites: LENG 111, LENG 112 *3 credits*

ENGL 341: British Literature: Medieval and Renaissance
The dramatic and non-dramatic literature of the Medieval Period and non-dramatic literature of the Renaissance, with emphasis on the works of Chaucer, More, Sidney, Spenser, Milton, Donne, and Jonson.
Prerequisites: LENG 111, LENG 112 *3 credits*

ENGL 342: British Literature: Classic and Romantic *
The major writers involved in the shift from classicism to romanticism, with emphasis on Dryden, Pope, Johnson, Swift, Blake, Wordsworth, Coleridge, and Keats.
Prerequisites: LENG 111, LENG 112 *3 credits*

ENGL 343: British Literature: Victorian and Modern *
Major writers of the Victorian and Modern periods, with emphasis on Dickens, Tennyson, Browning, Yeats, Joyce, Woolf, and Rhys.
Prerequisites: LENG 111, LENG 112 *3 credits*

ENGL 350: Drama of Shakespeare *
An historical-critical approach to selected plays in terms of the intellectual assumptions, native traditions, and theatrical conventions of the Elizabethan-Jacobean periods.
Prerequisites: LENG 111, LENG 112 *3 credits*

ENGL 352: Modern/Contemporary Drama *
A critical approach to significant drama from Ibsen to the present and to the intellectual forces and assumptions that contribute to their development.
Prerequisites: LENG 111, LENG 112 *3 credits*

ENGL 354: African American Literature *
This course examines literature written by African-Americans. Emphasis is on literary and cultural analyses, including issues of race, ethnicity, gender and social class.
Prerequisites: LENG 111, LENG 112 *3 credits*

ENGL 362: History of the English Language *
Phonological and morphological development of Modern English from the Indo-European period. Methodology of historical linguistics.
Prerequisites: LENG 111, LENG 112 *3 credits*

ENGL 363: The Structure of English
Rationale and application of transformational grammar to linguistic and stylistic analysis.
Prerequisites: LENG 111, LENG 112 *3 credits*

ENGL 371: Mass Media and Popular Culture
This course covers the history, organization and management of mass media. It also covers the concepts and theories of popular culture and mass media, including advertising and public relations as well as news organizations. It examines critical approaches to newspapers,

magazines and broadcast and online media as sources of information and entertainment. Among its focuses are the ethical and legal issues faced by news organizations.
Prerequisites: LENG 111, LENG 112 *3 credits*

ENGL 372: Public Relations
Strategies and communication tools of public relations as a link between an institution and its external and internal public. Cross-listed with ADVC 372.
Prerequisites: LENG 111, LENG 112 *3 credits*

ENGL 375: English Practicum
A semester-long internship providing field experience in areas related to the student's concentration. Students may use no more than 6 practicum credits toward graduation requirement.
Prerequisites: LENG 111, LENG 112 *1-6 credits*

ENGL 381: Literary Criticism *
Historical and analytical study of critical theory isolating the central critical problems and evaluating some answers that theorists and critics have provided.
Prerequisites: LENG 111, LENG 112 *3 credits*

ENGL 389: Methods of Teaching English
Cross listed as EDCR 325, methods of teaching literature, writing, critical reading, and grammar in the classroom. Replaces EDCR 324 for English secondary education students only.
Prerequisites: EDCR 101, 103, LENG 111, 112 *3 credits*

ENGL 390-394: Special Topics
Prerequisites: LENG 111, LENG 112 *1-3 credits*

ENGL 395-398: Independent Study
Prerequisites: LENG 111, LENG 112 *1-3 credits*

ENGL 400: Senior Research Project and Oral Exam
Prerequisites: LENG 111, LENG 112 *3 credits*

English Curriculum

(Numerals in front of courses indicate credits)

FRESHMAN

	Fall Semester		*Spring Semester*
3	College Composition/LENG 111	3	Crit Analysis & Comp/LENG 112
3	Modern Language	3	Modern Language
3	Sacred Scriptures/LTHE 121	3	Introduction to Philosophy/LPHI 131
3	Psychology/PSYC 111	3	Pursuits of English/ENGL 206
3	Hist of West & World/LHST 111	3	LS Science
2	First-Year Seminar		
17		15	

SOPHOMORE

	Fall Semester		*Spring Semester*
3	Linguistics/ENGL 217	3	Upper Level Literature/ENGL
3	Theology II Series/LTHE	3	Philosophy II Series/LPHI
3	Basic Sociology/SOCI 110	3	Mathematics
3	Speech/SPCH 111	3	Fine Art Series/LFIN
3	US History/HIST 221 or English Hist/HIST 241 or US Government/POLI 111 or Public Policy/POLI 122 or Minority Groups/SOCI 230	3	US History/HIST 221 or English Hist/HIST 241 or US Government/POLI 111 or Public Policy/POLI 122 or Minority Groups/SOCI 230
15		15	

JUNIOR

	Fall Semester		*Spring Semester*
3	Theology or Phil III Series/LTHE or LPHI	3	Lit Before the 19th Century/ENGL
3	Drama of Shakespeare/ENGL 350	3	Writing Course/ENGL
3	Lit Crit/ENGL 381 or Mass Media/ENGL 371	3	English Elective/ENGL*
3	Linguistics Course/ENGL	3	Upper Level Literature Course/ENGL
3	Electives	6	Electives
1	Leadership Seminar		
16		18	

SENIOR

	Fall Semester		*Spring Semester*
3	Literature Before the 20th Century/ENGL	3	English Elective/ENGL
3	Writing Course	3	Research Project and Oral Report/ENGL 400
3	English Elective/ENGL	3	Writing Course
6	Electives	8	Electives
15		17	

** At least 9 hours of English credits must have been approved by the department as meeting the diversity requirement.*

English Curriculum with Secondary Education

Students majoring in English qualify for Teacher Certification in English/Secondary Education.

Aims and Objectives

The objectives of the program are: (1) to give the students an opportunity to become broadly educated in the areas of language, literature and writing, and (2) to provide a program of teacher education which promotes growth, development, professionalism and expertise for successful teaching.

Students who wish to prepare themselves as secondary English teachers must make formal application to the teacher education program through the School of Education. For a detailed explanation of all requirements refer to the catalog portion under Education.

English/Secondary Education Curriculum

(Numerals in front of courses indicate credits)

FRESHMAN

	Fall		*Spring*
1	Foundations of Teaching/EDCR 103	3	Psychology of Learning/Teaching/EDCR 101
{ 2	First-Year Seminar/EDCR 104*	3	Pursuits of English/ENGL 206
{ 3	Speech/SPCH 111	3	Critical Analysis/Composition/LENG 112
3	College Composition/LENG 111	3	Sacred Scriptures/LTHE 121
3	History of West/World/LHST 111	3	Basic Sociology/SOCI 110
3	Introduction to Philosophy/LPHI 131	3	Modern Foreign Language
3	Modern Language		
18		18	

SOPHOMORE

	Fall		*Spring*
3	Methods/Materials of Instruction/ EDCR 320*	{ 1	Leadership Seminar
		{ 3	Philosophy of Ethical Responsibility/ LPHI 237
0	Secondary/K-12 Education Practicum/ EDFL 101	3	Literature for Young Adults/ ENGL 321
3	Advanced Composition/ENGL 211	3	Fine Arts Series/LFIN 253
3	Linguistics/ENGL 217	3	Applied Statistics/MATH 213 **or** Psychological Statistics I/PSYC 211
3	Theology II Series/LTHE	3	Special Education Overview/ SPED 101
3	HIST 221, 241, POLI 111, 122, or SOCI 230		
3	Fundamentals of Math I/MATH 105		
18		16	

JUNIOR

	Fall		*Spring*
3	Methods: Read across the Content Areas/EDCR 326	3	English Elective/ENGL
0	Secondary/K-12 Education Practicum/EDFL 102	3	Lit Before 19th Century/ENGL
3	Drama of Shakespeare/ENGL 350	3	Structure of English/ENGL 363
3	Literary Criticism/ENGL 381	3	Mass Media/ENGL 371
3	Writing Course/ENGL	3	Research project/Oral Report/ ENGL 400
3	Philosophy II Series/LPHI	3	Meet Need Stu. Exceptionalities 7-12/SPED 340*
3	Science Series		
18		18	

SENIOR

	Fall		*Spring*
3	Assessment and Evaluation/EDCR 330*	3	Professional Seminar/EDCR 401
3	Methods/Materials for ELL/EDCR 420*	12	Student Teaching/EDFL 410
0	Secondary/K-12 Education Practicum/ EDFL 103		
3	Methods of Teaching English/ENGL 389		
3	Literature before 20th Century/ENGL		
3	Writing Course/ENGL		
15		15	

Total credits: 136

* *Practicum embedded throughout semester*

{ Cohort Courses

All education courses require a grade of C or better.
LENG 111, LENG 112, Literature Series, MATH 105, and MATH 213 or PSYC 211 require a C or better.
A GPA of 3.0 or greater is required of all students seeking teacher certification.

Diversity courses (9 credits) are part of the 48 credits in the field of concentration and are designated by an * in the catalog. Part of the 48 credits in the field of concentration must address American, British, and World Literature.

ENGLISH MINOR

A minor in English will consist of 18 hours beyond the Liberal Studies Core Curriculum required courses. At least 3 of the credits will be in literature, 3 credits in linguistics and 3 credits in writing. The remaining hours will be in any ENGL designated credits.

JOURNALISM MINOR

A minor in Journalism will consist of 18 credits.

Required:
- ENGL 214 Writing for Print Media
- ENGL 215 Editing/Production of Print Media
- ENGL 371 Mass Media and Popular Culture
- ENGL 216 Advanced/Specialized Reporting or ENGL 218 Feature Writing

Plus six credits of electives with advisor's approval.

The Gannon University – Duquesne School of Law, 3+3 Early Admissions Program has been designed for qualified students to earn an undergraduate and a law degree in six years rather than seven. Under the early admissions program students may receive a *Bachelors Degree in English after three years of undergraduate work and the successful completion of the first year of full time study at the Duquesne School of Law.* Students would then receive their Law Degree after successful completion of the second year at Duquesne School of Law. Qualified students may wish to pursue this option.

THE NEXT STEP

Baccalaureate Degree Program for Graduates of Two Year Colleges

Prerequisite:
Six credits of composition equivalent to LENG 111 and LENG 112.

English

(Numerals in front of courses indicate credits)

PRE-SENIOR YEAR

	Fall Semester		*Spring Semester*
3	Introduction to Philosophy/LPHI 131	3	Pursuits of English/ENGL 206
6	US History/HIST 221 or 222 or English History/HIST 241 or 242 or US Government/POLI 111 or Public Policy/POLI 122 or Minority Groups/SOCI 230	3	ENGL 200 or ENGL 300 level writing course
		3	ENGL 362, ENGL 363, ENGL 300 level linguistics course
		3	Foreign Language
3	Intro to Linguistics/ENGL 217	3	Sacred Scriptures/LTHE 121
3	Foreign Language		
15		15	

SENIOR YEAR

	Fall Semester		*Spring Semester*
3	Shakespeare/ENGL 350	3	ENGL 300 level literature before the 19th Century
3	Literacy Criticism/ENGL 381 or Mass Media/ENGL 371	12	ENGL 200 or 300 level literature electives
3	Fine Arts Series/LFIN	3	ENGL 400 Senior Project
3	Theology or Philosophy Series III/ LTHE or LPHI		
3	ENGL 300 level literature of the 19th Century		
1	Leadership Seminar		
1	Elective		
17		18	

Students will be permitted to take other courses in substitution for any course listed above which they have satisfactorily completed prior to admission into the Next Step program. Students are required to complete 7-19 credits in the Liberal Studies Core Curriculum.

Students may transfer courses equivalent to Sacred Scripture, Introduction to Philosophy, the Literature Series, and/or the Fine Arts Series. Students must take the Leadership Seminar, the Theology/Philosophy III Series, and the Senior Seminar or approved capstone at Gannon University.

All students graduating from the College of Humanities must have completed six credits of a Modern Foreign Language.

FINE ARTS

FACULTY: *Professor:* Michael E. DeSanctis. *Associate Professor:* Annmarie George.

Aims and Objectives:

American education at all levels is giving increasing recognition to the importance of Art and Music in the educational process. As technology makes more and more leisure time available to people, it is imperative that they be prepared to use this time in a way that truly enriches them; for leisure, if not used constructively for personal growth and enrichment, can become enervating rather than re-creative. Throughout history it has been acknowledged that communion with works of art and music has promoted such personal growth.

Each historical period has its own formal language, called style, by which the artists or composer expresses himself. Courses in Art History are designed to help the student comprehend the various period styles – including those of today – in architecture, sculpture, painting and the so-called minor arts, in a personally satisfying way. Courses in Music provide similar opportunities for growth through that medium. In all course the works of art and music are set against the social and cultural background of their time.

It is commonplace to say that the professional person must be a person of culture, not merely a technician. Art and music form an integral part of the western culture which shapes our lives. Moreover, career opportunities in musicology, art history, museum curatorships and similar professions are beckoning more and more men and women who specialize in the knowledge to which the Fine Arts Program provides an introduction.

COURSE DESCRIPTIONS:

Art

FINA 221: Renaissance Art
The arts of the so-called "rebirth" of western culture, from the International Style of ca. 1400 A.D. and "Late Gothic" style in Northern Europe, through the early and high Renaissance in Italy and their spread northward. *3 credits*

FINA 224: Baroque Art
The development of art and architecture from the change in style ca. 1520 known as Mannerism, through the Baroque and Rococo phases in Mediterranean and Northern Europe. *3 credits*

FINA 232: Erie Architecture
A close-up study of the built environment in Erie, Pennsylvania. The course examines the various ways in which architecture shapes the places, in which Erie residents live, work, pray, and recreate. Class sessions are almost entirely outside the classroom and will include tours of important buildings and local architectural firms. *3 credits*

FINA 235: Christian Art and Architecture
A broad survey of the various ways in which Christian faith has been expressed in the

pictorial and building arts. Special attention is devoted to the evolution of the Christian place of worship, from the earliest house-church and basilica settings to the high-tech, televangelization centers of today. *3 credits*

FINA 281: Problems in Contemporary Art and Architecture
The role of modern art criticism, the desacralization of modern art, and the demise of the art object. One seminar meeting per week. *3 credits*

FINA 282: Modern Art
A survey of the leading movements in painting, sculpture, and architecture during the 19th and 20 centuries. *3 credits*

FINA 284: American Art
The development of American painting, sculpture and architecture from their provincial status in colonial times to their preeminence on the world scene after World War II. *3 credits*

FINA 380: Art and the Sacred
This course invites students to explore the historic relationship between aesthetic and spiritual experience. While the course focuses primarily on artistic expression in the Judeo-Christian tradition, students are encouraged to examine the ways in which other world religions give rise to sacred image-making, music, dance, drama, sculpture and architecture. A fundamental premise of the course is that the arts are, in the Christian sense, both "incarnational" and "sacramental" in that they mimic Jesus Christ's own enfleshment as "the visible image of the invisible God" (Col. 1:15), and serve as means by which people of faith make contact with the sacred, the transcendent, the divine. The course relies heavily on group discussion of ideas and images related to the topic. As often as possible, students are introduced to the work of local artists, theologians and persons involved in religious ministries and receive firsthand experience of sacred artworks. *3 credits*

FINA 390: American Architecture
A broad survey of the American architectural tradition. The entire range of American building practices is examined, from the earliest colonial experiments to the latest Postmodern skyscrapers. *3 credits*

FINA 391-394: Special Topics in Art History/Theory *1-3 credits*

FINA 395-99: Independent Study *1-3 credits*

FINA 400: Senior Seminar *3 credits*

Music

MUSC 100-105: Mixed Chorus 1-6
Reading, rehearsal and performance of sacred and secular choral literature. Open to all qualified students. One hour rehearsal weekly. May be taken on a non-credit basis. *1 credit*

MUSC 110-180: Instrumental Ensemble 1-8
Opportunity for students with instrumental background to perform in small ensembles (string, wind, etc.) *1 credit*

MUSC 200-208: Band 1-9
Opportunity for qualified students to perform in the Concert Band. Two-hour rehearsal weekly with performances at the end of each semester. May be taken on a non-credit basis. *1 credit*

MUSC 231: Beethoven and His Influence
The music of the Classical Era, centering on the personality and works of Beethoven. Several of the artist's compositions are studied in depth, with special emphasis on the socio-political context of their creation and the influence of musical antecedents. *3 credits*

MUSC 238: Expansive Sounds of the 19th Century
A course treating the various sounds developed by the Romantic composers and their social/psychological effects. Topics include the works of contemporaneous composers and artists, the influence of the Industrial Revolution, the expansion of the musical audience, and the "spontaneous overflow" of music in 19th-century society. *3 credits*

MUSC 246: The Music of Our Century
A study of the music of our time and the forces shaping it, especially technology, the intellectual climate of the 20th century, and relations between humanity and its environment. In addition to art music, popular and experi-music and their role in our society will be examined. *3 credits*

MUSC 250: Music and Psychology
An exploration of the impact of music on the human psyche and reasons for our responses to various types of musical stimuli. Such areas in music as consonance/dissonance, rhythmic patterns, volume and density, melodic and harmonic structure will be examined in detail. *3 credits*

MUSC 251: Music in Advertising and Marketing
Explores the contribution of music to modern advertising and marketing. The course devotes particular attention to the relationship between audio and visual effects in radio and television advertising. Rhythmic patterns, voice timbre, consonance/dissonance, and melodic devices will be examined. *3 credits*

MUSC 252: Music in the Theatre
Examines the role of music as an inherent element of drama. The course surveys various forms of musical and dramatic expression and their application in theatrical productions. Prerequisite: THEA 111 or LFIN 250 *3 credits*

MUSC 390-394: Special Topics in Music *1-3 credits*

MUSC 395-399: Independent Study *1-3 credits*

MUSC 400: Senior Seminar *3 credits*

Fine Arts Minor

The Fine Arts Minor is intended to serve those students who, while not necessarily choosing to pursue professional involvement in the fine arts, nevertheless wish to learn more about the history, theory and practice of the various modes of human creativity. The minor is conceived as a broad, interdisciplinary survey of the expressive arts that places heavy emphasis on the creative act as a way of shaping thought. Guiding students through the minor are faculty members from various academic departments whose own interests lie in the area of creative expression. Students pursuing the minor are encouraged to make use of the University's urban campus and close proximity to such local art resources as the Fine Art Museum, Erie Playhouse, and the Erie Philharmonic.

The minor offers two options or 'tracks' students may take to suit their particular, academic interests:

Track 1: Theoretical
This track consists exclusively of theoretical courses offering participants a broad view of various modes of creative expression and their interrelatedness.

Track 2: Applied
This track requires participants to complete no fewer than two studio-type courses (e.g., Introduction to Photography, Fiction Writing) that challenge them to apply their acquired knowledge of arts theory and history to some creative act. Students opting for Track 2 will be required to present for faculty review a formal portfolio or performance demonstrating growth in their chosen art form.

Course Requirements:

Track 1: Theoretical: 6 credits from Level One, Foundation Course Selection, plus 12 credits from Level Two, Elective Course Selection.

Track 2: Applied: 6 credits from Level One, Foundation Course Selection, plus 12 credits from Level Two, Elective Course Selection (of which 6 must be applied arts.) A non-credit, synthesizing portfolio or performance is also required for successful completion of this track.

Level One – Foundation Course Selection (6 credits)

LFIN 250	Theatre and Culture
LFIN 251	Introduction to Music
LFIN 253	Introduction to Visual Arts
LFIN 254	Art of the Film

Level Two – Elective Course Selection (12 credits)

COMM 356	Digital Graphics*
COMM 357	Animation*
COMM 358	Digital Drawing*
COMM 390	Special Topics
ENGL 210	Creative Writing*
ENGL 250	Introduction to Photography*
ENGL 312	Poetry Writing Workshop*
ENGL 313	Fiction Writing*
ENGL 390	Special Topics
FINA 232	Erie Architecture
FINA 235	Christian Art and Architecture
FINA 380	Art and the Sacred
FINA 281	Problems in Contemporary Art and Architecture
FINA 282	Modern Art
FINA 390	American Architecture
FINA 391	Special Topics
LFIN 252	Women in Photography
LFIN 310	Music and Medicine
MUSC 200-208	Band (1 credit)*
MUSC 231	Beethoven and His Influence
MUSC 250	Music and Psychology
MUSC 251	Music in Advertising and Marketing
MUSC 252	Music in the Theater
MUSC 390	Special Topics
PSYC 300	Psychology of Creativity*
THEA 251	Psychology of Design*
THEA 252	Costume and Makeup*
THEA 390	Performance and Production in Theatre*
THEA 396	Dance (1 credit)*
THEA 390	Special Topics

**denotes applied course*

FOREIGN LANGUAGES AND CULTURES

CARLOS MAMANI, Ph.D., *Chairperson*

FACULTY: *Associate Professor:* Carlos Mamani. *Assistant Professor:* Martha Kosir. *Instructor:* Jack Marcus. *Adjunct Faculty:* Margaret Juang, David Park.

Latin and Greek are taught by faculty in the Philosophy and Theology departments.

Aims and Objectives:

The Department of Foreign Languages and Cultures offers the following programs: Foreign Language and Literature, and Foreign Languages and International Studies in two options: A. Government and B. Business. The staff offers courses in language, literature and linguistics as well as specialized courses in terminology and practices in such fields as business, criminal justice, social services, and health sciences. Courses in political science and business are presented in conjunction with the respective departments. The languages offered are French, German, Spanish, Latin, Chinese, Greek, and Hebrew, **with majors only in French and Spanish**.

Two Language Laboratories and a computer lab are used during and outside of regular class sessions and provide opportunity for the showing of slides, films, video films and audio-taped programs. Computers are available for computer assisted translation and work on the Internet.

The University maintains affiliations with programs for study abroad and encourages students to spend a summer or a semester at a university in Europe, Latin America, French Canada, or worldwide.

CAREER OPPORTUNITIES: Employment here and abroad with governmental and private agencies; multinational business; in tourism and travel industry; in communication and translation; in education on the primary and secondary level and in bilingual/bicultural agencies. Excellent preparation for graduate studies in languages, international business, law, international relations and global studies.

Foreign Language and International Studies Program

This program is available in two options: A. Government and B. Business.

A. International Studies/Government Option:
In an increasingly complex world, learning about the ways in which other nations live, think and conduct their affairs is of the greatest importance. In recognition of this fact, this program option is offered jointly by the Department of Foreign Languages and the Department of Political Science. Thorough study of one modern language is combined with courses in political science, geography, history, economics and the appropriate area studies. A working knowledge of a second foreign language may be acquired through electives. Internships on the state and federal level are available and recommended, as is study abroad. This program provides excellent preparation for entry level positions in government service, as well as for graduate studies in political science, international relations, intercultural/global studies and law.

B. International Studies/Business Option:
In recognition of the ever increasing interdependence of the economies of the nations of the world, and of the vital role of cross-cultural understanding in managing international cooperation, this program is offered in conjunction with the School of Business. The program prescribes competency in one or two modern languages including orientation in the culture of the regions where these languages are spoken and in the ways they conduct their business affairs. Internships are recommended and provide practical experience.

Study abroad is also recommended. This program provides excellent preparation for entry level positions in companies doing business internationally, in government service and international agencies, and for graduate studies in business as well as public and international affairs.

Foreign Language and Literature Program

The literature course offerings are designed to develop the student's appreciation of the cultural and aesthetic system of the people under study. They are supported by courses in linguistics as well as by cognate courses in philosophy, psychology, sociology, history and the arts.

CAREER OPPORTUNITIES: Graduate School, college teaching and professional translation.

Foreign Language Teaching Program - Spanish K-12

The objectives of the program are: (1) to give the students an opportunity to become broadly educated in the areas of Spanish language and culture, and (2) to provide a program of teacher education which promotes growth, development, professionalism and expertise for successful teaching.

Students who wish to prepare themselves as secondary Spanish teachers must make formal application to the teacher education program through the School of Education. For a detailed explanation of all requirements refer to the catalog portion under Education.

Students who wish to enter the Language Teaching Program, Spanish K-12, must make this decision by the end of the first semester of their sophomore year. Due to strict Pennsylvania Certification requirements and the degree of mastery necessary to teach a foreign language, specific preparation for this profession must begin no later than the above deadline.

Majors in the Foreign Language Teaching program must take a proficiency test in Spanish during the second semester of the sophomore year. Students who do not achieve a grade of C plus or better will be asked to change to another language program or a different major.

Special Regulations apply to native speakers of Spanish who wish to become certified to teach their native language:

Oral fluency is not considered adequate preparation to enter the teaching program. Such applicants must prove that they understand and can explain the grammatical structure of their native language and of English by passing a written test, given in the language department, with a grade of B or better. If successful, they will receive credit for SPAN 211 and will be accepted into the program. Applicants who test below this minimum will be advised to choose another major. SPAN 211 is closed to native speakers of Spanish since it is geared to the needs of American students of the foreign language. Once accepted into the program, native speakers may take challenge exams in composition, conversation, civilization, literature, when appropriate, however, introductory and intermediate Spanish courses may not be challenged for credit.

The regulations apply to incoming freshmen as well as all other applicants.

CAREER OPPORTUNITIES: Public and private school teaching in Kindergarten through grade 12. These opportunities have been increasing as more and more school districts realize the importance of improving or re-establishing their foreign language offerings. For students of Spanish, there exist additional career possibilities in agencies with Hispanic clientele, especially for graduates with some background in social work. For teaching on the college level, graduate studies are required, for which assistantships and scholarships are usually available to well-qualified applicants.

Foreign Language Minor

The department grants a minor to qualified seniors upon graduation. Seniors who major in fields other than foreign languages but who have successfully passed four upper level courses plus FL 210 and FL 211 in one foreign language qualify for the minor. A maximum of six hours (two upper level courses) may be challenged by students entering with prior foreign language experience. The last six hours of foreign language must be taken at Gannon. Students interested in this minor should consult with the chairperson of the language department early in their academic career for advice on the sequence of courses to take and must complete an application form for a minor in the Dean's office.

GUIDELINES FOR PLACEMENT IN FOREIGN LANGUAGE COURSES

Advisors please follow these guidelines or consult the Language Department.

All students who have studied a foreign language for a year or less in high school should take CHIN 111, FREN 111, GREK 111, GRMN 111, LATN 111 or SPAN 111. Those who have studied 2 years should begin with 112. Students who have taken 3 or 4 years in high school and wish to continue with the same language, should begin at the intermediate level. Students with more than 4 years should start at the Reading level. Native speakers cannot fulfill requirements with CHIN 314, FREN 314, GRMN 314, or SPAN 314 Conversation. They must substitute another foreign language course in its place.

PLEASE NOTE THAT STUDENTS SHOULD FULFILL THEIR LANGUAGE REQUIREMENT NO LATER THAN THE JUNIOR YEAR.

COURSE DESCRIPTIONS:

Foreign Language Program

Chinese Language

CHIN 111: Introductory Chinese I
Acquisition of basic skills in listening, speaking, reading, and writing Chinese. For students with no background in Chinese or only one year of high school Chinese. *3 credits*

CHIN 112: Introductory Chinese II
Acquisition of basic skills in listening, speaking, reading, and writing Chinese. For students with one semester of university level Chinese or equivalent.
Prerequisite: CHIN 111 *3 credits*

CHIN 210: Intermediate Chinese I
Continuation of skills acquisition with emphasis on spoken Chinese.
Prerequisite: CHIN 112 or equivalent or Director's permission. *3 credits*

CHIN 211: Intermediate Chinese II
Review of language skills and study of advanced Chinese grammar.
Prerequisite: CHIN 210 or equivalent *3 credits*

CHIN 390-395: Independent Study/Special Topics
Prerequisites: CHIN 111, CHIN 112, CHIN 314 *1-3 credits*

French Language

FREN 111: Introductory French I
Acquisition of basic skills in listening, speaking, reading and writing French. For students with no background in French or only one year of high school French.
Prerequisite: Directors permission. *3 credits, Fall*

FREN 112: Introductory French II
Acquisition of basic skills in listening, speaking, reading and writing French.
Prerequisite: FREN 111 or equivalent or Directors permission. *3 credits, Spring*

FREN 210: Intermediate French I
Continuation of skills acquisition with emphasis on spoken French.
Prerequisites: FREN 112 or equivalent or Directors permission. *3 credits, Fall*

FREN 211: Intermediate French II
Review of the language skills and study of advanced French grammar. A prerequisite for all other upper level French courses.
Prerequisite: FREN 210 or 4 years of high school French, or Director's permission.
3 credits, Spring

FREN 232: Reading French
Preparation for more advanced reading in French.
Prerequisite: FREN 211 or equivalent. *3 credits*

FREN 240: French Phonetics
Theory of speech production; discrimination of oral styles including voice inflection and gesture.
Prerequisite: FREN 211 or equivalent *3 credits*

FREN 312: French Civilization I
French civilization from beginning to French Revolution.
Prerequisites: FREN 211, FREN 232 or equivalent *3 credits*

FREN 313: French Civilization II
Contemporary society in France.
Prerequisites: FREN 211, FREN 232 or equivalent *3 credits*

FREN 314: French Conversation
Increased fluency, idiomatic and cultural authenticity are emphasized.
Prerequisites: FREN 211 or equivalent, not open to native speakers *3 credits*

FREN 315: Advanced French Grammar
Further training in correct grammar, speech, and composition. Required for majors.
Prerequisites: FREN 211 or equivalent *3 credits*

FREN 316: French Composition
Advanced training in composition and stylistics.
Prerequisites: FREN 211, 315 or equivalent *3 credits*

FREN 317: French for Business I
Introduction to general business vocabulary to cover the organization of French businesses, banking, transport, international business, stock market, insurance, looking for a job, business letters.
Prerequisite: FREN 211 or Director's permission. *3 credits*

FREN 318: French for Business II
A continuation of FREN 317 with further development of French business culture, case studies of businesses, study of overall French economy, and its links in the global economy.
Prerequisite: FREN 317 or equivalent. *3 credits*

French Literature

FREN 320: Popular French Fiction
Study of the popular short story and novel in post-war France.
Prerequisite: FREN 211, FREN 232 or equivalent *3 credits*

FREN 331: Survey of French Literature, Part I
Major movements and figures. Reading of representative works from the beginnings to 1800.
Prerequisites: FREN 211, FREN 232 or equivalent *3 credits*

FREN 332: Survey of French Literature, Part II
Major movements and figures. Reading of representative works.
Prerequisites: FREN 211, FREN 232 or equivalent *3 credits*

FREN 335-338: Readings in French Literature and Culture
Topics for this advanced course will vary from semester to semester by genre and literary period.
Prerequisites: 3 upper level French courses or Director's permission *3 credits*

FREN 390-395: Independent Studies/Special Topics *1-3 credits*

FREN 396-397: Study Abroad
Credit awarded for participation in classes and activities taught in French and arranged abroad by the University, either for a semester or in the summer.
Prerequisite: Permission of the Department. *12-18 credits, Fall and Spring*
6-9 credits, Summer

FREN 399: Senior Oral
Required of all foreign language majors except teacher candidates, in the semester immediately prior to graduation. Independent study/research on a topic approved by the department, resulting in a paper written in the foreign language and defended in the language during the oral examination. *1 credit*

German Language

GRMN 111: Introductory German I
Acquisition of basic skills in listening, speaking, reading, and writing German. For students with no background in German or only one year of high school German.
Prerequisite: Director's permission. *3 credits, Fall*

GRMN 112: Introductory German II
Acquisition of basic skills in listening, speaking, reading, and writing German.
Prerequisite: GRMN 111 or equivalent or Director's permission. *3 credits, Spring*

GRMN 210: Intermediate German I
Continuation of skills acquisition with emphasis on spoken German.
Prerequisites: GRMN 111, 112 or equivalent or Director's permission. *3 credits, Fall*

GRMN 211: Intermediate German II
Review of language skills and study of advanced German grammar. A prerequisite for all upper level German courses.
Prerequisite: GRMN 210, or 4 years of high school German or Director's permission.
3 credits, Spring

GRMN 232: Reading German
Preparation for more advanced reading in German.
Prerequisite: GRMN 211 or equivalent. *3 credits*

GRMN 314: German Conversation
Increased fluency, idiomatic and cultural authenticity are emphasized.
Prerequisites: GRMN 211 or equivalent, not open to native speakers *3 credits*

GRMN 315: Advanced German Grammar
Further training in correct grammar, composition and speech.
Prerequisite: GRMN 211 or Director's permission or equivalent *3 credits*

GRMN 316: German Composition
Advanced training in composition and stylistics.
Prerequisites: GRMN 211, 315 *3 credits*

GRMN 390-395: Independent Study/Special Topics *1-3 credits*

GRMN 396-397: Study Abroad
Credit awarded for participation in classes and activities taught in German and arranged abroad by the University, either for a semester or in the summer.
Prerequisite: Permission of the Department. *12-18 credits, Fall or Spring*
6-9 credits, Summer

Greek

GREK 111: Introductory Greek I
Introduction to the language of the Greek New Testament. *3 credits*

GREK 112: Introductory Greek II
Advanced syntax and reading of selected passages of the New Testament, and patristic writers.
Prerequisite: GREK 111 *3 credits*

GREK 390-395: Independent Study/Special Topics
Prerequisite: GREK 112 *1-3 credits*

Hebrew

HEBR 111: Introductory Hebrew I
An introduction to Biblical Hebrew grammar, syntax, and vocabulary with selected passages from original writings (Hebrew Bible/Old Testament) read throughout the course. *3 credits*

HEBR 112: Introductory Hebrew II
Advanced grammar, syntax, and reading of selected passages of the Hebrew Bible/Old Testament, allowing students to gain a familiarity not only with the language itself but also with important aspects of Ancient Near Eastern Thought and Culture.
Prerequisite: HEBR 111 or equivalent *3 credits*

HEBR 390-395: Independent Study/Special Topics *1-3 credits*

Latin

LATN 111: Introductory Latin I
Acquisition of the morphology and syntax. *3 credits, Fall*

LATN 112: Introductory Latin II
Language and Civilization of Ancient Rome, selected readings.
Prerequisite: LATN 111 *3 credits, Spring*

LATN 121: Intermediate Latin I
Prerequisite: LATN 112 or equivalent *3 credits, Fall*

LATN 122: Intermediate Latin II
Review of grammar with selected readings.
Prerequisite: LATN 121 or equivalent *3 credits, Spring*

LATN 391: Independent Study/Special Topics *1-3 credits*

Multidisciplinary

MDFL 280: The Cultures of Mesoamerica
This course is a survey of the Indigenous cultures of Mesoamerica—México and Central

America—before and after the Encounter. It aims to show the continuity of Indian cultures, their cultural and political struggles and it will also focus on the worldviews shared by many of the native groups and their contributions. *3 credits*

MDFL 281: Literatures of the Native Americas 1: Pre-Colombian and Colonial
This course is a survey of the "literatures" and oral traditions of the Native Cultures of the Americas from before the arrival of the Europeans to the colonial periods. *3 credits*

MDFL 282: Literatures of the Native Americas 2: Postcolonial to the Present
This is an overview of the cultural productions of the Indigenous Cultures in the context of their relationship with the new national governments following the collapse of the European domination in the Americas. We will examine how that relationship is represented in different types of "texts." *3 credits*

MDFL 290-295: Independent Study/Special Topics in English
Taught in English. No foreign language credit. These courses can only be used as free electives. *1-3 credits*

Spanish Language

SPAN 111: Introductory Spanish I
Acquisition of basic skills in listening, speaking, reading and writing Spanish. For students with no background in Spanish or only one year of high school Spanish.
Prerequisite: Director's permission. *3 credits*

SPAN 112: Introductory Spanish II
Acquisition of basic skills in listening, speaking, reading and writing Spanish.
Prerequisite: SPAN 111 or equivalent or Director's permission. *3 credits*

SPAN 210: Intermediate Spanish I
Continuation of skills acquisition with emphasis on spoken Spanish.
Prerequisite: SPAN 112 or equivalent or Director's permission. *3 credits*

SPAN 211: Intermediate Spanish II
Review of language skills and study of advanced Spanish grammar.
Prerequisite: SPAN 210 or equivalent *3 credits*

SPAN 232: Reading Spanish
Preparation for more advanced reading in Spanish.
Prerequisite: SPAN 211 or equivalent *3 credits*

SPAN 235: Spanish for Medical Personnel
Basic skills for medical communication with Spanish-speaking clientele.
Prerequisite: SPAN 112 or Director's permission. Non-credit course for Spanish majors. *3 credits*

SPAN 236: Spanish for Social Work and Mental Health Majors
This course is designed for majors in social work and health sciences. It stresses job related vocabulary and conversational patterns in simulated career situations.
Prerequisites: SPAN 112 or Director's permission. Non-credit course for Spanish majors. *3 credits*

SPAN 237: Spanish for Law Enforcement Careers
For Criminal Justice majors and law enforcement personnel. Job related Spanish in simulated career situations.
Prerequisites: SPAN 112 or Director's permission. Non-credit course for Spanish majors. *3 credits*

SPAN 240: Spanish Phonetics
Theory of speech production; discrimination of oral styles including voice inflection and gesture.
Prerequisite: SPAN 211 or equivalent *3 credits*

SPAN 312: Latin-American Civilization
Historic and contemporary society of Latin American countries.
Prerequisites: SPAN 211 or equivalent *3 credits*

SPAN 313: Spanish Civilization
Historic and contemporary society in Spain.
Prerequisites: SPAN 211 or equivalent *3 credits*

SPAN 314: Spanish Conversation
Increased fluency, idiomatic and cultural authenticity are emphasized.
Prerequisites: SPAN 211 or equivalent, not open to native speakers *3 credits*

SPAN 315: Advanced Spanish Grammar and Composition
Further training in correct grammar, composition, and speech.
Prerequisite: SPAN 211 or Director's permission. *3 credits*

SPAN 316: Spanish Composition
Advanced training in composition and stylistics.
Prerequisites: SPAN 211, or Director's permission. *3 credits*

SPAN 317: Spanish for Business I
Introduction to general business vocabulary to cover the organization of Spanish businesses, banking, transport, international business, stock market, insurance, looking for a job, business letters.
Prerequisite: SPAN 211, SPAN 315 or Director's permission. *3 credits*

SPAN 318: Spanish for Business II
A continuation of SPAN 317 with further development of Spanish business culture, case studies of businesses, study of overall Spanish economy, and its links in the global economy.
Prerequisite: SPAN 317 or Director's permission *3 credits*

SPAN 333: Mexican Civilization
Historic and contemporary society in Mexico.
Prerequisites: SPAN 211, SPAN 232 or equivalent *3 credits*

Spanish and Latin American Literature

SPAN 331: Survey of Spanish Literature, Part I
Major works and their historic context.
Prerequisites: SPAN 211, SPAN 232 or equivalent *3 credits*

SPAN 332: Survey of Spanish Literature, Part II
Major works and their historic context.
Prerequisites: SPAN 211, SPAN 232 or equivalent *3 credits*

SPAN 335: Survey of Latin American Literature I
Representative works from the pre-Columbian era through the 18th Century.
Prerequisites: SPAN 211, SPAN 232 or equivalent *3 credits*

SPAN 336: Survey of Latin American Literature II
Representative literary works from the 19th Century to the present.
Prerequisites: SPAN 211, SPAN 232 or equivalent *3 credits*

SPAN 337: Golden Age of Spanish Literature
Novel and Theater. Principal emphasis on Cervantes and Lope de Vega.
Prerequisites: SPAN 211, SPAN 232 or equivalent *3 credits*

SPAN 340: Spanish American Novel
Major movements and representative works.
Prerequisites: SPAN 211, SPAN 232 or equivalent *3 credits*

SPAN 390-395: Independent Study/Special Topics *1-3 credits*

SPAN 396-397: Study Abroad
Credit awarded for participation in classes and activities taught in Spanish and arranged abroad by the University, either for a semester or in the summer.
Prerequisite: Permission of the Department. *12-18 credits, Fall or Spring*
3-9 credits, Summer

SPAN 399: Senior Oral
Required of all foreign language majors, in the semester immediately prior to graduation. Independent study/research on a topic approved by the department, resulting in a paper written in the foreign language and defended in Spanish during the oral examination. *1 credit*

Foreign Languages Curriculum

(Numerals in front of courses indicate credits)

	FRESHMAN		
	Fall		*Spring*
2	First-Year Seminar	3	Crit Analysis & Comp/LENG 112
3	College Composition/LENG 111	3	Intro to Philosophy/LPHI 131
3	Hist of West & World/LHST 111	6	Foreign Language
3	Sacred Scriptures/LTHE 121	3	Elective
6	Foreign Language		
17		15	
	SOPHOMORE		
	Fall		*Spring*
3	Fund of Speech/SPCH 111	3	Theology II Series/LTHE
3	Philosophy II Series/LPHI	3	Fine Art Series/LFIN
3	Literature Series/LENG	3	Science
6	Foreign Language	6	Foreign Language
		3	Electives
15		18	
	JUNIOR		
	Fall		*Spring*
3	Theology or Phil III Series/ LTHE or LPHI	6	Cognates
		6	Foreign Language
1	Leadership Seminar	4	Electives
3	Linguistics/ENGL 217		
3	Cognates		
6	Foreign Language		
16		16	
	SENIOR		
	Fall		*Spring*
3	Mathematics	3	Senior Seminar/LBST 383
3	Elective	6	Foreign Language
6	Foreign Language	6	Cognates
3	Cognates		
1	Senior Oral		
16		15	

Total credits: 128

Foreign Language Teaching: Spanish K-12 Curriculum

(Numerals in front of courses indicate credits)

FRESHMAN

	Fall		*Spring*
{ 2	First-Year Seminar/EDCR 104*	3	Psychology of Learning/Teaching/ EDCR 101
{ 3	Speech/SPCH 111	3	Critical Analysis/Composition/ LENG 112
1	Foundations/EDCR 103	3	Introduction to Philosophy/LPHI 131
3	College Composition/LENG 111	3	Fundamentals of Math I or higher/ MATH 105
3	History of West/World/LHST 111	6	Foreign Language
6	Foreign Language		
18		18	

SOPHOMORE

	Fall		*Spring*
3	Methods/Materials of Instruction/ EDCR 320*	{ 1	Leadership Seminar
0	Secondary/K-12 Education Practicum/EDFL 101	{ 3	Philosophy of Ethical Responsibility/ LPHI 237
3	Literature Series/LENG	3	Sacred Scriptures/LTHE 121
3	Applied Statistics/MATH 213 **or** Psychological Statistics I/PSYC 211	3	Science Series
9	Foreign Language	3	Foreign Language
		3	Special Education Overview/ SPED 101
18		16	

JUNIOR

	Fall		*Spring*
3	Methods: Read across the Content Areas/EDCR 326	3	Fine Arts Series/LFIN
0	Secondary/K-12 Education Practicum/EDFL 102	9	Foreign Language
3	Linguistics/ENGL 217	3	Meet Need Stu. Exceptionalities 7-12/SPED 340*
3	Philosophy II Series/LPHI		
9	Foreign Language		
18		15	

SENIOR

	Fall		*Spring*
3	Assessment and Evaluation/EDCR 330*	3	Professional Seminar/EDCR 401
3	Methods/Materials for ELL/EDCR 420*	12	Student Teaching/EDFL 410
0	Secondary/K-12 Education Practicum/ EDFL 103	1	Senior Oral/SPAN 399
3	Theology II Series/LTHE		
6	Foreign Language		
15		16	

Total credits: 134

* Practicum embedded throughout semester

{ Cohort Courses

Study Abroad Option (12-18 credits Fall)
(12- 18 credits Spring)
(6-9 credits Summer)

All education courses require a grade of C or better.
All practicum experiences require a grade of P (pass).
A GPA of 3.0 or greater is required for all students seeking teacher certification.

Foreign Language/Business Option Curriculum

(Numerals in front of courses indicate credits)

FRESHMAN

	Fall		*Spring*
2	First-Year Seminar	3	Critical Analysis/Composition/ LENG 112
3	College Composition/LENG 111	3	Business Technology 1/CIS 150
3	History of West/World/LHST 111	3	Financial Accounting/BCOR 201
3	Foreign Language	3	Introduction to Philosophy/LPHI 131
3	Sacred Scriptures/LTHE 121	6	Foreign Language
3	Algebra for Business Students/ MATH 114		
17		18	

SOPHOMORE

	Fall		*Spring*
3	Philosophy II Series/LPHI	3	Theology II Series/LTHE
3	Speech/SPCH 111	3	Macroeconomics/BCOR 112
3	Microeconomics/BCOR 111	3	Principles of Marketing/BCOR 241
3	Managerial Accounting/BCOR 202	3	Principles of Management/BCOR 251
3	Literature Series/LENG	6	Foreign Language
3	Foreign Language		
18		18	

JUNIOR

	Fall		*Spring*
3	Theology/Philosophy III Series/ LTHE or LPHI	3	Cognate/Area of Study
1	Leadership Seminar	3	Principles of Exporting/MKTG 255
3	Fine Arts Series/LFIN	3	Domestic Business Elective
3	Science	6	Foreign Language
3	Global Business/BCOR 306		
3	Foreign Language		
16		15	

SENIOR

	Fall		*Spring*
1	Senior Oral/FL 399	3	Liberal Studies Senior Capstone
3	International Management/ MGMT 310	3	Cognate/Area of Study
3	International Economics/ECON 241	3	International Marketing/MKTG 345
3	Cognate/Area of Study	6	Foreign Language
3	International Business Elective		
3	Foreign Language		
16		15	

Total credits: 133

Foreign Languages/Government Option Curriculum

(Numerals in front of courses indicate credits)

FRESHMAN

	Fall		*Spring*
2	First-Year Seminar	3	Crit Analysis & Comp/LENG 112
3	College Composition/LENG 111	3	Sacred Scriptures/LTHE 121
3	US Government & Politics/POLI 111	3	Intro to Philosophy/LPHI 131
3	Hist of West & World/LHST 111	6	Foreign Language
3	Fund of Speech/SPCH 111		
3	Foreign Language		
17		15	

SOPHOMORE

	Fall		*Spring*
3	Fine Art Series/LFIN	3	Theology II Series/LTHE
3	Philosophy II Series/LPHI	3	Science
3	Public Policy Analysis/POLI 122	3	Political Science Sequence
3	Introduction to International Relations/POLI 133	6	Foreign Language
		3	Electives
3	Foreign Language		
15		18	

JUNIOR

	Fall		*Spring*
3	Theology or Phil III Series/LTHE or LPHI	6	Political Science/International Studies Sequence
1	Leadership Seminar	6	Foreign Language
3	Mathematics	6	Electives
3	World Geography/GEOG 201		
3	Cognates		
3	Foreign Language		
16		18	

SENIOR

	Fall		*Spring*
3	Literature Series/LENG	3	Senior Seminar/LBST 383
3	Political Science/International Studies Sequence	3	Political Science/International Studies Sequence
3	Foreign Language	6	Foreign Language
6	Cognates	6	Cognates
1	Senior Oral		
16		18	

Total credits: 133

DEPARTMENT OF HISTORY AND ARCHAEOLOGY

JEFFREY H. BLOODWORTH, Ph.D., *Chairperson*

FACULTY: *Professor:* Robert H. Allshouse, Suzanne Richard. *Assistant Professor:* Jeffrey H. Bloodworth, Ellen Walsh. *Instructors in History:* Geoffrey A. Grundy, John M. Vohlidka. *Adjunct in Geography:* Lawrence Kessler.

Aims and Objectives:

We must probe the past if we are to understand the problems of the present as well as the identity of humankind. Without history, we have no knowledge of who we are or how we came to be; we are like victims of collective amnesia groping in the dark for our identity.

The history major is designed to enable the student to acquire a skilled and sustained sense of historical perspective as well as informed insight into historical method. But beyond this it seeks to develop those skills and attitudes of mind that distinguish the educated person: the habits of skepticism and criticism; of thinking with perspective and objectivity; of judging the good and bad and the in-between. It is hoped, in short, that the history major will lead the student to the attainment of life's greatest value: wisdom. To this end, the specific aims are to acquaint the student with the basic tools and methods of research and expression—both written and oral; and to develop in him/her the skills of analysis and synthesis for the evaluation of historical evidence with particular stress on sound writing and reading skills.

The Department of History offers courses covering the remote and recent periods of history and stressing American, and European, and non-Western history. Thirty-three hours of credits, twenty-one in the upper level courses, are required of majors. The History Seminar integrates the student's previous concentration in either American or European History, and is required for all majors. A minor in history may be obtained by completing fifteen credits, including LHST 111, HIST 221, 222, and six additional upper division history credits.

Career Opportunities

Because of its breadth, its concern with people and their institutions, and its essential connection with language, the study of history prepares a person for a considerable number of occupations and professions to which these qualities are essential. Thus, a concentration in history is an excellent, generally well recognized and often ideal way to prepare one for many vocations besides teaching. Moreover, those who wish to prepare for graduate or professional school will find that an undergraduate concentration in history, coupled with a sequence of courses dictated by special interests, is one of the most flexible preparatory programs for future study in many fields. Law schools in particular look upon a major in history as one of the best means to prepare for training in that profession.

Specific career opportunities exist in the areas of teaching (at all levels), public historian and archivist, library work, educational and public administration, museum work, social service occupations and urban planning. History is also an excellent preparation for most positions in the federal, state, and local governments. Specifically, government intelligence work and the foreign service demand preparation in history. Other areas include politics, public relations, advertising, banking, journalism, editing, fund-raising, and related fields.

History: Alternate Concentrations and Majors

The *Gannon University – Duquesne School of Law, 3+3 Early Admissions Program* has been designed for qualified students to earn an undergraduate and a law degree in six years rather than seven. Under the early admissions program students may receive a *Bachelors Degree in History after three years of undergraduate work and the successful completion of the first year of full time study at the Duquesne School of Law.* The student would then receive their Law Degree

after successful completion of the second year at Duquesne School of Law. Qualified students may wish to pursue this option.

Students, who qualify for the Pre-Law 3+3 Early Admission Program in collaboration with the Duquesne School of Law, may choose to major in history and complete the B.A. requirements in three years. Refer to the Admissions section for a description of and qualifications for the Pre-Law 3+3 Early Admissions Program. This course of study offers 33 hours of upper division historical studies, an excellent preparation for law school.

In addition, the history program offers opportunities for internships and field work within the public and private museums, archives, libraries, and government agencies which incorporate an appropriate program of "hands-on" experiences. Ample opportunities are also available in study-abroad programs, on a summer or semester basis, whereby the student can study and experience history through a variety of opportunities and forums.

Geography Component

The geography courses listed below provide service courses for Education, Social Studies and Social Science majors.

COURSE DESCRIPTIONS:

Liberal Studies/LHST 111: History of The West and The World
The most important ideas, issues, problems, and developments that mark the changing fortunes of the West's interaction with the world from the Seventeenth Century to the present. *3 credits*

HIST 110: Foundations of Western Heritage
The most important ideas, issues, problems, and developments that mark the changing fortunes of the West from the Ancient World to the end of the Wars of the Reformation (*ca.*1648). *3 credits*

HIST 210: Ancient History
An analysis of intellectual, social, economic, and political developments of the Ancient World.
Prerequisite: LHST 111 *3 credits*

HIST 220: Medieval History
An examination of the intellectual, social, economic and political ethos of the Middle Ages with emphasis on the period 1000-1350.
Prerequisite: LHST 111 *3 credits*

HIST 226: The Contemporary Middle East
This is an inter-disciplinary course focusing on the history, culture, and languages of the Contemporary Middle East. As such, course instruction will include rudimentry Hebrew and Arabic language training, the diplomatic and political history of the Middle East, and an examination of Jewish, Arabic, Persian and Kurdish culture. *3 credits*

HIST 241: English History to Elizabeth I
Celtic and Roman Britain, Christianity and the Norman Conquest, the role of medieval institutions, the Wars of the Roses, consolidation of a dynastic state. Nationalism and the Reformation provide the focus in the Tudor period.
Prerequisite: LHST 111 *3 credits*

HIST 242: English History from 1603
Stuart despotism and the English Civil War, the Glorious Revolution and the Protestant succession. The forces of industrialization and the era of reform and responsible government. The effects of two world wars and depression upon England and the Empire.
Prerequisite: LHST 111 *3 credits*

HIST 245: Tudor and Stuart England
A study of sixteenth and seventeenth century England beginning from the reign of Henry VII to the Glorious Revolution.
Prerequisite: LHST 111 *3 credits*

HIST 251: Tsarist and Imperial Russia
The rise and fall of Kievan Russia, the Tatar Yoke, the rise of Muscovy, the Time of Troubles and the consolidation of Imperial power from Peter the Great to Nicholas II.
Prerequisite: LHST 111 *3 credits*

HIST 252: 20th Century Russia
Emancipation, revolutionary movements, the Golden Age of Literature and the Russian Revolutions, the impact of two world wars and the responses of the Soviet government, *Glasnost, Perestroika,* the collapse of the Soviet Union, and Post-Communist Russia.
Prerequisite: LHST 111 *3 credits*

HIST 253: History of Modern Germany I
This course will examine modern German history from the Reformation to the end of World War One. We will explore a wide range of issues—politics, social change, warfare, religion, economics, gender, and race—that shaped Germany's development in this period from a lose collection of kingdoms and small states to the most powerful nation in Europe by 1914. Over the course of the semester, we will also consider the ways in which Germany's history fits within the broader context of European, Western, and World civilization.
Prerequisite: LHST 111 *3 credits*

HIST 254: History of Modern Germany II
This course will examine modern German history from the end of World War One until German reunification. We will explore a wide range of issues—politics, social change, warfare, religion, economics, gender, and race—that shaped Germany's difficult path between democracy and authoritarianism. Over the course of the semester, we will also consider the ways in which Germany's history fits within the broader context of European, Western, and World civilization.
Prerequisite: LHST 111 *3 credits*

HIST 261: History of Sub-Saharan Africa
This course explores sub-Saharan Africa from the indigenous empires to the post-colonial era in the 21st Century. It will give particular emphasis to the case of South Africa and its history, politics and culture from the earliest times to the end of the Apartheid system. Throughout the course we will examine both the durability and power of native African traditions, as well as the impact of European imperialism and white settlement in sub-Saharan Africa.
Prerequisite: LHST 111 *3 credits*

HIST 287: The History of Science and Technology
The development of science and technology from antiquity to the beginning of the 21st century. The methodology, uses and aims of science. The scientific revolution and its greatest figures from Copernicus to Newton.
Prerequisite: LHST 111 *3 credits*

HIST 290: Comics & Culture
The purpose of this course is to examine a particular form of popular media known generally as 'comics' (this pertain to both comic books and comic strips but will not included animation although some animation will be shown) in their intellectual, social, political and cultural context. The course is designed to provide students with a foundation of knowledge as well as to encourage them to develop a capacity for historical analysis. *3 credits*

HIST 301: East Asia, From Confucius to Revolution
This course involves a study of East Asian Civilization from its ancient origins through the contemporary period. The course emphasizes the dominant ideas, institutions, and individuals shaping East Asian history. *3 credits*

HIST 302: Becoming Human–Becoming the World: World History I
This course intends to study culture continuity and change by concentrating on the most important turning points and developments in Asia, Europe, Africa, and the Americas, covering the time span from Human Origins to the edge of the Renaissance. The orientation is global, the themes integrative, the overall goal being to show interconnections in the development of civilization(s), along with divergence across cultural and societal boundaries. The course stresses the archaeological and textual evidence. Some of the over-arching themes that express both culture and cultural diversity in antiquity include: becoming human, first states, nomadic movements, empires, and universal religions. *3 credits*

HIST 303: Global Connections: World History II
This course examines world history from the early modern period to the present. Its goal is to develop understanding of global processes by examining changes within and across world regions, by comparing and contrasting political, social, and economic systems and values, and by examining the connections between various regions, including circulations of people, goods, and ideologies. *3 credits*

HIST 310: The Renaissance and Reformation
The development of humanism and the great intellectual, artistic and cultural achievements of the Renaissance in Italy and subsequently in northern Europe. The religious, social, political and economic factors underlying the division of Christianity, the great Protestant reformers, their life and work.
Prerequisite: LHST 111 *3 credits*

HIST 312: The Baroque and Enlightenment Era: Europe 1648-1780
The major features of European cultural and political history from the Peace of Westphalia to the beginning of the French Revolution.
Prerequisite: LHST 111 *3 credits*

HIST 313: The Age of Revolution
The major events of the eighteenth century emphasizing the Enlightenment, the French Revolution and the rise of Napoleon.
Prerequisite: LHST 111 *3 credits*

HIST 420: History of the Contemporary World
A review of Western history from the Congress of Vienna to the present.
Prerequisite: LHST 111 *3 credits*

American

HIST 221: History of the United States to 1865
The foundation of the English settlements, the American Revolution, the Early National Period, Jacksonian Democracy, Abolitionism, Expansion to the Pacific, the Civil War. Immigration and the role of minorities are emphasized. *3 credits*

HIST 222: History of the United States from 1865 to the Present
Reconstruction, the development of the Industrial Revolution, Immigration and the role of Minorities, the Progressive movement, World War I, the Great Depression, the New Deal, World War II, the Korean War, the Civil Rights Movement and the post Cold War era. *3 credits*

HIST 225: Diplomatic History of the United States
(Cross-listed with POLI 343)
The growth of American foreign policy from its colonial origins to the breakthrough in the world arena and twentieth century world leadership and problems.
Prerequisites: HIST 221, 222 *3 credits*

HIST 231: American Colonial and Early Republic Era to 1828
An analysis of the main political, social, economic, and cultural developments From the Colonial Era through the Early Republic and Early National eras.
Prerequisite: HIST 221 *3 credits*

HIST 232: Nineteenth Century America: 1828-1896
The United States during the period of nation making through the Gilded Age. Emphasis is placed on Sectionalism, Civil War and Reconstruction, and the Gilded Age.
Prerequisites: HIST 221, 222 *3 credits*

HIST 236: The History of Women in the United States
This course will examine the history of women in the United States from the pre-colonial period to the twentieth century. It will cover the experiences of Native American, European, African American, Latin American and Asian American women, women in the paid work force, race and class relations, war-time experiences, and changes in norms of gender and sexuality. *3 credits*

HIST 237: American Social-Intellectual History
(Cross-listed with POLI 351)
Social and intellectual developments from the Colonial Era to contemporary times. Special focus on religious history, education, reform movements, literary trends, and progress in science and technology.
Prerequisites: HIST 221, 222 *3 credits*

HIST 239: The Black Experience in America
This course provides an analysis of Black American History from the sixteenth century to the present, with special emphasis on the African background, the slave trade and slavery during the Antebellum Period, Black Americans' fight for freedom against segregation and discrimination, and Black American contributions to the political, social, economic, educational and cultural growth of the American nation.
Prerequisite: HIST 221 *3 credits*

HIST 271: Colonial Latin America
This introductory course examines Latin America from Columbus's arrival to the early nineteenth century, when most Iberian colonies gained independence. Focusing on the lives of the majority, this course pays particular attention to the ways that race, caste, and gender shaped political, economic, and social relations. We will examine changes in labor systems, political organizations, and social relations during the colonial period; this includes effects of Iberian imperialism on Amerindians, the dynamics of the racial mixing indigenous, African, and European peoples (mestizaje), and the roles of the "people without history" in building the "New World." *3 credits*

HIST 282: American Military History
The development of the American military experience as it changed from the limited warfare of the 18th century to the total war of the 20th Century, and the global terriorism of the 21st Century.
Prerequisite: LHST 111 *3 credits*

HIST 285: History of Canada
A survey of Canadian History from the earliest period to the present. The Amerindians, European Exploration, New France, Anglo-French struggles, Upper and Lower Canada, Confederation, immigration, western settlement, industrialization in the 20th Century, and ethnicity issues in the 21st Century are the main topics.
Prerequisite: LHST 111 *3 credits*

HIST 325: Contemporary American History
Analysis of the major political, social, economic, and cultural trends in American history from World War II to the present. Special emphasis will be focused on national politics, international relations, and social economic trends from the Harry S. Truman to the George W. Bush administrations.
Prerequisite: LHST 111, HIST 221, HIST 222 *3 credits*

HIST 379: Internship with the Pennsylvania Historical and Museum Commission
To be served at one of the more than 50 museums and historic sites operated by the Commission. The focus of each internship will be determined on the basis of the interests of the student and the resources of the Museum. Internships are for a minimum of ten weeks or longer. They coincide with the fall, spring or summer semesters. Six to 12 credits depending on the length and type of internship will be awarded. Housing may be available at some of the sites, but ordinarily students will be expected to make their own arrangements.
Prerequisites: Open only to Junior, Senior or Graduate students.
(Anthropology/SOCI 292; HIST 221, 222, LHST 111 are required) *6-12 credits*

HIST 390-392: Special Topics
Selected topics in History.
Prerequisite: LHST 111 *3 credits*

HIST 395-399: Independent Study
Prerequisite: LHST 111 *3 credits*

HIST 400: Senior History Seminar
Selected research topics in history. Emphasis is placed on historiography, methodology and the utilization of primary sources and archival materials. *3 credits*

GEOG 201: World Geography
A presentation of the basic facts and ideas about world regions, focusing on individual countries and areas, including physical and cultural material. *3 credits*

GEOG 211: Geography of U.S. and Canada
A presentation of the basic facts and ideas about regions in the United States and Canada, including physical and cultural material. *3 credits*

GEOG 221-241: Regional Geography/Special Topics
Specialized geography courses focusing on various nations and regions of the world. *3 credits*

History Curriculum

(Numerals in front of courses indicate credits)

FRESHMAN

	Fall		*Spring*
2	First-Year Seminar	3	Crit Analysis & Comp/LENG 112
3	College Composition/LENG 111	3	Theology II Series/LTHE
3	Hist of West & World/LHST 111	3	Modern Language
3	Introduction to Philosophy/LPHI 131	3	History of United States to 1865/ HIST 221
3	Sacred Scriptures/LTHE 121		
3	Modern Language	3	Science (ARCH 202)
17		15	

SOPHOMORE

	Fall		*Spring*
3	Speech/SPCH 111	3	Philosophy II Series/LPHI
3	Math	3	Foundations of Western Heritage/ HIST 110
3	History Elective		
3	US Government and Politics/POLI 111	3	History of United States 1865 to Present/HIST 222
3	Modern Language		
		3	History Elective
		3	Fine Art Series/LFIN
		3	Introduction to International Relations/POLI 133
15		18	

JUNIOR

	Fall		*Spring*
3	Archaeology and History of Ancient Near East/ARCH 201	3	Philosophy of History/PHIL 345
3	Theology or Phil III Series/LTHE or LPHI	3	History Electives
6	History Electives	3	Principles of Macroeconomics/ BCOR 112
1	Leadership Seminar	6	Electives
3	Principles of Microeconomics/ BCOR 111	3	Cultural Anthropology/SOCI 292
16		18	

SENIOR

	Fall		*Spring*
6	Electives	3	Senior Seminar/LBST 383
3	Senior Seminar/HIST 400	3	Literature Series/LENG
3	History Electives	11	Elective
12		17	

Total credits: 128

**History majors must take at least 9 credit hours of foreign language. If, however, majors begin at the introductory level the total credit requirements are 12.*

HISTORY MINOR

Completion of the following courses (18 credits) will satisfy the requirements for the minor in History.

3	Foundations of Western Heritage/HIST 110
3	History of The West and The World/LHST 111
6	History of the U.S./HIST 221, 222
6	Two upper level courses in European and American history
18	credits

ARCHAEOLOGY AND CULTURE MINOR

For a description see The Archaeology and Culture section in this catalog.

HISTORY/SOCIAL STUDIES CERTIFICATION

JEFFREY H. BLOODWORTH, Ph.D., *Chairperson*

Students majoring in History/Social Studies qualify for Teacher Certification in Social Studies/ Secondary Education; and Plan B: a B.A. in Social Science without education courses. Students selecting Plan B need not take courses in Education. Students study broadly in the fields of history, political science, geography, economics, sociology, anthropology, and psychology.

Aims and Objectives:

The objectives of the program are: (1) to give the students an opportunity to become broadly educated in the fields of history, political science, geography, and economics; and (2) to provide a program of teacher education which promotes growth, development, professionalism and expertise for successful teaching.

Students who wish to prepare themselves as secondary social studies teachers must make formal application for admission to the teacher education program through the School of Education. For a detailed explanation of all requirements refer to the catalog portion under Education.

Social Studies/Secondary Education Curriculum

(Numerals in front of courses indicate credits)

FRESHMAN

Fall		*Spring*	
2	First-Year Seminar/EDCR 104*	3	Psychology of Learning/Teaching/ EDCR 101
3	Speech/SPCH 111	3	Critical Analysis/Composition/ LENG 112
1	Foundations/EDCR 103	3	History of the West & World/LHST 111
3	College Composition/LENG 111	3	Basic Sociology/SOCI 110
3	Foundations of Western Heritage/ HIST 110	3	Foreign Language
3	Sacred Scriptures/LTHE 121	3	Special Education Overview/ SPED 101
3	Foreign Language		
18		18	

SOPHOMORE

Fall		*Spring*	
3	History of US to 1865/HIST 221	1	Leadership Seminar
0	Secondary/K-12 Education Practicum/EDFL 101	3	Philosophy of Ethical Responsibility/ LPHI 237
3	Literature Series/LENG	3	History of US 1865 to Present/ HIST 222
3	Intro to Philosophy/LPHI 131	3	Upper Level History
3	Fundamentals of Math I/MATH 105	3	Applied Statistics/MATH 213 **or** Psychological Statistics I/PSYC 211
3	US Govt and Politics/POLI 111	3	Intro to International Relations/ POLI 133
3	Intro to Psychology/PSYC 111		
18		16	

JUNIOR

Fall		*Spring*	
3	Microeconomics/BCOR 111	3	Macroeconomics/BCOR 112
3	Methods/Materials of Instruction/ EDCR 320*	6	Upper Level History
0	Secondary/K-12 Education Practicum/EDFL 102	3	Philosophy II Series/LPHI
3	World Geography/GEOG 201	3	Cultural Anthropology/SOCI 292
3	Theology II Series/LTHE	3	Meet Need Stu. Exceptionalities 7-12/SPED 340*
3	Science		
3	Upper Level History		
18		18	

SENIOR

Fall		*Spring*	
3	Methods: Read Across the Content Areas/EDCR 326	3	Professional Seminar/EDCR 401
3	Assessment and Evaluation/EDCR 330*	12	Student Teaching/EDFL 410
3	Methods/Materials for ELL/EDCR 420*		
0	Secondary/K-12 Education Practicum/ EDFL 103		

3	Introduction to Visual Arts/LFIN 253	
3	Senior History Seminar/HIST 400**	
15		15

Total credits: 136

* Practicum embedded throughout semester

** All History Courses must be completed before registering for HIST 400.

{ Cohort Courses

All education and history/social studies courses require a grade of C or better.
All practicum experiences require a grade of P (pass).
A GPA of 3.0 or greater is required for all students seeking teacher certification.

The *Gannon University – Duquesne School of Law, 3+3 Early Admissions Program* has been designed for qualified students to earn an undergraduate and a law degree in six years rather than seven. Under the early admissions program students may receive a *Bachelors Degree in Social Studies after three years of undergraduate work and the successful completion of the first year of full time study at the Duquesne School of Law.* The student would then receive their Law Degree after successful completion of the second year at Duquesne School of Law. Qualified students may wish to pursue this option.

INTERNATIONAL STUDIES

Anjali Sahay, Ph.D., *Director*

International Studies is an interdisciplinary major which draws its courses from the Foreign Language, History, Political Science, and International Business programs in order to form a coherent whole with an international focus. Students will acquire a broad multidisciplinary education while enhancing their overall sense of global awareness. While providing a well-balanced curriculum, the major also provides opportunities for students to concentrate on a particular country or region of the world.

This major will complement the existing International Business major and the Foreign Language International Business major. Its emphasis will be on social, cultural and international relations which can be applied not only to business and governments but other institutions as well.

CAREER OPPORTUNITIES: Employment at home and abroad with government, private agencies, multi-national corporations, in tourism and travel, in communications, in bilingual and bicultural agencies. This major is also an excellent preparation for graduate studies in languages, law, international relations and global studies.

International Studies-Foreign Language Curriculum

(Numerals in front of courses indicate credits)

FRESHMAN

	First Semester		*Second Semester*
3	College Composition/LENG 111	3	Critical Analysis and Composition/ LENG 112
2	First-Year Seminar	3	Introduction to Philosophy/ LPHI 131
3	History of West World/LHST111	3	Foreign Language
3	Sacred Scriptures/LTHE 121	3	Math
3	Fundamentals of Speech/SPCH 111		
3	Foreign Language		

		3	Found. Of Western Heritage/ HIST 110
17		15	
	SOPHOMORE		
	First Semester		*Second Semester*
3	Theology II Series	3	Philosophy II Series
3	Fine Arts Series	3	English Literature Series
3	Natural Science	3	Macroeconomics/BCOR 112
3	Microeconomics/BCOR 111	3	Foreign Language
3	Foreign Language	1	Leadership Seminar
3	International Relations/POLI 133	3	Cognate Elective
18		16	
	JUNIOR		
	First Semester		*Second Semester*
3	Comparative Govt/POLI 220	3	World Geography/GEOG 201
3	Theology/Philosophy III Series	3	POLI 322 - 390
3	POLI 322 – 390	3	Foreign Language
3	HIST 251 – 390	3	Elective
3	Cognate Elective	3	HIST 251 - 390
		3	Cognate Elective
15		18	
	SENIOR		
	First Semester		*Second Semester*
3	Cognate Elective	6	International Experience
3	Elective	3	Concentration Elective
3	Concentration Elective	3	Concentration Elective
3	Concentration Elective	3	Elective
3	Integrating Seminar/LBST 383		
15		15	

International Studies Minor

Completion of 18 credits is required to satisfy International Studies Minor requirements.

1. **One Required Courses (3 credits)**
   POLI 133 Introduction to International Relations
2. **Three Courses from any of the following list of courses (9 credits)**
   POLI 220 Comparative Government
   POLI 322-325 Regional Studies
   POLI 340 Theories of International Relations
   POLI 341The UN and International Law
   POLI 343 U.S. Foreign Policy
   POLI 390-95 Special Topics

   HIST 251 Tsarist Russia
   HIST 252 Century Russia
   HIST 253 History of Modern Germany I
   HIST 254 History of Modern Germany II
   HIST 261 History of Sub-Saharan Africa
   HIST 271 History of Latin America
   HIST 285 History of Canada
   HIST 390-92 Special Topics

ECON 241 International Economics
MKTG 255 Principles of Exporting
BCOR 306 Global Business
MGMT 310 International Management (Prerequisite: BCOR 306)
MKTG 345 International Marketing (Prerequisites: BCOR 241 and BCOR 306)
IBUS 382 China Studies (unless course is used to satisfy International experience requirement)
International Experience (3 to 6 credits)

3. **Foreign Language 200 level or above (6 credits)**

TOTAL: 18 CREDITS

JOURNALISM COMMUNICATIONS

FRANK GARLAND, *Program Director*

Program Description:

Housed in the English department, the Journalism Communications program is an interdisciplinary program designed to provide students with a thorough background in journalism for both print and electronic media. Through courses offered by the English department and the Communication Arts, Electronic Media department, students learn the history of media and the theoretical perspectives and ethical issues confronting the various media, and acquire the practical skills necessary for working successfully in each medium. Also, the major requires numerous practicums where classroom learning is put into practice. Journalism Communications majors are prepared for careers in newspaper reporting, radio, TV, radio and TV production, public relations, advertising, interactive digital media and graduate school.

Students receive hands-on experience by working on the student newspaper, *The Gannon Knight,* and at Gannon's own 3,000-watt broadcast and web streaming station, WERG-FM and WERGFM.com. Also, Gannon has a full TV production, digital editing and multimedia studio that is used for student instruction.

In addition, the Journalism Communications program provides students with internship opportunities with the *Erie Times-News,* local television affiliates, advertising agencies, radio stations and public relations firms.

A major in this program consists of 53 credits of required upper-level courses in the field of concentration, including practicums, an internship and a senior research project.

COURSE DESCRIPTIONS:

See the section on English for descriptions of courses designated ENGL.

See the section on Theatre and Communication Arts for descriptions of courses designated COMM.

Journalism Communications Curriculum

(Numerals in front of courses indicate credits)

FRESHMAN

	Fall Semester		*Spring Semester*
3	College Composition/LENG 111	3	Critical Anal. and Comp/LENG 112
3	Foreign Language	3	Foreign Language

3	Intro to Elect Media/COMM 111
3	Fundamentals of Speech/SPCH 111
3	History of West & World/LHST 111
2	First-Year Seminar/COMM 161
17	

3	Sacred Scripture/LTHE 121
3	Intro to Psychology/PSYC 111
3	Introduction to Philosophy/LPHI 131
1	Practicum/COMM 162
16	

SOPHOMORE

Fall Semester

3	Writing for Print Media/ENGL 214
3	Philosophy II Series/LPHI
3	Literature Series/LENG
3	US Govt and Politics/POLI 111
3	Digital Audio Production/COMM 241
3	Voice and Diction/THEA 221
18	

Spring Semester

3	Theology II Series/LTHE
3	Editing/Prod of Print Media/ ENGL 215
3	Intro to TV Production/COMM 211
3	Mass Media and Pop Culture/ ENGL 371
3	Fine Art Series/LFIN
1	Practicum/COMM 262
16	

JUNIOR

Fall Semester

3	Radio/TV Performance/COMM 230
3	Theology or Phil III Series/LTHE or LPHI
3	Corporate Video/COMM 330
3	Feature Writing/ENGL 218
3	Elective
1	Leadership Seminar
16	

Spring Semester

3	Adv/Specialized Reporting/ ENGL 216
3	Advanced Speech/SPCH 313
3	Broadcast News Writ/Prod/ COMM 411
3	Public Relations/ENGL 372
3	Photojournalism/ENGL 252
15	

SENIOR

Fall Semester

3	Math
3	Ethics and Criticism/COMM 350
3	Intro to Env Science/ENV 120 or Environmental Issues/BIOL 103
3	Elective
3	Senior Research/COMM 400 or ENGL 400
15	

Spring Semester

3	Media Mgmt/Print Journ/ COMM 341
3	Internship/COMM 490 or ENGL 375
3	Public Policy/POLI 122
3	Elective
3	Prin of Macroeconomics/BCOR112
15	

LEADERSHIP STUDIES

GAIL F. LATTA, Ph.D., *Program Director*

Overview

Leadership Studies is a social science discipline governed by the International Leadership Association (ILA). Leadership has been identified as one of the most pressing challenges facing organizations, communities and social institutions in the 21st century. Gannon's leadership studies program addresses this challenge by fostering holistic leadership development in a multidisciplinary context. The program is designed in accordance with guidelines established by the ILA, and prepares graduates for contributing to society by assuming leadership roles in their organizations, professions and communities.

The holistic leadership focus fosters understanding of the multidimensional nature of

leadership. Elements of analytical, conceptual, emotional and spiritual practice are considered with respect for their implications for individual, group and organizational dynamics. Individuals who aspire to positions of leadership achieve strategic advantage by mastering the fundamental of leadership theory and practice provided by an integrated core curriculum. Comprehensive understanding and mastery of the full range of leadership practice is achieved by incorporating multiple disciplinary perspectives governing the emergence of effective leaders. Student gain exposure to insights respecting the behavioral, social, cultural, organizational and global dynamics that inform leadership practice, and may choose to explore these dynamics within a variety of corporate, non-profit, political, social service, national or international contexts.

Program Objectives

As a leadership studies major or minor students gain insight into the dynamics of leader-follower relationships, and acquire an understanding of the qualities and behaviors that affect meaningful outcomes in a variety of organizational settings. Students are introduced to a wide range of leadership theories, and gain practical knowledge about how to apply this knowledge in numerous professional, organizational and community contexts. The program provides foundational knowledge about how social scientist study leadership dynamics and how leadership professionals assess and develop leadership capacity in individuals, groups and organizations. Students in this program are equipped with the knowledge and skills required to assess, develop and exercise leadership capacity in a wide range of vocational and occupational roles. They become adept at understanding organizational culture, designing leadership interventions, and affecting institutional change.

Student Outcomes

The following student outcomes are fostered by programs in Leadership Studies:

- Introduce students to a holistic theoretical framework for understanding, exhibiting and developing leadership in a variety of contexts and organizational settings.
- Foster the intellectual and empirical skills required to promote an interdisciplinary exploration of leadership behavior among individuals in organizations, communities and society.
- Equip graduates with the knowledge and skills required to provide leadership in professional, community and societal roles.
- Enhance the climate for ethnic and international diversity by promoting an understanding of cross-cultural and global perspectives on leadership.
- Prepare students who are interested in graduate study to pursue advanced degrees in leadership studies and related human and social sciences.
- Nurture the capacity of graduates to act with character, integrity and influence in the complex leadership environments that characterize 21st century organizations and society.

Career Paths

Leadership Studies graduates are be prepared for entry-level employment in a wide variety of management, leadership and service positions, or may continue their professional development through graduate study in leadership or related fields. Graduates may assume jobs in corporate, non-profit, social or community organizations or serve in political, governmental or elected offices. Graduate may pursue careers in many specialized, high demand roles:

- leadership development professional
- organizational development facilitator
- non-profit executive

- social service administrator
- human resource manager
- healthcare administrator
- educational assessment specialist
- employee relations officer
- conflict resolution counselor
- project manager
- personnel development coordinator
- social research analyst

Program Structure

The leadership studies program consists of an integrative Leadership Core (21 credits) supported by an Interdisciplinary Framework (48 credits) of courses on human behavior, social systems, cultural dimensions, ethics, liberal studies, scientific inquiry, communication skills, organizational contexts and leadership applications. An 18 credit hour minor in a related area of study is required.

Courses offered in the leadership studies program provide an integrative conceptual foundation of leadership theory, research and practice to inform student's understanding of leadership behavior, contexts and applications.

The leadership studies program is focused on helping students develop the theoretical expertise, practical knowledge, personal insight and interpersonal awareness required to provide positive, authentic leadership in organizations, professions and communities.

LEADERSHIP STUDIES MAJOR

The **Leadership Studies Major** consists of 129 hours (a minimum of 30 upper division):

- A ***Leadership Studies Core*** comprising 21 credit hours (15 upper division) – The LEAD core provides an integrative conceptual foundation of leadership theory and practice to inform student's understanding of the interdisciplinary content areas that comprise the balance of the program. Each course in the LEAD Core is designed to facilitate the integration of content from one of the components in the Interdisciplinary Framework. These core courses serve to inform students' understanding, interpretation and application of interdisciplinary content in light of the multifaceted roles, contexts and imperatives leaders face.

  Leadership Studies (LEAD) Major Core Course Sequence:
  LEAD 110 Holistic Leadership (3 credits)
  LEAD 220 Foundations of Leadership Theory and Practice (3 credits)
  LEAD 330 Leadership Contexts & Applications (3 credits)
  LEAD 340 Leadership Research & Assessment (3 credits)
  LEAD 390-399 Special Topics (3 credits minimum)
  LEAD 440 Leadership Synthesis: Interdisciplinary Perspectives (3 credits)
  LEAD 450 Leadership Internship (3) - (optional)
  or
  LEAD 499 Directed Readings in Leadership Studies (3) – optional
    - Students choose either a supervised internship or directed readings course as their experiential learning component.

Special Topics Courses

All majors choose at least one (1) Special Topics course (LEAD elective). Special topics courses in LEAD are developed and taught by program faculty or by faculty in affiliate programs upon approval of LEAD Program Director. Interested faculty both within and outside of OLL

are encouraged to propose LEAD Special Topics courses they would be willing to teach in the undergraduate Leadership Studies programs. Course proposals must include both conceptual and curricular elements, and will be approved by the LEAD Program Director on the basis of academic rigor and overall contribution to the program's holistic leadership perspective.

- An **Interdisciplinary Framework** consisting of 48 credit hours – The Interdisciplinary Framework is comprised of strategically selected courses from auxiliary disciplines informing the context and practice of leadership. Courses have been selected for inclusion in each of nine areas of study: Scientific inquiry, human behavior, social system, cultural dimensions, organizational context, leadership applications, communication skills, philosophy and ethics. Courses in each area of the Interdisciplinary framework contribute specific programmatic elements to the overall integrity of the Leadership Studies major. Students may select from a matrix of approved courses in each of the nine areas represented in the Interdisciplinary Framework, satisfying the following allocated requirements:

  Interdisciplinary Framework Requirements for the Leadership Studies Major

  Social Science Domain:
  - o Human behavior (6 credits)
  - o Social Systems (6 credits)
  - o Cultural Dimensions (6 credits)

  Leadership contexts and Applications Domain
  - o Leadership Applications (6 credits)
  - o Organizational Contexts (6 credits)

  Methods & Skills Domain
  - o Scientific inquiry (6 credits)
  - o Communication skills (6 credits)

  Humanities Doman
  - o Philosophy & Ethics (6 credits)

  Course options for each component of the Leadership Studies Interdisciplinary Framework are outlined below.

- A **Liberal Core** contributing 42 credit hours –
  The Liberal Core satisfies general education requirements not met within the major, as well as pre-requisites for courses included in the Leadership Studies Core and Interdisciplinary Framework.

- A **Minor Area** of study consisting of 18 hours –
  Students may select a minor area of study in any academic field outside Leadership Studies. Students who minor in a discipline represented in the Interdisciplinary Core may satisfy requirements for both thereby creating opportunities for additional electives or satisfying the requirements of a double major.

Leadership Studies Double Major Option

Due to course overlaps, double majors may be possible for LEAD majors in a number of disciplines represented in the Interdisciplinary Framework, including psychology, criminal justice, business and political science. Careful program selection in conjunction with a student's academic advisor will be necessary to ensure requirements for both degree programs are satisfied. For instance, students interested in graduate study in business should complete additional electives from the Business Core, and those completing a double major in psychology must complete additional laboratory hours. The decision whether to pursue the LEAD Major, a double major, or an LEAD minor should be made in consultation with faculty

advisors in both disciplines. Consideration should be given to a student's career and academic aspirations, with attention to the potential advantage graduates may realize in their desired job market or program of graduate study, as this will vary across disciplines.

LEADERSHIP STUDIES MINOR

The **Leadership Studies Minor** consists of 18 hours of LEAD courses (12 upper division):

- Five courses taken from the ***Leadership Studies Core*** provide an integrative conceptual foundation of theory and practice to enhance student's understanding of leadership in their major area of study.
- A supervised internship arranged in conjunction with their major advisor, provides an experiential component.
- Students select one Leadership Studies elective (**Special Topics**, 3 credits) relating to their major.

Leadership Studies Minor Course Sequence:
LEAD 110 Holistic Leadership (3 credits)
LEAD 220 Foundations of Leadership Theory and Practice (3 credits)
LEAD 330 Leadership Contexts & Applications (3 credits)
LEAD 390-399 Special Topics* (3 credits)
LEAD 440 Leadership Synthesis: Interdisciplinary Perspectives (3 credits)
LEAD 450 Leadership Internship (3 credits)

Leadership Minor Tracks

The Leadership studies minor is designed to address the needs of students majoring in a wide variety of social science disciplines at Gannon University, including:

- Business Administration
- Criminal Justice
- Gerontology
- Political Science
- Psychology
- Social Work

Program directors and academic advisors are invited to work with the LEAD Program Director to develop specific course sequences that will permit interested students to graduate with a double major.

COURSE DESCRIPTIONS

LEAD 110: Holistic Leadership
The holistic leadership framework introduced in this course provides a comprehensive orientation to the field of leadership studies. Students will develop an appreciation for the complex, multifaceted nature of leadership in organizations and society, and will gain an understanding of the contributions to be made from various academic disciplines to understanding its emergence, development and consequences. Leaders will be considered in terms of their behavioral, cognitive, emotional and spiritual dimensions, illustrating the importance of considering insights from psychological, social, philosophical, cultural and organizational domains of study. *3 credits*

LEAD 220: Foundations of Leadership Theory and Practice
This course provides a systematic survey examining the conceptual roots of leadership and its emergence as a scholarly academic discipline. Core readings will introduce seminal theories and the historical figures that have influenced development of the field. Students will learn to

view leadership behavior from alternative conceptual and theoretical perspectives, and will gain appreciation for the complexity and diversity of leadership contexts and applications present in modern society. *3 credits*

LEAD 330: Leadership Contexts and Applications
This course explores the application of leadership principles in a variety of organizational and societal contexts. Students will consider the implications of effective leadership for corporate, governmental, educational, community and service organizations. Consideration will be given to the variations inherent in the types of leadership required in private, non-profit, political and international settings. Societal consequences of failed and destructive leadership will also be considered, as well as the challenges of 21st century trends in population, economy, health care, and environmental stewardship. *3 credits*

LEAD 340: Leadership Research & Assessment
This course focuses on the empirical study of leadership, and the assessment of leadership capacity in individuals and organizations. Students gain experience applying knowledge of social scientific methods to the evaluation and interpretation of research on leaders and leadership development. Factors affecting the validity and reliability of leadership research are emphasized, as well as the application of social research methods in the design, administration and interpretation of leadership assessment instruments. Promotes principles and conditions governing responsible conduct in leadership research, and the efficacious use of assessment instruments for purposes of developing leadership capacity. This course is optional for the leadership minor. *3 credits*

LEAD 390-399: Special Topics
Special Topics courses extend and complement the LEAD core curriculum by focusing on targeted areas of leadership theory, context or application. Topics selected are offered on a rotating basis depending upon disciplinary relevance, student interest and faculty availability.
Prerequisites: LEAD 110, 220, 330 and at least Junior standing. *3 credits*

LEAD 440: Leadership Synthesis: Interdisciplinary Perspectives
This capstone seminar explores the intersecting disciplines that inform leadership theory, research and practice. As an interdisciplinary area of scholarship, the field of leadership draws upon theoretical insights and conceptual knowledge from a verity of basic and applied disciplines. This course integrates the theoretical and conceptual knowledge contributed by scholars in psychology, sociology, anthropology and communication studies, and explores how the principles of leadership practice are informed by organizational, societal and cultural dynamics. *3 credits*

LEAD 450: Leadership Internship
The Leadership Internship is a required component of the LEAD Minor, and an optional component of the Leadership Studies major, to be taken after completing all required LEAD core courses or concurrently with LEAD440. Student may earn from one to three credit hours for completing a supervised internship experience in an organizational, academic or community placement. Students are responsible for selecting an internship opportunity, contacting agency representatives and negotiating terms of their placement, in accordance with published program requirements. Leadership objectives, responsibilities and outcomes, as well as credit hours to be awarded upon completion, must be submitted for approval prior to commencing internship activities. Progress reports and a final presentation of learning outcomes, illustrating leadership opportunities and concepts applied are required upon completion.
Prerequisites: LEAD 110, 220, 330, 340*, 440* (*LEAD Majors only) *3 credits*

LEAD 499: Directed Readings
A directed readings course offers students the opportunity for a guided survey of literature pertaining to a specific leadership topic, selected jointly by a student and LEAD faculty

member with approval of the LEAD Program Director. Designed to accommodate Leadership Studies majors preparing for advanced study in the field, the directed readings course offers an alternative to the Leadership Internship. Topic selection is tailored to the disciplinary interests and career objectives of individual students. Student progress is achieved through regular meetings and scholarly writing produced throughout the semester.
Prerequisites: Open to Leadership Studies majors only; non-majors by permission of LEAD Program Director. *3 credits*

Leadership Studies Bachelor of Science (B.S.) Degree Curriculum

(Numerals in front of courses indicate credits)

FRESHMAN

	Fall Semester		*Spring Semester*
2	First Year Seminar	3	Holistic Leadership/LEAD 110
3	College Composition/LENG 111	3	Social Science Elective
3	History of the West and the World/LHST 111	3	Critical Analysis and Composition/ LENG 112
3	Fine Arts Series/LFIN	3	Speech/SPCH 111
3	Sacred Scriptures/LTHE 121	3	Mathematics Elective
3	Introduction to Philosophy/LPHI 131	3	Science Elective
17		18	

SOPHOMORE

	Fall Semester		*Spring Semester*
3	Philosophy Series II/LPHI	3	Foundations of Leadership Theory & Practice/LEAD 220
3	Scientific Inquiry I Option	3	Scientific Inquiry II Option
3	Communication I Option	3	Communication II Option
3	Human Behavior I Option	3	Social Systems I Option
3	Theology II Series/LTHE	3	Literature Series/LENG
15		15	

JUNIOR

	Fall Semester		*Spring Semester*
3	Leadership Contexts & Applications/LEAD 330	3	Leadership Research & Assessment/ LEAD 340
3	Human Behavior II Option	3	Social Systems II Option
3	Organizational Contexts I Option	3	Organizational Contexts II Option
3	Cultural Dimensions I	3	Cultural Dimensions II Option
1	Leadership Seminar	3	Leadership Applications I Option
3	Theology or Philosophy III Series/ LTHE 227 or LPHI 237	3	Elective
16		18	

SENIOR

	Fall Semester		*Spring Semester*
3	Senior Capstone Leadership Synthesis/LEAD 440	3	Leadership Special Topic/ LEAD 390-399
3	Leadership Applications II Option	3	Leadership Internship or Directed Readings/LEAD 450 or LEAD 499
3	Philosophy & Ethics II Option		
6	Electives	9	Electives
15		15	

LEADERSHIP CORE COURSE SEQUENCE

LEAD 110 Holistic Leadership
LEAD 220 Foundations of Leadership Theory and Practice
LEAD 330 Leadership Contexts & Applications
LEAD 340 Leadership Research & Assessment
LEAD 390-399 Special Topics
LEAD 440 Leadership Synthesis: Interdisciplinary Perspectives
LEAD 450 Leadership Internship (3) - (optional)
or
LEAD 499 Directed Readings in Leadership Studies (3) – (optional)

Note: A Leadership Studies Minor consists of the full LEAD course sequence minus LEAD 340 with no Interdisciplinary Framework course requirements (18 credit hours).

INTERDISCIPLINARY FRAMEWORK COURSE OPTIONS (LEAD MAJORS ONLY):

Course options in each component of the Interdisciplinary Framework for the Leadership Studies major are outlined below. Specific course selections are to be worked out with the student's advisor and will depend upon other elements of a student's program, including the selected minor area of study.

Methods and Skills Domain

Scientific Inquiry Component (6 credits, minimum required)
The scientific inquiry component introduces students to the social research methods used to investigate leadership behavior. The principles of empiricism and statistical analysis provide a foundation for understanding research and theory in the field. A minimum of 6 credits are required, and may be taken in one of several disciplines related to the student's minor. Additional hours beyond the minimum are recommended for students intending to pursue graduate studies.

- PSYC 303 General Experimental Psychology (prerequisite PSYC 111) or
- SOCI 352 Methods of Social Research (prerequisite SOCI 351) or
- SCWK 380 Social Work Research Methods (prerequisites SCWK 360/1) or
- CRJS 250 Criminal Justice Research Methods (prerequisite CRJS 240)

and

- PSYC 211 Psychological Statistics w/optional lab PSYC 212 (3-4 credits) or
- SOCI 351 Statistics for the Social Sciences or
- CRJS 260 Criminal Justice Statistics or
- BCOR 221 Business Statistics or
- MATH 213 Applied Statistics

Communication Skills Component (6 hours required)
The communications component exposes students to the essential leadership tools of human interaction that are mediated by language and symbol systems. The requirement consists of 6 hours divided equally between written and oral forms of interchange.

- ENGL 211 Advanced Composition or
- ENGL212/BCOR 231 Business and Professional Communications or
- ENGL 213 Technical Writing

and

- PSYC 306 Psychology of Communication or
- ENGL 372 Public Relations or
- SPCH 313 Advanced Speech or
- SPCH 322 Argumentation and Debate or
- SCWK 360 Interviewing Skills or
- PSYC 307 The Helping Relationship

Social Sciences Domain

Human Behavior Component (6 credits, required)
Leadership is a behavioral science primarily focused on human behavior. The human behavior component consists of 6 credits essential to understanding the principles of human behavior that undergird the practice of leadership, and govern the relations between leaders and followers and the behavior of individuals in organizational settings. Students choose courses offered in psychology, social work or education that highlight human development, personality, motivation, learning and cognition.

- PSYC 222 Psychology of Human Development
- PSYC 305 Learning and Cognition or EDCR 101 Psychology of Learning & Teaching
- PSYC 372 Personality Theory
- SCWK 221 Human Behavior & Social Environment I
- SCWK 222 Human Behavior & Social Environment II
- SCWK 223 Human Behavior & Social Environment III

Social Systems Component (6 credits required)
The social systems component consists of 6 credits focusing on the dynamics of human interaction in groups, and forms of collective behavior exhibited in organizations, communities and society.

- SOCI 211 Social Psychology or
- PSYC 225 Social Psychology or
- CRJS 240 Criminological Theory

and

- PSYC 309 Group Dynamics or
- MGMT 220 Making Teams Work or
- EDCR 414 Sociology of Education or
- CRJS 201 Correctional Process

Cultural Dimensions of Society Component (6 credits required)
The cultural dimensions component consists of 6 credits devoted to the exploration of the inherent similarities and differences among shared value systems, and the norms that constitute the meaning systems governing behavior in human social organizations.

- SOCI 120 Individual, Cultural & Society or
- PSYC 265 Cross-cultural Psychology or
- SOCI 292 Cultural Anthropology or
- EDCR 203 Human Diversity

and

- SOCI 230 Minority Groups or
- PSYC 275 Psychology of Women or
- CRJS 327 Gangs in Society or
- CRJS/SCWK 333 Victimology or
- WMST 201 Introduction to Women in Society or
- CRJS 340 Women in Crime

Leadership Contexts & Applications Domain

Organizational Context Component (6 credits required)
Leadership is an essential ingredient in well-functioning organizations, societal institutions and community groups. The organizational context component provides an introduction to the formal contexts in which leadership manifests and has its impact. Students select any two of the following courses offering a variety of disciplinary perspectives on organizations, institutions and communities.

- MGMT 316 Organizational Behavior or

- MGMT 311/ENTR 310 Organizational Innovation or
- PSYC 292 Industrial/Organizational Psychology or
- PSYC 316 Human Factors Psychology or
- PLAW 111 Introduction to Law & Society or
- POLI 331 Urban Politics & Public Policy or
- SCWK 212 Social Problems, Services & Issues or
- SCWK 370 Interagency Collaboration & Consultation or
- CRJS 201 The Police Function

Leadership Applications Component (6 credits equired)
Leadership is an area of scholarship that has been appropriated differently by a number of applied disciplines. The leadership applications component provides an exploration of the ways in which leadership principles have been utilized to address perennial problems facing organizations, communities and societies. Student select applied leadership courses relating to their career objectives.

- BCOR 251 Principles of Management or
- BCOR 241 Principles of Marketing or
- CRJS 320 Criminal Law and Procedure or
- CRJS 335 Administrative Management of Criminal Justice Agencies (prerequisite CRJS 201) or
- MGMT 211 Human Resource Management or
- MGMT 330 Project Management or
- POLI 210 Bureaucracy and Public Administration or
- POLI 332 Comprehensive Urban Planning or
- PSCY 300 Psychology of Creativity or
- SCWK 361 Introduction to Generalist Practice or
- SCWK 363 Generalist Practice with Organizations & Communities

Humanities Domain

Philosophy & Ethics Component (6 credits required)
The ethical challenges leaders encounter hold moral implications for themselves and others. Adhering to standards of integrity ensures effective leaders affect positive outcomes. The philosophy and ethics component consists of 6 credits devoted to understanding philosophical and ethical forms of reasoning as a basis for understanding the practical implications and moral imperatives of leadership.

- LPHI 235 Philosophy of Knowledge or
- LPHI 239 Philosophy of Science or
- PHIL 240 Philosophy of Education or
- LPHI/SPCH 225 Phil of Communication

and

- LPHI 237 Philosophy of Ethical Responsibility or
- MGMT 360 Ethical & Social Responsibility or
- CRJS 350 Criminal Justice Ethics or
- MLTS 301 Leadership and Ethics w/lab MLTS 304

LEGAL STUDIES

BERNADETTE AGRESTI, *Program Director*

FACULTY: Ms. Bernadette Agresti, *Paralegal*, *Atty.* Anthony Angelone, *Hon.* Stephanie Domitrovich, *Atty.* Mary Alfieri Richmond, *Atty.* Brian Krowicki, *Atty.* Maureen Geary Krowicki, *Atty.* Joseph Martone.

The Gannon University Legal Studies Program is approved by the American Bar Association (ABA). The ABA definition of a legal assistant is: "A legal assistant is a person, qualified by education, training or work experience who is employed or retained by a lawyer, law office, corporation, government agency or other entity and who performs specifically delegated substantive legal work for which a lawyer is responsible."

A paralegal must follow the guidelines regarding the unauthorized practice of law of the state in which he/she is performing legal services.

Legal Assistants/Paralegals provide professional services in a variety of legal, business settings, and corporations, usually, but not exclusively under the supervision of a lawyer. These services can include: interviewing, investigation, legal research, preparation of legal documents, review of transcripts, and participation in adversary and regulatory proceedings. One of the fastest growing professions nationally, legal assistants/paralegals are employed by individual attorneys, law firms, courts and government legal offices. They are also in growing demand by corporations, government agencies, financial institutions, insurance companies and real estate firms. Program graduates are advised not to confine their search for employment to the Erie market. Employment should be sought throughout the United States and beyond.

Gannon University's ABA approved program offers three options: a four-year baccalaureate degree, a two-year associate degree, and a certificate option. Students pursuing other majors may double major or complete a certificate while completing their chosen four-year degree program, with the permission of the program director and the Dean of the College where the program lies.

Transfer students may not use legal specialty coursework as a substitute for required legal specialty courses, unless the courses are transferring from an ABA approval paralegal program. If the coursework is from a non-approved program, they may be used as cognates or electives at the discretion of the Dean of CHESS.

The Bachelor Degree Program

The Baccalaureate Degree Program is designed to prepare students for advanced positions in the legal assistant/paralegal profession that increasingly require a four year degree in legal studies or another major with a legal studies/paralegal certificate. Among the 128 credits required for the degree are 39 credits in Liberal Studies, 34 credits of Legal Studies courses, 33 credits in supplementary requirements, and 22 credits in unspecified cognates and electives. Students are encouraged to take a strong minor or even a double major in a related field.

The Associate Degree Program

The two year, Associate Degree Program is for the student who is not ready to commit to a four year program. It is attractive to non-traditional students or students who are working while pursuing a degree. Requirements are 20 credits in Liberal Studies, 28 credits in Professional Studies including an internship, 7 credits of supplementary work, and 12 credits of unspecified cognate classes. All work taken may be applied toward a four year degree.

Legal Studies Certificate

The Legal Studies Certificate may be earned as a post-associate degree or the equivalent thereof, or a post-Bachelor degree. It may also be taken in conjunction with any four year degree program, if the Program Director of the student's major accepts the required 18-25 credits as cognates and/or electives. The Program Director may waive up to 7 credits to earn the certificate, based on a student's background in the legal field.

Legal Studies Certificate

(Numerals in front of courses indicate credits)

1 Orientation/Paralegalism/LEGL 105
3 Intro to Law/LEGL 111
3 Legal Research & Writing I/LEGL 211
3 Legal Research & Writing II/LEGL 212
3 Computers in Law/LEGL 343
3 Trial Preparation & Procedure/LEGL 345
3 Legal Services Internship/LEGL 495
6 Legal Services Electives

COURSE DESCRIPTIONS:

LEGL 105: Orientation/Paralegalism
An introduction to the role of lawyers and legal assistants/paralegals in the legal process. This course is not considered a legal specialty course. *1 credit*

LEGL 111: Introduction to Law
Introduction to the principles of substantive law essential to the prospective paraprofessional. Included are the areas of tort, contract, criminal and property law. Introduction to the structure of the judicial system and the mechanics of the legal process. *3 credits*

LEGL 211: Legal Research and Writing I
An orientation to the law library and to legal research. Introduction to the sources of law and to techniques for finding statutory, regulatory and judge made laws as well as legal commentaries. Exercises in legal research and writing. *3 credits*

LEGL 212: Legal Research and Writing II
Advanced work in legal research and legal writing. Introduction to legal analysis, focusing on practical assignments which examine in detail the components of court opinions. The course emphasizes case analysis, and the preparation of both informal and formal legal memorandums.
Prerequisites: LEGL 111, LEGL 211 *3 credits*

LEGL 227: Contract Law
A course to provide an understanding of contracts as developed under common law and legislative directives. Students will evaluate the formation, enforceability, and defenses to contracts. *3 credits*

LEGL 311: Family Law
A course covering the substantive and procedural law concerning divorce, adoption, child custody disputes and visitation rights, duties of support.
Prerequisites: LEGL 111, LEGL 211 *3 credits*

LEGL 313: Wills and Estate Administration
A course covering the preparation of wills and trusts, the administration of estates and trusts, and tax consequences.
Prerequisites: LEGL 111, LEGL 211 *3 credits*

LEGL 331: Business Organizations
A course providing an overview of the formation and operation of business enterprises including sole proprietorships, partnerships and corporations.
Prerequisites: LEGL 111, LEGL 211 *3 credits*

LEGL 333: Real Estate Law
This course covers the acquisition, ownership, regulation and disposition of real property. Financing of real estate is also covered. *3 credits*

LEGL 334: Public Records Research and Title Abstracts
Theory and practice of completing courthouse civil and criminal records research and real estate title abstracts.
Prerequisites: LEGL 111, LEGL 211 *3 credits*

LEGL 335: Bankruptcy
A course emphasizing the substantive law of bankruptcy including the rights of debtors, creditors and other interested parties and the legal assistant's role in bankruptcy proceedings.
Prerequisites: LEGL 111, LEGL 211 *3 credits*

LEGL 341: Law Office Management
Principles of law office management. Law office personnel and the law office environment, including the law library, office forms and equipment, the use of computers for billing, calendaring and document management.
Prerequisites: LEGL 111, LEGL 211 *3 credits*

LEGL 343: Computers in the Law
A course designed to introduce legal assistants and other legal professionals to the use of computers in the legal field, preparing them to use computer skills in the legal environment.
Prerequisite: CIS 170, 171, 172, or CIS 150, or instructor's permission; LEGL 111, LEGL 211.
3 credits

LEGL 345: Trial Preparation and Procedure
An overview of the litigation process including pleadings, third-party practice, discovery, the presentation of evidence at trial and the rules of evidence, and post-trial practice.
Prerequisites: LEGL 111, LEGL 211 *3 credits*

LEGL 390-394: Special Topics in Legal Studies
Prerequisites: LEGL 111, LEGL 211 *1-3 credits*

LEGL 495: Legal Studies Internship
Placement in a law office, legal department, public legal institution, financial, institution, or insurance company. Students may take 2 internships.
Prerequisites: LEGL 111, LEGL 211, LEGL 212, Instructor Permission *1-6 credits*

Note: Interns should have substantially completed their studies. A grade point average of 2.25 in all paralegal courses or permission of the Program Director is required for enrollment.

Legal Studies/Paralegal

Four Year Curriculum

FIRST YEAR

	First Semester		*Second Semester*
3	College Composition/LENG 111	3	Critical Analysis & Comp/LENG 112
1	Legal Studies/LEGL 105	3	Sacred Scriptures/LTHE 121
3	Legal Studies/LEGL 111	3	PC Applications/CIS 170-172 or Business Tech 1/CIS 150
3	Modern Language		
3	Legal Studies/LEGL 211	3	Modern Language

2	First-Year Seminar/LEGL 100	3	Legal Studies/LEGL 212
3	Hist of West & World/LHST 111		
18		15	

SECOND YEAR

First Semester		*Second Semester*	
3	Literature Series/LENG	3	Fine Art Series/LFIN
3	Theology II Series/LTHE	3	Introduction to Philosophy/LPHI 131
3	Poli Sci/POLI 111	3	Legal Studies/LEGL 343
3	Speech/SPCH 111	3	Poli Sci/POLI 122
3	Math/MATH 110, 111, 114 or 125	3	Psychology/PSYC 111
		3	Legal Studies/LEGL 345
15		18	

THIRD YEAR

First Semester		*Second Semester*	
3	Philosophy II Series/LPHI	3	LS Science
3	Legal Studies/Elective	3	Legal Studies Elective
3	Legal Environ of Bus/BCOR 203	6	Cognate
6	Cognate	1	Leadership Seminar
		3	Theology or Phil III Series/LTHE or LPHI
15		16	

FOURTH YEAR

First Semester		*Second Semester*	
6	Legal Studies Elective	3	Senior Seminar/LBST 383
6	Cognates	3	Legal Studies/LEGL 495
4	Elective	3	Legal Studies Elective
		6	Cognate
16		15	

Two and four year students should take LEGL 111 & 211 in the same semester.

**PC Applications exam may be taken. If passed, CIS 170-172 or CIS 150 may be waived.*

***Cognates may include additional legal services courses and such other courses as approved by a program advisor.*

Legal Studies/Paralegal

Two Year Curriculum

FIRST YEAR

First Semester		*Second Semester*	
3	College Composition/LENG 111	3	Crit Analysis & Comp/LENG 112
3	Sacred Scriptures/LTHE 121	3	Hist of West & World/LHST 111
2	First-Year Seminar/LEGL 100	3	Legal Studies/LEGL 212
3	Legal Studies/LEGL 111	3	Legal Studies/Elective
3	Legal Studies/LEGL 211	3	PC Applications/CIS 170-172 or testing
3	Political Science/POLI 111	1	Legal Studies/LEGL 105
		1	Speech
17		17	

SECOND YEAR

First Semester		*Second Semester*	
3	Introduction to Philosophy/LPHI 131	3	Theology or Phil III Series/LTHE or LPHI
6	Legal Studies/Electives		

9	Cognates	3	Legal Studies/LEGL 495
		3	Legal Studies/LEGL 343
		3	Legal Studies/LEGL 345
		3	Cognates
18		15	

**Cognates may include additional legal service courses and such others as approved by a program advisor.*

***PC Applications exam may be taken. If passed. CIS 170-172 may be waived.*

LIBERAL ARTS

ELLIE WALSH, Ph.D., *Program Director*

Individualized Studies Program

This interdisciplinary program allows students to design their own curriculum based on personal preference and career goals. It leads to a B.A. degree. With Program Director approval, students can select courses from two (Option A) or three (Option B) separate disciplines from the programs listed below.

This program provides the flexibility to explore historical, social and cultural perspectives while also considering the problems and issues of contemporary society. Career preparation comes from choosing appropriate courses that foster administrative skills (researching, critical thinking, organizing, planning, creating, decision-making, oral and written proficiency). The program's capstone course can be from any of the selected disciplines or it can be designed by the student in consultation with the Program Director and the appropriate Dean.

Students always work in close consultation with the Program Director.

Career opportunities can include communications, media advertising, professional writing, government service, law school, banking, insurance, science, language and a host of other specializations depending on the chosen discipline.

Students will meet with the Program Director, draft a tentative course of study and submit it to the appropriate Dean for approval. From the electives available, students are strongly encouraged to earn a minor to complement their major discipline. The Program Director will coordinate each student's program with faculty chosen from the fields of concentration.

1. The course work in the area of concentration is to be distributed in accordance with one of the following options:

   Option A:
   Thirty-nine *upper level credits* in two of the following fields; distributed as follows: 24 in a major area and 15 in a secondary area.

Business	English	History	Psychology
Communications	Fine Arts	Legal Studies	Social Work
Criminal Justice	Foreign Languages & Culture	Philosophy	Sociology
Theatre and Com/Art		Political Science	Theology
Education			

   Option B:
   Option B requires 42 upper level credits. Thirty of them will be from two of the fields listed above (18 credits in one: 12 from another). The final 12 credits can be completed in any program or department in the University. Students are encouraged to use this option to earn a minor related to their career.

2. *Core of Discovery:* All courses taken in fulfillment of either option are in addition to the requirements of the core as specified for the Bachelor of Arts degree.
3. Speech (3 credits), Math (3 credits) and Foreign Language (6 credits) are required.

Liberal Arts Curriculum

(Numerals in front of courses indicate credits)

	FRESHMAN		
	Fall		*Spring*
2	First-Year Seminar	3	Crit Analysis & Comp/LENG 112
3	College Composition/LENG 111	3	Intro to Philosophy/LPHI 131
3	Hist of West & World/LHST 111	3	Foreign Language
3	Fund of Speech/SPCH 111	3	Elective in Concentration
3	Sacred Scriptures/LTHE 121	3	Elective
3	Foreign Language		
17		15	
	SOPHOMORE		
	Fall		*Spring*
3	Theology II Series/LTHE	3	Philosophy II Series/LPHI
3	Literature Series/LENG	3	Social Science
3	Elective in Concentration	6	Elective in Concentration
3	Elective	3	Elective in Secondary Concentration/ Minor
3	Elective in Secondary Concentration/ Minor	3	Elective
15		18	
	JUNIOR		
	Fall		*Spring*
3	Fine Art Series/LFIN	3	Theology or Phil III Series/LTHE or LPHI
3	Natural Science	1	Leadership Seminar
3	Elective	3	Math
3	Elective in Secondary Concentration/ Minor	3	Elective in Concentration
6	Elective in Concentration	3	Elective in Secondary Concentration/ Minor
		3	Elective
18		16	
	SENIOR		
	Fall		*Spring*
3	Elective in Concentration	3	Senior Seminar/LBST 383
3	Elective in Secondary Concentration/ Minor	3	Elective in Concentration
8	Elective	9	Elective
14		15	

Total credits: 128

LIBERAL ARTS ASSOCIATE

ELLIE WALSH, Ph.D., *Program Director*

The Associates Degree in Liberal Arts is designed to provide the student with a general education consisting of courses in English language and literature, philosophy, theology, fine

arts, and the social and the natural sciences. This curriculum includes courses that help the student to acquire the habits and skills needed for the pursuit of knowledge, to learn the methods of research, to understand ideas, to think critically, to interpret and evaluate judgments, and to communicate them to others.

Objectives:

1. To enable the students to develop an appreciation for their own natures as well as to recognize their social and political responsibilities.
2. To provide higher education to responsible adults whose positions will be enhanced by their continued education.
3. To provide advanced study that will enhance the student's intellectual enrichment and fulfillment.
4. To fulfill the requirements of an associate degree program at Gannon University.
5. To fulfill the requirements for admission to third year status in selected baccalaureate degree programs.
6. To allow students to choose special interest electives in selected baccalaureate programs within the University.

Liberal Arts Curriculum

	FRESHMAN		SOPHOMORE
2	First-Year Seminar	3	Literature Series/LENG
3	English Composition/LENG 111	3	Fine Art Series/LFIN
3	Crit Analysis & Comp/LENG 112	3	Theology II Series/LTHE
3	Introduction to Philosophy/LPHI 131	3	Philosophy II Series/LPHI
3	Sacred Scripture/LTHE 121	3	Theology or Phil III Series/LTHE or LPHI
3	LS Science		
6	Electives	3	Social Science Series
3	Psychology/PSYC 111	3	MATH 125 or any other math
3	Sociology/SOCI 110	9	Electives
3	Hist of West & World/LHST 111		
3	Speech/SPCH 111		
35		30	

MILITARY SCIENCE

LIEUTENANT COLONEL BRADLEY NADIG, *Chairperson*

FACULTY: *Professor of Military Science:* Lieutenant Colonel Bradley Nadig. *Assistant Professor:* Captain Matthew Day, Captain William Velez. *Instructors:* Master Sergeant Anthony Madden, Sergeant First Class Brad Owen, Raymond Patterson, Sergeant First Class Christopher Popa, Frank Rand.

General Information:

The Military Science Program is open to both male and female students. Freshman and sophomores incur NO OBLIGATION to the U.S. Army by enrolling in the Reserve Officers' Training Corps (ROTC) program Basic Course. Additionally, military science courses are free of charge to all full-time students (minimum of 12 credits, excluding military science courses) and earn academic credits which may apply towards graduation requirements. Those who desire to earn a commission as a Second Lieutenant in the United States Army, Army Reserve

or Army National Guard must sign a contract to enter the junior and senior year of the program known as the Advanced Course.

Aims and Objectives:

The primary purpose of the Department of Military Science is to develop the future officer leadership of the United States Army and to motivate young people to become better citizens. Students enrolled in the ROTC Program receive instruction in the fundamentals of leadership with emphasis on loyalty, duty, respect, selfless service, honor, integrity, and personal courage.

Army ROTC is one of the best leadership courses in the country. During classes, leadership labs, physical training and field training exercises, students learn firsthand what it takes to lead others, motivate groups and conduct missions as an Officer in the United States Army.

Program of Instruction:

The Department of Military Science offers both a four-year and two-year program of instruction. Students begin the Military Science program during their freshman year, but may enter as late as their junior year.

a. **Four-Year Program.** This program consists of the Basic Course (freshman and sophomore years) and the Advanced Course (junior and senior years). During the Basic Course, students must complete four courses (two credit hours each) and four labs (one credit hour each).

   The courses provide a general knowledge of the U.S. Army (to include career opportunities), develop selected leadership traits, such as poise and self-confidence, and teach basic military skills. Entry into the Advanced Course requires completion of the Basic Course. During the Advance Course, students qualify for a U.S. Army commission, by completing four courses (two credit hours each) and four labs (one credit hour each), and attending the Leader Development and Assessment Course (LDAC) at Fort Lewis, Washington between their junior and senior academic years. During the school year, students in the Advanced Course receive a non-taxable subsistence allowance of $450 per month for juniors and $500 for seniors.

b. **Two-Year Program.** This program allows direct entry into the Advanced Course via these methods:
   (1) Junior ROTC graduate.
   (2) Attend the Leader's Training Course (a four week program completed during the summer at Fort Knox, Kentucky).
   (3) Complete Basic Training through one of the Armed Forces.

c. **Professional Military Education.** Whether the student chooses the four-year or two-year program, all ROTC students must pass a military history course prior to commissioning as a second lieutenant.

Financial Assistance

ROTC merit based scholarships that pay full tuition and fees ($1,200 annual book fees) plus $300-$500 per month non-taxable subsistence allowance for ten months each school year. All four-year scholarship recipients also receive a room and board incentive. Scholarships are available on a competitive basis to include grade point average, physical fitness, medical condition, and legal records. Advancing freshman and sophomores may compete for three and two-year scholarships respectively, regardless of current ROTC participation. There are also multiple scholarship and financial assistance opportunities through the United States Army Reserves and the Army National Guard specifically for ROTC.

Military Science Student Activities

Military Science cadre and staff encourage students to participate in college and civic activities. Military Science students are afforded the opportunity to visit selected government facilities (military bases, federal law enforcement facilities, and medical facilities). The Ranger Challenge Competition, considered a varsity sport, is one of the most challenging activities offered through the Military Science Department. The 10 person team competes in various activities to include a physical fitness test, a 10 kilometer ruck march, the one-rope-bridge, a hand-grenade assault course, and an orienteering competition. The color guard is a student run organization that presents the national and state colors in uniform at freshman commencement, graduations, sporting events, and other special functions.

A suggested Military Science Curriculum

FRESHMAN

Fall Semester	Spring Semester
MLTS 101	MLTS 102
MLTS 103	MLTS 104

SOPHOMORE

Fall Semester	Spring Semester
MLTS 201	MLTS 202
MLTS 203	MLTS 204

JUNIOR

Fall Semester	Spring Semester
MLTS 301	MLTS 302
MLTS 303	MLTS 304

SENIOR

Fall Semester	Spring Semester
MLTS 401	MLTS 402
MLTS 403	MLTS 404

Leadership Lab should be taken each semester. 1 credit each semester.

COURSE DESCRIPTIONS:

MLTS 101: Leadership and Personal Development
This course introduces students to the personal challenges and competencies that are critical for effective leadership. Students learn how the personal development of life skills such as critical thinking, goal setting, time management, physical fitness, and stress management relate to leadership, officership, and the Army profession. The focus is on developing basic knowledge and comprehension of Army leadership dimensions while gaining a big picture understanding of the ROTC program, its purpose in the Army, and its advantages for the student.
Corequisite: MLTS 103 *2 credits, Fall*

MLTS 102: Introduction to Tactical Leadership
This course overviews leadership fundamentals such as setting direction, problem-solving, listening, presenting briefs, providing feedback, and using effective writing skills. Students explore dimensions of leadership attributes and core leader competencies in the context of practical, hands-on, and interactive exercises. Cadre role models and the building of stronger relationships among the students through common experience and practical interaction are critical aspects of the MLTS 102 experience.
Corequisite: MLTS 104 *2 credits, Spring*

MLTS 103 & MLTS 104: Leadership Labs
Courses supplement instruction in MLTS 101 and MLTS 102. Students participate as a member of a team analyzing leadership styles and practices in a variety of situations.
Corequisite for MLTS 103: MLTS 101
Corequisite for MLTS 104: MLTS 102 *1 credit, Fall, Spring*

MLTS 201: Innovative Team Leadership
This course explores the dimensions of creative and innovative tactical leadership strategies and styles by examining the team dynamics and two historical leadership theories that form the basis of the Army leadership framework (trait and behavior theories). Students practice aspects of personal motivation and team building in the context of planning, executing, and assessing team exercises and participating in leadership labs. Focus is on continued development of the knowledge of leadership attributes and core leader competencies through an understanding of Army rank, structure, duties and basic aspects of land navigation and squad tactics. Case studies provide tangible context for learning the Soldier's Creed and Warrior Ethos as they apply in the contemporary operation environment (COE).
Prerequisites: MLTS 101, 102, 103, 104
Corequisite: MLTS 203 *2 credits, Fall*

MLTS 202: Foundations of Tactical Leadership
This course examines the challenges of leading tactical teams in the complex contemporary operating environment (COE). The course highlights dimensions of terrain analysis, patrolling, and operation orders. Further study of the theoretical basis of the Army Leadership Requirements Model explores the dynamics of adaptive leadership in the context of the military operations. MLTS 202 provides a smooth transition in MLTS 301. Students develop greater self awareness as they assess their own leadership styles and practice communication and team building skills. COE case studies give insight into the importance and practice of teamwork and tactics in real-world scenarios.
Prerequisite: MLTS 201
Corequisite: MLTS 204 *2 credits, Spring*

MLTS 203 & MLTS 204: Leadership Labs
Courses supplement instruction in MLTS 201 and MLTS 202. Students will apply the leadership and management skills learned during classroom instruction in order to develop individual competence and confidence in their own leadership abilities.
Corequisite for MLTS 203: MLTS 201
Corequisite for MLTS 204: MLTS 202 *1 credit, Fall, Spring*

MLTS 205: Leader's Training Course
This is a four-week summer leadership course at Fort Knox, Kentucky sponsored by the U.S. Army Cadet Command. The course is for students who have not previously taken the required ROTC courses during their freshman and sophomore years and who wish to contract with the ROTC program at the start of their junior year. The course focuses on basic soldier skills to include an obstacle course, water survival, M-16 rifle marksmanship, squad tactics, and leadership evaluations. Students attending this course must be academically aligned as a junior at the start of the fall semester after LTC. Students are required to visit the ROTC Department prior to signing up for the course. *3-6 credits, Summer*

Advanced Course
Entrance into the advanced course is required by the completion of the following: 1) Army ROTC Basic Course, 2) Basic Training, 3) MLTS 205.

MLTS 301: Adaptive Team Leadership
This course challenges Cadets to study, practice, and evaluate adaptive leadership skills as they are presented with challenging scenarios related to squad tactical operations. Cadets receive systematic and specific feedback on their leadership attributes and actions. Based on such feedback, as well as their own self-evaluations, Cadets continue to develop their

leadership and critical thinking abilities. The focus is developing Cadet's tactical leadership abilities to enable them to succeed at ROTC's summer Leadership Development and Assessment Course (LDAC) at Fort Lewis, Washington.
Prerequisites: MLTS 201, 202 or 205,
Corequisite: MLTS 303 *2 credits, Fall*

MLTS 302: Applied Team Leadership
This course uses increasingly intense situations while applying team leadership challenges to build Cadet awareness and skills in leading tactical operations at the small unit level. Cadets review aspects of full spectrum operations. They also conduct military briefings and develop proficiency in the operation orders process. The focus is on exploring, evaluating, and developing skills in decision-making, persuading, and motivating team members in the contemporary operation environment (COE). MSL 302 Cadets are evaluated on what they know and do as leaders as they prepare to ROTC's summer Leader Development and Assessment Course (LDAC) at Fort Lewis, Washington.
Prerequisite: MLTS 301
Corequisite: MLTS 304 *2 credits, Spring*

MLTS 303 & MLTS 304: Leadership Labs
The student implements the plans and orders created as part of Advanced Leadership Management I & II. The student will be evaluated on how he or she handles the changing situations, personalities and environments encountered during the labs.
Corequisite for MLTS 303: MLTS 301
Corequisite for MLTS 304: MLTS 302 *1 credit, Fall, Spring*

MLTS 401: Adaptive Leadership
This course transitions the focus of student learning from being trained, mentored and evaluated as an MSL II Cadet to learning how to train, mentor and evaluate underclass Cadets. MSL IV Cadets will learn the duties and responsibilities of an Army staff officer and apply the Military Decision Making Process, Army writing style and the Army's principles of training and training management cycle during weekly training meetings to plan, execute and assess battalion training events. Cadets will learn about the special trust proposed by the U.S.
2 credits, Fall

MLTS 402: Leadership in a Complex World
This course explores the dynamics of leading in the complex situations of current military operations in the contemporary operating environment. Cadets examine differences in customs and courtesies, principles of war, and rules of engagement in the face of international terrorism. They also explore aspects of interacting with non-government organizations, civilians on the battlefield, and host nation support. The course places significant emphasis on preparing Cadets for their first unit of assignment. It uses case studies, scenarios, and "What Now, Lieutenant?" exercise to prepare Cadets to face the complex ethical and practical demands of leading as commissioned officers in the United States Army.
Prerequisite: MLTS 401
Corequisite: MLTS 404 *2 credits, Spring*

MLTS 403 & MLTS 404: Leadership Labs
Cadets plan and execute special training activities throughout the academic year. These courses are taken concurrently with MLTS 401 and 402.
Prerequisites: Enrollment in MLTS 401 and 402 *1 credit, Fall, Spring*

MORTUARY SCIENCE

PARRIS BAKER, Ph.D., MSSA, *Program Director*

Of all human experiences, none is more overwhelming in its implications than death. Presently, the number of openings for funeral directors, embalmers, and other funeral personnel exceeds the number of graduates in the mortuary science field, thereby providing a wealth of employment opportunities. The study of death and how individuals and our larger society prepare for this life event is filled with questions that are rooted at the center of our human experience.

This journey of professional and personal discovery is multidisciplinary. Gannon University's mortuary science curriculum is taught by a variety of professors from biology, business, psychology, sociology, social work, and health sciences. As a BS student in the Gannon University Mortuary Science Program you will receive excellent instruction, completing the first three years of your education at Gannon University and your fourth year at Pittsburgh Institute of Mortuary Science or another licensed institution of your choice.

COURSE DESCRIPTIONS:

MORT 211: Introduction to Gerontology
An overview of the study of gerontology. Examines aging in America, stereotypes, theories on aging, adult development, work and living environments, and selected problems of the elderly. This course has a service-learning component. *3 credits, Fall*

MORT 221: Human Behavior and the Social Environment I
This is the introductory course to understanding human behavior from a multidimensional, biopsychosocial approach. Here we focus on the social environment and apply theoretical frameworks in order to put human behavior into perspective. In this course, students begin to study the person from a biological perspective, looking at the major systems of the human body. We also examine the psychological and sociological theories and knowledge by looking at cognition, emotion, the self as well as stress and coping. This course examines the impact of culture, spirituality, the physical environment and social institutions in shaping human behavior. Finally, this course addresses different sized social systems from formal organizations, communities, groups and the family. Students begin to see how social systems promote or defer health and well being. *3 credits*

MORT 316: Counseling Older Adults
This course will identify various areas impacting lives of the "young" old, "middle" old, and the "old" old. Misconceptions, stereotypes, and biases toward the aging process will be explored. The course focuses on assessment, counseling interventions, and techniques designed to enrich the world of the mature adult and their families. *3 credits*

MORT 360: Interviewing Skills
This course introduces students to the basic interpersonal helping skills using a problem solving model. Students are expected to demonstrate understanding of the relationship of interpersonal skills to social work practice and to demonstrate initial mastery of the helping skills. *3 credits*

MORT 390: Professional Lecture Series
Selected topics presented by professionals in the field. *3 credits*

Mortuary Science Curriculum

(Numerals in front of courses indicate credits)

	FRESHMAN		
	Fall		*Spring*
3	College Composition/LENG 111	3	Crit Analysis & Comp/LENG 112
4	Anat. & Phys. I & Lab/BIOL 108/109	4	Anat. & Phys. II & Lab/BIOL 110/111
3	MATH	3	Hist of West & World/LHST 111
3	Introduction to Philosophy/LPHI 131	3	Speech/SPCH 111
3	Business Tech I/CIS 150	3	Sacred Scripture/LTHE 121
2	First-Year Seminar		
18		16	
	SOPHOMORE		
	Fall		*Spring*
3	Theology II Series/LTHE	3	Financial Acct/BCOR 201
3	Business/Legal Environ/BCOR 203	3	Bus/Prof Comm/ENGL 212
3	BCOR 241 or BCOR 311 or BCOR 251	3	Language
3	Philosophy II Series/LPHI	3	Managerial Acct/BCOR 202
3	Intro to Gerontology/GERO 211	3	Theology/Philosophy III Series LTHE/LPHI
3	Language		
		1	Leadership Seminar
18		16	
	JUNIOR		
	Fall		*Spring*
3	Literature Series/LENG	3	Death & Dying & Bereavement, Capstone/GERO 400
3	Fine Art Series/LFIN		
3	Interviewing Skills/SCWK 360	3	Biomedical Aspects of Aging/ GERO 315
3	Mental Health of Elderly/GERO 336		
3	Human Behavior in the Social Environment I/SCWK 221	3	Prof Lecture Series/MORT 390
		3	Human Behavior in the Social Environment II/SCWK 222
		3	Introduction to Psychology/ PSYC 111
15		15	

**Gannon will grant 30 credits for successful completion of technical studies in a licensed mortuary school.*

98 credits – Gannon
30 credits – Mortuary School
128 credits – Total

PHILOSOPHY

MICHAEL LATZER, PH.D., *Chairperson*

FACULTY: *Professor:* Thomas Upton. *Associate Professors:* William Haggerty, Michael Latzer. *Assistant Professor:* David Nordquest.

Aims and Objectives:

Philosophy is the love and pursuit of wisdom. An essential part of a person's education should be the serious and personal exploration of the "ultimate questions"—issues of human nature and human destiny, of how we should live, of the nature of the world around us, and of the being and nature of God on whom we are dependent for our existence.

Human beings cannot be satisfied with merely knowing the "what" of things happening around them; they want to understand the "why" of the human condition. In studying philosophy students not only experience major philosophers at work on these important human issues, but they also participate in this activity by developing their own skills for creative thinking, rational argument, and responsible judgment.

Philosophy is studied for its own intrinsic value, since, as Socrates said, "the unexamined life is not worth living." Nevertheless, the study of philosophy can also lead to successful careers as well. It is very suitable preparation for careers in law, journalism, government, politics, teaching, religion, and counseling.

Students who are majoring in philosophy are obliged to take a minimum of ten upper level courses (30 credits). The following nine courses are obligatory: (a) the entire history of philosophy cycle – PHIL 271: Ancient Philosophy; PHIL 273: Medieval Philosophy; PHIL 280: Modern Philosophy; PHIL 286: Contemporary Philosophy; (b) PHIL 210/212: Logic; (c) LPHI 131: Introduction to Philosophy; (d) PHIL 233: Philosophy of God; (e) PHIL 237: Philosophy of Ethical Responsibility; (f) PHIL 400: Honors Seminar. The tenth required course may be chosen with the advice of the department among the other upper level philosophical courses. Those majoring in philosophy are encouraged to take more than the minimum ten courses, especially if they are intending to continue to work in philosophy in graduate school.

Those who are majoring in philosophy, of course, must take the requirements of the Core of Discovery Program. Thus if they take LPHI 233, 235, 237, 239, they are fulfilling what above was designated as the required courses: PHIL 233, 235, 237, and 239 respectively.

A major in philosophy at Gannon University is obliged to take eight prescribed cognates (24 credits).

Students may have to take beginning and/or intermediate language courses depending on their background. Students will also be encouraged to take a course in a classical language.

COURSE DESCRIPTIONS:

LPHI 131: Introduction to Philosophy is a prerequisite for all Philosophy Courses.

LPHI 131: Introduction to Philosophy
An introduction to the study of philosophy. Beginning with the dawn of philosophical awareness among the ancient Greek philosophers, the course surveys both traditional and modern approaches to the philosophical understanding of the human condition. *3 credits*

PHIL 210: Logic
An introduction to the theory and practice of good reasoning. Students learn practical techniques for constructing and evaluating arguments, based on both traditional Aristotelian logic and modern formal logic. *3 credits*

PHIL 212: Contemporary Symbolic Logic
An introductory course in deductive reasoning using the methods of symbolic formal logic. *3 credits*

PHIL/SPCH 225: Philosophy of Communication
An analysis of the epistemological foundations underlying all forms of communicative processes from individual gestures to the electronic world-wide media. *3 credits*

PHIL 233: Philosophy of God (also listed as LPHI 233)
An introduction to the philosophical study of God, based largely on the tradition of Christian philosophy. Some of the topics may include: the concept of God; the evidence for God's existence; the meaningfulness of religious language; analysis of God's attributes, such as omnipotence and omniscience; the possibility of miracles; life after death; the problem of

reconciling divine foreknowledge and human freedom; and the problem of reconciling the existence of a loving God with the world's evils. *3 credits*

PHIL 235: Philosophy of Knowledge, Certitude and Truth (also listed as LPHI 235)
A study of the possibility and validity of human knowledge, together with the criteria of truth. *3 credits*

PHIL 237: Philosophy of Ethical Responsibility (also listed as LPHI 237)
The subject matter of ethics is "the good life and how to live it." Students will examine a variety of influential approaches to ethics, and will gain skill in applying ethical theory both to practical ethical issues in daily life, and to some of the urgent ethical issues in contemporary society. *3 credits*

PHIL 238: Business Ethics
Business dealings are subject to the same norms and criteria which govern other human activities. This course analyzes the ethical dimensions of business transactions and consumerism, addressing itself to such problems as profits, advertising, free enterprise, discrimination, trade secrets, unions, and bribery.
Prerequisites: LPHI 131 and PHIL 237 *3 credits*

PHIL 239: Philosophy of Science (also listed as LPHI 239)
A philosophical survey of the various understandings of science and scientific method. Students will examine the role philosophy has played in formulating and critiquing models of scientific investigation, and will pay attention to the impact science has had on religion, society, and views of human nature. *3 credits*

PHIL 240: Philosophy of Education
A critical examination of the goals and methods of education, especially as they relate to ethics and politics. Readings will be drawn from historical philosophers, such as Plato, Aristotle, Rousseau and Dewey as well as contemporary philosophical analysis of educational institutions. *3 credits*

History of Philosophy Cycle
Attention should be paid to the fact that the history of philosophy is expounded systematically in a four semester cycle with one of the histories of philosophy being offered in each semester.

PHIL 271: History of Ancient Philosophy
A critical presentation of the rise of Western Philosophy in Greece in the seventh century before Christ and its development in the fourth century B.C. up to the third century of the Christian era. *3 credits*

PHIL 273: History of Medieval Philosophy
A study of Augustine and the great synthesis of Thomas Aquinas, analyzed in the context of the philosophic-theological intellectual atmosphere of the thirteenth century. Non-Thomistic syntheses of Bacon, Bonaventure, and Duns Scotus are evaluated. Then the decline of scholasticism is studied with emphasis on Ockham, Suarez and the Electives. *3 credits*

PHIL 280: History of Modern Philosophy
A critical presentation of philosophers and philosophical trends from the Italian Renaissance of the XV century to the early XIX century. *3 credits*

PHIL 286: History of Contemporary Philosophy
A survey of some of the most important philosophical movements and thinkers of the late-nineteenth and twentieth centuries, both in the Anglo-American and the Continental traditions. *3 credits*

PHIL 290: Philosophy & Law
A discussion of the philosophical foundations of law and an investigation into the scope of legal philosophy. Questions such as: what is law? what is a legal system in a society? do the

criteria for the existence of law include a moral element? how shall legal obligations be understood? will be discussed. In addition, the relationship between law and morality, and the common good must be reviewed. *3 credits*

PHIL 295: Oriental Philosophy
The philosophies of the East are attempts to answer ultimate questions about the universe & human life. The primary aim of the course is an exposition of the various schools/systems & their inherent disciplines i.e. metaphysics, epistemology, ethics, aesthetics, & social philosophy. We will also compare Eastern & Western thinking by way of tradition & contemporary thinkers. *3 credits*

PHIL 345: Philosophy of History
Critical examination of the philosophers of history and their concern with the nature of history and the meaning of historical knowledge. *3 credits*

PHIL 350: Introduction to Metaphysics
The nature of metaphysics as the study of being is examined in the philosophy of Aristotle and Thomas Aquinas. The study of essence and existence, potency and act, substance and accident, matter and form, is developed systematically. *3 credits*

PHIL 365: Modern Existentialism
"Existentialism" refers to those modern philosophies concerned with the meaning of human existence, the experience of anxiety and absurdity, and the problem of personal responsibility. Typical philosophies and literary works studied in the course include those of Kierkegaard, Nietzsche, Camus, Sartre, Marcel and Heidegger. *3 credits*

PHIL 383: American Philosophy
An investigation of the contributions made by American thinkers to traditional philosophical problems and the interrelationship of American ideas and American life. *3 credits*

PHIL 390-394: Special Topics in Philosophy *1-3 credits*

PHIL 395-399: Independent Study in Philosophy *1-3 credits*

PHIL 400: Honors Seminar in Philosophy
Every other spring semester, a member of the philosophy department conducts a special seminar on an individual philosopher or philosophic trend or theme in depth, using primary sources and allowing time for deeper discussion and analysis that enhances an intellectual insight. The specific topics are announced prior to registration for the coming semester.
3 credits, Spring

PHILOSOPHY MINOR

Completion of the following courses (15 credits) will satisfy the requirement for a minor in Philosophy.

3	Introduction to Philosophy/LPHI 131
3	Philosophy of God, Knowledge, Ethics or Science/PHIL 233, 235, 237, or 239
9	May be taken in any Philosophy courses 200 level or above
15	credits

Philosophy Curriculum (128 credits)

	1st Semester - Freshman		*2nd Semester - Freshman*
3	College Composition/LENG 111	3	Critical Analysis & Comp/LENG 112
3	Introduction to Philosophy/LPHI 131	3	Hist of West & World/LHST 111
3	Sacred Scriptures/LTHE 121	3	Natural Science
3	Speech/SPCH 111	6	Elective

3	Introduction to Psychology/PSYC 111		
2	First-Year Seminar		
17		15	
	1st Semester - Sophomore		*2nd Semester - Sophomore*
3	Philosophy of God/LPHI 233	3	Philosophy of Knowledge/LPHI 235
3	Theology II Series/LTHE	3	Philosophy of Science/LPHI 239
3	Psyc of Human Development/PSYC 222	3	Literature Series/LENG
3	Advanced Composition/ENGL 211	3	Cultural Anthropology/SOCI 292 or Political Theory I/POLI 360
6	Elective		
		3	Math
18		15	
	1st Semester - Junior		*2nd Semester - Junior*
3	Philosophy of Ethical Responsibility/LPHI 237	3	Medieval Philosophy/PHIL 273
3	Logic/PHIL 210	3	Modern Philosophy/PHIL 280
3	Ancient Philosophy/PHIL 271	3	Language/FREN 216 or GRMN 216
3	Language/FREN 211 or GRMN 211	6	Elective
3	Fine Art Series/LFIN		
1	Leadership Seminar		
16		15	
	1st Semester - Senior		*2nd Semester - Senior*
3	Senior Seminar/LBST 383	3	Philosophy Honors Seminar/PHIL 400
11	Elective	12	Elective
3	History of Contemporary Phil/PHIL 286		
17		15	

10 Upper Level Philosophy Courses 30 hrs.

POLITICAL SCIENCE

MARK A. JUBULIS, Ph.D., *Program Director*

FACULTY: *Professors:* Mark A. Jubulis, David C. Kozak, Thomas Ostrowski, Anjali Sahay. *Lecturer:* Gretchen Fairley.

Objectives:

The Department of Political Science offers an undergraduate program leading to the Bachelor of Arts degree. The program is designed to provide a broad and solid foundation in Political Science, Political Analysis, International Affairs, and Policy Studies to help students develop knowledge and skills in preparation for a professional career in the public, private, or not for profit sectors.

The emphasis is upon the development of specific skills necessary for Leadership, management, planning, and evaluation of government programs; upon providing a comprehensive understanding of policy-making and policy-implementation within a local, national, or global context; and upon the preparation for individuals interested in further professional education at graduate or law school.

Career Opportunities

Individuals with a Bachelor's Degree in Political Science may qualify for administrative and

management trainee positions in such fields as legislative and policy research, public relations, personnel work, budget analysis, security investigation, etc. Employment opportunities also include such professional careers as college and university teaching, law, city management, urban planning, public administration, policy research and analysis, foreign service and many other careers with local, national and international organizations both public and private.

COURSE DESCRIPTIONS:

POLI 101: Orientation
A required orientation program for freshman Political Science and Pre-Law concentrators.
NC/Fall

POLI 111: U.S. Government and Politics
Constitutional foundations of U.S. Government; structure and functions of Congress, the Presidency, the judiciary; administrative institutions and processes, interest groups and political parties; political behavior, and the electoral process. *3 credits, Fall/Spring*

POLI 122: Public Policy Analysis
Principles and practices of policy analysis; emphasis on current national policy issues.
3 credits, Fall/Spring

POLI 133: Introduction to International Relations
Introduction to the nature of international relations, focusing on the role of the state and international institutions; the role of ideology and culture in international affairs; and the nature of the world economy and the process of globalization. *3 credits*

POLI 210: Bureaucracy and Public Administration
Principles and practices of public administration in modern society with a special attention to the administration of the American Federal government. *3 credits*

POLI 220: Comparative Government
Principles of comparative political analysis; principles and features of selected European and other non-Western governmental systems. *3 credits*

POLI 260: Introduction to Law in Society
Introduction to legal institutions and processes; evolution of the American legal system; major substantive areas of law; legal reasoning and the adversarial process; and, the role of attorneys and courts in American society.
Cross listed with PLAW 111 *3 credits*

POLI 301: Leadership Studies I: Theory
Examines leadership theory, the differences between leadership and management, the skills necessary for successful leadership, and various styles of leaders. Students will become familiar with the "great books" of leadership, interact with practicing professionals, learn leadership lessons from the study of the American Presidency, and experience negotiation and creativity exercises. *3 credits*

POLI 302: Leadership Studies II: Skills
Builds on the theoretical study of leadership with an emphasis on practice and application. Students study leaders, systems analysis, planning, strategic thinking, and the requirements of community leadership. Students participate in exercises to increase skills in communication, media relations, and effective political leadership. *3 credits*

POLI 311: State and Local Government
Institutions and processes of state and local government with special focus upon Pennsylvania. *3 credits*

POLI 312: Parties and Political Behavior
The electoral and governmental functions of American political parties, with consideration given to party systems at national and local levels, and the study of campaigns and elections. *3 credits*

POLI 315: Congress and Legislative Process
The structure, functions and the role of Congress in both the policy process and the nation's political life. *3 credits*

POLI 317: The American Presidency
Institution, politics, personality, and policies of the president. *3 credits*

POLI 322-325: Regional Studies
Political structures and regional features of a select area of the world, such as Russia and Eastern Europe, the European Union, Latin America, Africa, or Asia. *3 credits*

POLI 331: Urban Politics and Public Policy
The American urban political process and public policy. Community structure and the distribution and use of power. *3 credits*

POLI 332: Comprehensive Urban Planning
Consideration of the economic, political and social determinants of comprehensive urban land use planning. *3 credits*

POLI 340: Theories of International Relations
Analysis of major theoretical approaches to study of international relations and evaluation of competing paradigms which claim to explain the nature of post-Cold War international relations. Prerequisite: POLI 133 *3 credits*

POLI 341: International Law and World Order
This course addresses contemporary issues in international law and world order. Course will enhance students' comprehension of topics such as human rights, genocide, non-proliferation, terrorism, international criminal court and other conflicts. *3 credits*

POLI 342: United Nations Practicum
This course covers the history, goals, principles, rules, procedures, and other institutions of the United Nations organization. Gannon's Model U.N. for High School students provides opportunities for experiential learning. Participation in Gannon Model UN is required. *3 credits*

POLI 343: U.S. Foreign Policy
Historical and intellectual foundations of contemporary U.S. foreign policy. *3 credits*

POLI 350: Constitutional Law and the Judicial Process
Processes of constitutional development and interpretation; the Judicial system; judicial review; the federal system; Presidency: office and powers; powers of Congress. *3 credits, Fall*

POLI 351: Civil Liberties and Civil Rights
Constitutional basis of civil liberties; freedom of speech and press; freedom of association, religious liberty and the separation of church and state; federal and state procedural due process; substantive due process; equal protection of the laws. *3 credits, Spring*

POLI 357: Legal Analysis and Persuasion
Legal analysis and persuasion will introduce the student to the fundamentals of legal thinking; including the critical examination of case law and other written materials. Applying this legal analysis, students will learn to persuade a targeted audience in both written and oral forms. Classroom exercises include briefs, mock appellate arguments and/or mock trial. Cross listed with PLAW 357 *3 credits*

POLI 360: Political Theory
The Classical and Christian tradition of political theory and philosophy. Reading and discussion of select works of Plato, Aristotle, St. Augustine, St. Thomas Aquinas and Machiavelli. Modern Political Theory and philosophy. Reading and discussion of select works, including writings of Hobbes, Locke, Rousseau, John Stuart Mill, and Marx. *3 credits*

POLI 390-394: Special Topics
Such as Strategic Thinking, National Nominating Conventions Field Experience, Presidential Campaigns and Elections, Nationalism and Ethnic Conflict, and Totalitarianism. *1-3 credits*

POLI 395-399: Independent Study *1-3 credits*

POLI 400: Political Analysis Senior Coordinating Seminar
The Coordinating Seminar is designed to enhance and integrate the student's comprehension of politics; and to develop further, critical and analytical skills in reading, writing and research. *3 credits*

POLI 490: Fieldwork and Internships I
Qualified individuals will be placed in internship positions with public officials, political organizations and governmental agencies particularly, not exclusively, in the local community. Students may also design, in consultation with the program director, an appropriate program of field research.
Prerequisite: Permission of Department. *3 credits, Fall*

POLI 491: Fieldwork and Internships II
Prerequisite: Permission of Department. *3 credits, Spring*

Semester or summer internships in Washington, DC are available to all majors for academic credit through Gannon's affiliation with the Washington Center. See Professor Jubulis or Cheryl Rink in the Center for Experiential Education for further details.

Political Science Curriculum

Liberal Studies Core Requirements: 39 credit hours

Program Requirements: Concentrators should successfully complete 36 credit hours in Political Science and 43 credit hours in cognate and elective subjects, including the following courses:

Freshman Orientation: POLI 101 (NC)

Introduction: POLI 111, 112, 133, 220

Upper Level Core:
POLI 360; 400, one of the following: POLI 321, 322, 340, 341 343 and one of the following: POLI 210, 260, 312, 315, 317, 350, 357.

Experiential Learning Component:
One of the following:
POLI 342, 490, or 491 - 3 credits.

Program Electives: 9 credits of upper level courses or
Internship Fieldwork, Independent Study of Intersession Courses.

Cognate Requirements: 33 credit hours including:
Social Science Cognates: 6 credit hours from
Economics/BCOR 111 or BCOR 112 or Sociology/SOCI 110 or Psychology/PSYC 111.
Statistics: 3 credits
Language: 6 credit hours in Language
History: 6 credit hours of HIST 221 and HIST 222

Unspecified Cognates: 12 credit hours.

Cognates may be taken in Political Science and/or related fields depending on the individual student's interests and career plans. In all cases students must have the approval of the Department in selecting cognate courses.

Electives: 14 hours

Legal Studies: Law and Politics

Students pursuing this track will take most of the required courses in the Political Science major, but will substitute 2 legal courses, Introduction to Law & Society and Legal Analysis & Persuasion, for 2 upper level Political Science courses.

Students who intend to go on to law school are encouraged to complete the Legal Studies Certificate. The certificate can be completed within the four year program by using those courses as the allowable cognates and electives offered in the Political Science Program. If the pre law school student does not want to complete the certificate, they are encouraged to take some of the Legal Studies courses so that they can learn skills that could enable them to find summer employment and/or part-time employment in legal settings. Some helpful courses would include Legal Research & Writing I and II, Public Records Research, and Computers in Law.

Political Science Curriculum

(Numerals in front of courses indicate credits)

FRESHMAN

	Fall		*Spring*
2	First Year Seminar	3	Crit Analysis & Comp/LENG 112
3	College Composition/LENG 111	3	Public Policy Analysis/POLI 122
3	Hist of West & World/LHST 111	3	Introduction to Psychology/ PSYC 111, Microeconomics/ BCOR 111 or Macroeconomics/ BCOR 112
3	Intro to Philosophy/LPHI 131	3	Basic Sociology/SOCI 110, Microeconomics/BCOR 111 or Macroeconomics/BCOR 112
3	Sacred Scriptures/LTHE 121	3	Intro to International Relations/ POLI 133
3	Intro to US Government/POLI 111		
0	Orientation/POLI 101		
17		15	

SOPHOMORE

	Fall		*Spring*
3	Fund of Speech/SPCH 111	3	Foreign Language
3	Theology II Series/LTHE	3	Literature Series/LENG
3	Philosophy II Series/LPHI	3	Comparative Government/POLI 220
3	Foreign Language	3	History of US 1865 to Present/ HIST 222
3	Math	3	Upper Level Political Science
3	History of US to 1865/HIST 221		
18		15	

JUNIOR

	Fall		*Spring*
3	Theology or Phil III Series/LTHE or LPHI	3	Fine Art Series/LFIN
3	Science	3	Political Theory/POLI 360
3	Statistics	3	Cognate
3	Upper Level Political Science	3	Upper Level Political Science
		6	Elective

3	United Nations Practicum/POLI 342		
1	Leadership Seminar		
16		18	
	SENIOR		
	Fall		*Spring*
3	Political Science Senior Seminar/ POLI 400	3	Senior Seminar/LBST 383
3	Upper Level Political Science	3	Upper Level Political Science
6	Elective	2	Elective
3	Cognates	6	Cognates
15		14	

Total credits: 128

Political Science/Public Administrative/Public Management
Five Year BA/MPA or MBA Program

Gannon University's Political Science Department in cooperation with Gannon's Graduate Center offers a special program for qualified undergraduates leading to a Bachelor of Arts Degree in Political Science and the Master of Public Administration Degree. Alternatively, students may elect to pursue a Bachelor of Arts in Political Science and a Master of Business Administration Degree with a public management focus. Both programs may be completed in five years of full time study of 158 credit hours.

The Gannon University – Duquesne School of Law, 3+3 Early Admissions Program has been designed for qualified students to earn an undergraduate and a law degree in six years rather than seven. Under the early admissions program students may receive a *Bachelors Degree in Political Science after three years of undergraduate work and the successful completion of the first year of full time study at the Duquesne School of Law.* The student would then receive their Law Degree after successful completion of the second year at Duquesne School of Law. Qualified students may wish to pursue this Political Science Program option.

POLITICAL SCIENCE MINOR

A minor in political science may be accomplished by taking the 6 credit foundations sequence - POLI 111 U.S. Government and either POLI 122 Public Policy, or POLI 133 Introduction to International Relations plus 12 credits in upper level courses. This minor is strongly recommended as preparation for teaching social studies and civics at the elementary and secondary levels. Students are encouraged to plan the minor in consultation with an advisor from the political science department. A Political Science minor also complements a major in Foreign Language and International Business.

THE NEXT STEP

Baccalaureate Degree program for Graduates of Two Year Colleges

Political Science/Pre-Law

(Numerals in front of courses indicate credits)

	Pre-Senior Year		*Senior Year*
3	US Government and Politics/POLI 111	3	Choice of (1): Comparative Govt/POLI 220, Far Eastern Govts/POLI 231, Regional Studies/POLI 322, International Relations/POLI 240, Int Law and Organization/POLI 341, US Foreign Policy/POLI 343
3	Public Policy Analysis/POLI 122		
9	Political Science Electives		
6	Modern Foreign Language		
3	Sacred Scripture/LTHE 121		
3	Introduction to Philosophy/LPHI 131		

3	Fine Art Series/LFIN	3	Political Theory I/POLI 360
3	Literature Series/LENG	3	Political Science/POLI 311, 312, 315, 317, 331 or 350
		3	Senior Coordinating Seminar/POLI 400
		6	Political Science Electives
		3	Senior Seminar/LBST 383
		3	Theology or Phil III Series/LTHE or LPHI
		1	Leadership Seminar
		9	Choice of (3): Social Psychology/SOCI 211, Intro to Psychology/PSYC 111, Microeconomics/BCOR 111, Macroeconomics/BCOR 112
33		34	

Students will be permitted to take other courses in substitution for any course listed above which they have satisfactorily completed prior to admission into the Next Step program. Students are required to complete 7-19 credits in the Core of Discovery. Students may transfer courses equivalent to Sacred Scripture, Introduction to Philosophy, the Literature Series and/or the Fine Arts Series. Students must take the Leadership Seminar, the Theology/ Philosophy III Series, and the Senior Seminar or approved capstone at Gannon.

All students graduating from the College of Humanities must have completed six credits of a Modern Foreign Language.

PRE-LAW

BERNADETTE AGRESTI, *Program Director*

FACULTY: *Hon.* Stephanie Domitrovich, *Atty.* Brian Krowicki.

Aims and Objectives:

The Association of American Law Schools recommends that a Pre-Law Program should be concerned with the development of basic skills and insights fundamental to the later attainment of legal competence. The quality of education called for should include:

A. comprehension and expression in words;

B. critical understanding of the human institutions and values with which the law deals; and

C. creative power in thinking.

According to the Association: "The development of these fundamental capacities is not the monopoly of any one subject-matter area, department or division. Rather, their development is the result of a highly individualized process pursued with high purpose and intensive intellectual effort by persons with at least a reasonable degree of native intelligence. Perhaps the most important variable ingredient of a proper climate for this process is the quality of undergraduate instruction. Certainly, it is not any particular course or combination of courses. Shortly stated, what the law schools seek in the entering students is not accomplishment in mere memorization but accomplishment in understanding, the capacity to think for themselves, and the ability to express their thoughts with clarity and force."

At Gannon University individuals expressing an interest in Pre-Law are initially placed in a sequence of courses in their Freshman and Sophomore years which introduce them to many

of the major fields within Gannon. During this period the student, in consultation with the Director of the Pre-Law Program, is encouraged to select a field of concentration and to plan a course of studies which seems best suited to his or her individual interests and attitudes and to the fulfillment of the objectives of the Pre-Law Program.

Students from any major may elect to pursue a Minor in Pre-Law Studies consisting in 18 credit hours of approved courses selected from Pre-Law and Cognate fields. Students may also choose to complete a Legal Studies Certificates.

GANNON UNIVERSITY – DUQUESNE SCHOOL OF LAW 3/3 EARLY ADMISSION

BERNADETTE AGRESTI, *Program Director*

ADVISORY COMMITTEE: Michael Agresti, Esq. *Hon.* Stephanie Domitrovich, Joseph Martone, Esq.

Gannon University in collaboration with Duquesne University School of Law offers a competitive, early admissions program for Pre Law students. This integrated partnership provides special academic opportunities for qualified students to earn both an undergraduate degree and a law degree in six years rather than seven. Under the early admissions program, students may receive a Bachelors Degree from Gannon University after three years of undergraduate work and the successful completion of the first year of full time study at Duquesne University School of Law.

The early admissions program is only open to those applicants who enter the program as freshmen and complete all three years of their undergraduate work at Gannon University. Admission is highly competitive and the program is limited to a maximum of twenty students per year.

Students in the early admissions program will choose an undergraduate major in Arts and Humanities, Business, Criminal Justice, English, General Science, History, Accounting, Legal Studies Paralegal, Political Science, Liberal Arts and Philosophy, at the time of their acceptance into the program and will be required to take several courses from the Pre Law curriculum. Core of Discovery as well as all major and College requirements will be completed at Gannon University except in cases where Duquesne Law School classes may be applied to such requirements.

The Pre Law Adviser and a Pre Law Advisory Committee including a representative of Duquesne University Law School and other members of the legal community, will provide counseling, advisement, opportunities for internships, field trips to Duquesne and generally help prepare those enrolled in the program with assistance in preparing for law school, the law school admissions test and eventual entrance into the legal profession.

Students will take the Law School Admissions Test in their third year and will be interviewed by a selection committee which will include the Dean of Duquesne University Law School or a designate. Selection criteria will include a minimum cumulative grade point average of 3.5 for the three years at Gannon University and a minimum LSAT score in the 60th percentile on the LSAT. Evidence of leadership potential and interest and commitment to the legal profession and other qualitative factors will be considered in selection decisions.

Duquesne University will admit from five up to ten students who meet the above criteria and who are recommended by the Selection Committee. At Duquesne's option, more than ten students may be admitted.

The early admissions program is specifically designed for Gannon University undergraduate students with outstanding academic credentials who will distinguish themselves at the

undergraduate level. By participating in this program, students may not only save the expenses of the additional year of study normally required to complete both undergraduate and law school degrees but they may also qualify for special scholarship and grant-in-aid opportunities at both Gannon University and Duquesne Law School.

COURSE DESCRIPTIONS:

PLAW 260: Introduction to Law in Society
Introduction to legal institutions and processes; evolution of the American legal system; major substantive areas of law; legal reasoning and the adversarial process; and, the role of attorneys and courts in American society. *3 credits/Fall, Second Year*

PLAW 357: Legal Analysis and Persuasion
Legal analysis and persuasion will introduce the student to the fundamentals of legal thinking, including the critical examination of case law, statutory law and other written materials. Applying this legal analysis, students will learn to persuade a targeted audience in both written and oral forms. Classroom exercises include briefs, mock appellate arguments and/or mock trial. *3 credits/Spring, Third or Fourth Year*

Pre-Law Curriculum
This is not the track for 3+3 students. This is the curriculum for pre-law students who have not decided on a major in their freshmen and sophomore years.

(Numerals in front of courses indicate credits)

	FRESHMAN		
	Fall		*Spring*
3	College Comp/LENG 111	3	Crit Analysis & Comp/LENG 112
3	Sacred Scriptures/LTHE 121	3	Hist of West & World/LHST 111
*3	Political Science/POLI 111	*3	Political Science/POLI 112
*3	Sociology/SOCI 110 or Psychology/ PSYC 111 or Economics/BCOR 111	*3	PC Applications/CIS 170-173
2	First-Year Seminar/LEGL 100	3	Cognates
14		15	

	SOPHOMORE
3	Theology II Series/LTHE
3	Literature Series/LENG
3	Fine Art Series/LFIN
3	LS/Science
3	Math
3	Intro Law & Soc/PLAW 260
3	Fund of Speech/SPCH 111
6	Modern Foreign Language
3	Cognates
3	Elective
33	

**This course may not be required in certain 3 + 3 program choices.*

***PC Applications exam may be taken. If passed, CIS 170-172 may be waived.*

PRE-LAW MINOR

Beyond the Sophomore year Pre-Law students must select a major field of study. Additional Pre-Law Cognates are recommended and a Pre-Law Minor may be earned through the completion of 18 credit hours, including:

3	Intro Law & Society/PLAW 260
3	Legal Analysis and Persuasion/PLAW 357
3-6	Constitutional Law I & II/POLI 350, 351
	Civil Liberties and Civil Rights/POLI 351
	Philosophy of Ethical Responsibility/LPHI 237
	Criminal Law & Proc/CRJS 320
	Legal Environment of Business/BCOR 203
	Philosophy & Law/PHIL 290
3-6	Logic/PHIL 210
	Advanced Composition/ENGL 211
	Argumentation & Debate/SPCH 322
3-6	Intro to Criminal Justice/CRJS 110
	Congress & Legislative Process/POLI 315
	Criminological Theory/CRJS 240

Law and Politics

Students pursuing this track will take most of the required courses in the Political Science major, but will substitute 2 legal courses, Introduction to Law & Society and Legal Analysis & Persuasion, for 2 upper level Political Science courses.

Students who intend to go on to law school are encouraged to complete the Legal Studies Certificate. The certificate can be completed within the four year program by using those courses as the allowable cognates and electives in the student's major. If the pre law school student does not want to complete the certificate, they are encouraged to take some of the Legal Studies courses so that they can learn skills that could enable them to find summer employment and/or part-time employment in legal settings. Some helpful courses would include Legal Research & Writing I and II, Public Records Research, Computers in Law, and Trial Prep and Procedure.

PSYCHOLOGY

LORI D. LINDLEY, Ph.D., *Undergraduate Program Coordinator*

FACULTY: *Associate Professors:* Kenneth R. Gamble, Lori Lindley, Robert Nelsen, Robin Powers. *Assistant Professors:* Jessica Hartnett, Ryan Leonard, Luke Rosielle. *Lecturer:* Barbara Townsend.

Aims and Objectives

The Department of Psychology endeavors to prepare its students for a variety of professional and liberal arts careers by providing maximal flexibility in vocational planning. Because of the strong foundation in research methods, Core of Discovery, and behavioral sciences its curriculum provides, the psychology concentration prepares the student to pursue graduate study in a variety of fields including Psychology, Social Work, Counseling, Business Administration, Health Care Administration, Law and others. It also prepares the student for nonprofessional careers that require a strong liberal arts background. Four separate tracks are available to help students tailor the psychology major to best fit their own interests and professional goals.

- **General Psychology Track:** For students who want a general psychology major, this track is often creatively combined with another major or minor to fit their particular interests (e.g., business, pre-law)
- **Graduate School Track:** For students interested in pursuing graduate school in psychology or a related academic discipline
- **Health Science Track:** For students combining a psychology major with pre-med, pre-PT, or other health-oriented program
- **Human Services Track:** For students preparing for human services occupations immediately after graduation, or practice-oriented graduate programs (e.g., counseling, mental health)

COURSE DESCRIPTIONS:

PSYC 111: Introduction to Psychology
An introduction to the principle theories and methods used by psychology to explain human personality, behavior and adjustment. *3 credits, Fall, Spring*

PSYC 211: Psychological Statistics
An introduction to frequency distributions, sampling distributions, t-tests, analysis of variance, correlation, linear regression, and non-parametric statistics. *3 credits, Fall, Spring*

PSYC 212: Psychological Statistics Lab
Application of and practice using the theoretical concepts in statistics introduced in PSYC 211. This lab should be taken in the same semester or the following semester as PSYC 211. It is required for psychology majors, optional for non- majors. *1 credit, Fall*

PSYC 214: Careers in Psychology
An overview of the field of psychology, designed to orient students to the psychology major and how best to tailor it to meet their interests and professional goals. Topics to be covered include ethics, professional writing, applying to graduate school, career opportunities at the bachelor's level, applying the psychology major to other fields, and professional involvement in psychology.
Prerequisite: PSYC 111 *3 credits, Spring*

PSYC 222: Psychology of Human Development
An investigation of the theories and research findings related to the understanding of complex behavior as it evolves throughout the lifespan.
Prerequisite: PSYC 111 *3 credits, Fall, Spring*

PSYC 225: Social Psychology
An examination of the relationship between social settings and cognitive, affective, and behavioral processes. Includes the study of group dynamics.
Prerequisite: PSYC 111 *3 credits, Spring*

PSYC 232: Psychopathology
A general introduction to various models of psychopathology with emphasis on the study of anxiety disorders, depression, psychotic disorders, and personality disorders.
Prerequisite: PSYC 111 *3 credits, Fall, Spring*

PSYC 234: Health Psychology
A consideration of the roles played by psychological factors in the maintenance of health and the development of illness. Emphasizes the importance of the therapeutic relationship which includes the patient, the patient's family and the health provider. Includes both a review of relevant clinical and research findings and practical concepts/skill development.
Prerequisite: PSYC 111 *3 credits, Fall*

PSYC 265: Cross-Cultural Psychology
An examination of the role that cultural differences play in social interaction. Factors such as race, ethnicity, religion, gender, and language are considered as they impact behavior between individuals and between groups.
Prerequisite: PSYC 111 *3 credits, Fall*

PSYC 275: Psychology of Women
This course concerns psychological approaches to studying women. It examines relevant theory and research. Topics include identity and self-concept, relationships and power, sexuality, parenting, work, mental health and women of color.
Prerequisite: PSYC 111, Junior or senior standing. *3 credits, Fall*

PSYC 292: Industrial/Organizational Psychology
An introduction to the application of psychological principles to the work environment. Topics include such areas as employee selection, placement, training, employee morale and motivation, supervisory styles, leadership, and general organizational behavior.
Prerequisite: PSYC 111 *3 credits, Spring, Even numbered years*

PSYC 300: Psychology of Creativity
This course was originally designed to integrate the practice of creative production with psychological theory and research dealing with creative behavior. Presently, these facets will be preserved but the emphasis will shift somewhat to theories and research. Creative production, however, will still be required. Throughout the semester, the student will complete various creative exercises and will read essays on the creative process. The exercises will provide an opportunity to develop creative skills in artistic, musical or literary expression, in theatrical production or in scientific and technical problem solving. Readings in psychoanalytic, behavioral, humanistic, and psychophysiological theories of creativity will provide students with the basis for exploring creativity in themselves and in others.
Prerequisite: PSYC 111 *3 credits, Spring, Odd numbered years*

PSYC 303: General Experimental Psychology w/Lab
An introduction to basic procedures in psychological research. The components of an experimental study including literature review, hypothesis formation, experimental design, ethics, statistical analysis, interpretation, and communication of research findings are covered. Concepts are illustrated by conducting small group experiments in the lab portion of the course.
Prerequisites: PSYC 211 *4 credits, Fall*

PSYC 304: Advanced Experimental Psychology
A continuation of PSYC 303, this course involves advanced concepts in psychological research, as well as the design and implementation of individual research based on the formation of an original hypothesis. All research is done under the guidance and supervision of the instructor.
Prerequisites: PSYC 211, PSYC 303 *3 credits, Spring*

PSYC 305: Learning and Cognition
A general introduction to the major theories of learning and cognition. A chronological overview of the gradual change from predominately behavioral models to predominately cognitive models of learning is examined.
Prerequisite: PSYC 111, PSYC 211 or equivalent course. *3 credits, Fall*

PSYC 306: Psychology of Communication
An introduction to psycholinguistic theory with emphasis on the pragmatics of human communication.
Prerequisite: PSYC 111 *3 credits, Fall, Even numbered years*

PSYC 307: The Helping Relationship
Emphasis is placed on learning the skills necessary to develop a helping relationship.

Students will practice relationship building skills with each other in class. Video feedback will be used as well as class discussion to assess student performance. Person-Centered Theory will be analyzed as a rationale for the helping relationship.
Prerequisite: PSYC 111 *3 credits, Fall, Even numbered years*

PSYC 308: Psychological Assessment
This course provides an introduction to the process of psychological assessment. A broad array of techniques is presented including behavioral observation, interviews with varying degrees of structure as well as psychological tests that have been developed to assess cognition, personality and interpersonal processes. Neuropsychological instruments will be discussed as well as techniques used in the assessment of families.
Prerequisite: PSYC 111, PSYC 211, PSYC 232
Junior or senior standing as Psychology major *3 credits, Fall, Odd numbered years*

PSYC 309: Group Dynamics
An examination of group dynamics, with an emphasis on interpersonal processes and therapeutic group elements. A variety of group formats and functions will be covered. The course includes both theoretical and experiential components.
Prerequisite: PSYC 111 *3 credits, Fall, Even numbered years*

PSYC 311: Multivariate Statistics
A continuation of PSYC 211 with coverage of such topics as multiple regression, analysis of covariance, and selected current topics in the field of psychological statistics.
Prerequisites: PSYC 211, PSYC 212 *3 credits, Spring, Even Numbered Years*

PSYC 313: Psychometrics
A survey of psychological testing and evaluation with an examination of basic technical considerations such as reliability, validity, and standardization. Selected, widely used tests will be reviewed. Some of the controversies in interpretation and application of standardized test results will also be discussed.
Prerequisites: PSYC 111, PSYC 211 *3 credits*

PSYC 314: Adulthood and Aging
Special consideration of the major psychological processes of aging as they relate to individual behavior and adaptation. Includes the influences of aging on the body, learning and memory, employment and productivity, personality, and psychopathology.
Prerequisite: PSYC 111, PSYC 222,
Junior or senior standing *3 credits, Spring, Odd numbered years*

PSYC 315: Physiological Psychology
A study of neural mechanisms and their relationship to behavior. A survey of the development of physiological concepts in psychology.
Prerequisite: PSYC 111 and (BIOL 104 or BIOL 115 or BIOL 117)
Junior or senior standing. *3 credits, Spring*

PSYC 316: Human Factors Psychology
Human factors psychology seeks to take psychological knowledge (especially relating to how people perceive, perform, attend, remember, and think) and apply this knowledge to making the world an easier and safer place in which to interact. The goal of this class is to give students a basic overview of these cognitive processes and then apply them to such topics as the design of displays, controls, and workspaces, stress and workload, safety and accident prevention, and human-computer interaction.
Prerequisite: PSYC 111, Junior or senior standing *3 credits, Fall, Odd numbered years*

PSYC 317: Evolutionary Psychology
Evolutionary Psychology represents the contemporary study of the genetic roots of human behavior, the interaction between biology and the environment, and the ways in which the

ancestral environment may have shaped contemporary life. Topics include, but are not limited to: gender differences, romantic relationships and attraction, parenting, environmental preferences, food preferences, violence, warfare, and cooperation.
Prerequisite: PSYC 111, Junior or senior standing *3 credits, Spring, Odd numbered years*

PSYC 318: Sensation and Perception
Sensation and Perception is the study of how people use their sensory systems (vision, touch, hearing, taste, and smell) to perceive aspects of their environment. This class will present an overview of the basic sensory processes and how the brain uses this information interpret, navigate, and interact with the world.
Prerequisite: PSYC 111 *3 credits, Fall, Even numbered years*

PSYC 352: History and Systems in Psychology
A detailed consideration of the formal systems of psychology (e.g., Structuralism, Behaviorism, Humanistic-Existentialism) a review of psychology's roots in philosophy and physiology and a survey of the current status of the discipline, with special emphasis on one or more topics of continuing historical interest.
Prerequisite: PSYC 111, Junior or senior standing *3 credits, Spring, Even numbered years*

PSYC 362: Introduction to Contemporary Psychotherapies
A survey of the various forms of psychotherapy including the history of the field, methods, theoretical and applied models of the therapeutic process, as well as practical issues such as training, gaining credentials, and other professional issues. The experience of becoming and working as a psychotherapist and coverage of selected specialty areas will also be considered.
Prerequisite: PSYC 111, Junior or senior standing *3 credits, Fall, Odd numbered years*

PSYC 372: Personality Theory
A survey of major theories of personality with emphasis on the Freudian, Neo-analytic, Cognitive, Behavioral and Existential perspectives.
Prerequisite: PSYC 111 *3 credits, Spring, Even numbered years*

PSYC 382: Undergraduate Psychology Internship
An opportunity to use the principles of psychology in applied settings under professional supervision. A program of readings is completed concurrently with the field placement. The objective is the integration of theoretical knowledge with practice.
Prerequisites: PSYC 111, PSYC 211, PSYC 303, PSYC 305.
Credits are by arrangement. *3 or 6 credits*

PSYC 390-394: Special Topics in Psychology
Prerequisite: PSYC 111, prerequisites vary with particular course being offered *1-3 credits*

PSYC 395: Research Practicum
The design and implementation of special research projects where the Psychology major works under the personal supervision of a faculty member. This course requires instructor permission.
Prerequisites: PSYC 303, PSYC 304, PSYC 211, PSYC 212
Credits are by arrangement. *1-3 credits*

PSYC 396-399: Independent Study
Individual study of a particular topic in Psychology under the supervision of a faculty member. This course requires instructor permission. Credits by arrangement. *1-3 credits*

PSYC 400: Senior Research Seminar in Psychology
This seminar for senior majors in Psychology deals with recent research in a wide variety of specialty areas in psychology. The emphasis is on the synthesis of previous research and the critical analysis of specific research methods and findings.
Prerequisite: Senior standing as Psychology major. *3 credits, Fall, Spring*

Psychology Curriculum

(Numerals in front of courses indicate credits)

FRESHMAN

	Fall Semester		*Spring Semester*
3	College Composition/LENG 111	3	Crit Analysis & Comp/LENG 112
3	Hist of West & World/LHST 111	3	Psy of Human Dev/PSYC 222
3	Biology/BIOL 104	3	Math (as advised)
3	Intro to Psychology/PSYC 111	3	Sacred Scriptures/LTHE 121
2	First-Year Seminar	3	Speech/SPCH 111
14		15	

SOPHOMORE

	Fall Semester		*Spring Semester*
3	Introduction to Philosophy/LPHI 131	3	Philosophy II Series/LPHI
3	Theology II Series/LTHE	3	Literature Series/LENG
3	Psyc Statistics/PSYC 211	3	Social Psyc/PSYC 225
1	Psyc Statistics Lab/PSYC 212	3	Careers in Psychology/PSYC 214
3	Modern Language	3	Modern Language
3	Psychopathology/PSYC 232	3	Psyc Elective or Track Course
16		18	

JUNIOR

	Fall Semester		*Spring Semester*
4	Gen Experimental Psyc/PSYC 303	3	Psyc Elective or Track Course
3	Learning and Cognition/PSYC 305	3	Physiological Psyc/PSYC 315
3	Theology or Phil III Series/LTHE or LPHI	3	Fine Art Series/LFIN
		9	Electives
3	Psyc Elective or Track Course		
3	Electives		
1	Leadership Seminar		
16		18	

SENIOR

	Fall Semester		*Spring Semester*
3	Senior Seminar/LBST 383	3	Psyc Senior Research Sem/PSYC 400
3	Psyc Elective or Track Course	12	Electives
9	Electives		
15		15	

Psychology Tracks: Required and Recommended Courses

General Psychology Track
Required: Cross-Cultural Psychology/PSYC 265; There are no recommended electives for this track, as it is designed to be as flexible as possible to fit the student's interests. Psychology electives should be chosen in collaboration with the advisor.

Graduate School Track
Required: Advanced Experimental/PSYC 304; Recommended: Multivariate Statistics/PSYC 311; Cross-Cultural Psychology/PSYC 265; Research Practicum/PSYC 395; History and Systems/PSYC 352; other content courses in the student's area of interest

Health Science Track
Required: Health Psychology/PSYC 234; Recommended: Cross-Cultural Psychology/PSYC 265; Psychology Internship/ PSYC 382; The Helping Relationship/PSYC 307; Adulthood and Aging/PSYC 314

Human Services Track
Required: Psychology Internship/PSYC 382 (3 credits); The Helping Relationship/PSYC 307; Psychological Assessment/PSYC 308; Recommended: Cross-Cultural Psychology/PSYC 265; Adulthood and Aging/PSYC 314; Group Dynamics/PSYC 309; Psychology Internship/PSYC 382 (additional credits)

PSYCHOLOGY MINOR

Completion of the following courses and electives will satisfy the requirements for a minor in Psychology:

3	Introduction to Psychology/PSYC 111
3	Scientific Methods in Psychology/PSYC 210 or Psychological Statistics/PSYC 211
12	Psychology Electives*
18	

**These electives are to be selected in consultation with Minor advisor and chosen to meet student objectives in taking Psychology as a minor.*

THE NEXT STEP

Baccalaureate Degree Program for Graduates of Two Year Colleges

Prerequisite:
Introduction to Psychology/PSYC 111

(Numerals in front of courses indicate credits)

	Pre-Senior Year		*Senior Year*
3	Psyc of Human Development/PSYC 222	3	Learning and Cognition/PSYC 305
3	Psychopathology/PSYC 232	3	Physiological Psyc/PSYC 315
4	Gen Experimental Psyc/PSYC 303	3	Senior Seminar/LBST 383
4	Psyc Stats & Lab/PSYC 211, 212	12	Psyc Electives
3	Careers in Psychology/PSYC 214	3	Social Psyc/PSYC 225
3	Introduction to Philosophy/LPHI 131	3	Senior Seminar in Psyc/PSYC 400
3	Literature Series/LENG	3	Theology or Phil III Series/LTHE or LPHI
3	Sacred Scriptures/LTHE 121		
3	Fine Art Series/LFIN	1	Leadership Seminar
6	Modern Language	1	Elective
35		32	

All students graduating from the College of Humanities, Business and Education must have completed six credits of a modern foreign language.

Students will be permitted to take other courses in substitution for any course listed above which they have satisfactorily completed prior to admission into the Next Step program. Students are required to complete 7-19 credits in the Core of Discovery. Students may transfer courses equivalent to Sacred Scripture, Introduction to Philosophy, the Literature Series and/or the Fine Arts Series. Students must take the Leadership Seminar, the Theology/ Philosophy III Series, and the Senior Seminar or approved capstone at Gannon.

SOCIAL WORK

PARRIS J. BAKER, Ph.D., MSSA, *Program Director*

FACULTY: *Associate Professor:* Sara Lichtenwalter. *Assistant Professor:* Parris J. Baker. *Adjunct:* Sam Harakal, Thomas Klobchar, Charles Murphy.

The practice of professional social work requires not only the intellectual capacity to absorb a substantial body of knowledge, but also the ability to master skills in interpersonal relationships, to effect social change through social policy advocacy, and to consume and produce relevant, evidence-based research. Professional social work promotes personal commitment to the NASW Code of Ethics and the fundamental principles and tenets of Catholic Social Thought. Critical to the development of professional social workers at the baccalaureate level is the acquisition of generalist practice skills, the capacity to work with various size client systems; to interact with diverse populations who may function in different social and cultural environments; and to embrace the challenges of securing social and economic justice.

The mission of the Gannon University Social Work Program is to prepare students as social work professionals able to competently promote human and community well-being by utilizing social work knowledge, values and skills. Through a curriculum informed by the Judeo-Christian concept of social caring and social work professional values, we produce graduates committed to: service; integrity; social and economic justice; human rights; the dignity and worth of the person and their relationships; and scientific inquiry; who will become leaders in local, regional, and global communities.

Gannon University Social Work Program directs special attention toward preparing students to engage international social work practice and policy, to conceptualize the interrelationship and interdependence of our global community, to promote human rights as defined by the United Nations' Universal Declaration of Human Rights, and to analyze international social welfare concerns such as poverty, healthcare, and social and economic justice.

The Social Work Program of Gannon University is accredited at the baccalaureate level by the Council on Social Work Education. Upon graduation, students who have earned a letter grade of B or better in the social work concentration and are accepted in an accredited master of social work program can achieve Advanced Standing. Advanced Standing permits students to complete graduate social work education in 12-18 months.

COURSE DESCRIPTIONS:

SCWK 111: Introduction to Social Work
This is the first course in the Social Work program and is required for all other courses in the Social Work Sequence. It provides the student an opportunity to learn about Social Work and exposes him/her to the field of Social Work Practice. Students are also required to participate in field observation in an agency setting for 3 hours per week. *3 credits, fall*

SCWK 211: Intro to Gerontology
An overview of the study of gerontology. Examines aging in America, stereotypes, theories on aging, adult development, work and living environments, and selected problems of the elderly. This course has a service-learning component. *3 credits, fall*

SCWK 212: Social Problems, Services and Issues
This is the foundation course of the Social policy sequence and is required for admission to the Social Work Program. It is designed to provide students with a basic understanding of the historical development of social welfare policy in the United States. In addition to its primary purpose of introducing students to the social policy process, this course provides students

with an opportunity to explore career choices through interactions with local human service delivery organizations during tours of community agencies. Furthermore, there is a 20 hour volunteer component to this course. *3 credits*

SCWK 213: Medical Terminology
This course introduces social work students and other students to medical terminology and demonstrates the interaction and interrelationship between and among anatomy, physiology, and pathology. *1 credit*

SCWK 220: Dying, Death and Bereavement
This course explores dying, death and grief, a topic of interest to personnel in the human service and related professions. Issues discussed are theories of dying, death and bereavement with aged, and assessments and interventions with clients and their families. Social cultural differences in attitude and behavior toward death as well as ethical, legal issues, resources and support services are explored. *3 credits*

SCWK 221: Human Behavior and the Social Environment I
This is the introductory course to understanding human behavior from a multidimensional, biopsychosocial approach. Here we focus on the social environment and apply theoretical frameworks in order to put human behavior into perspective. In this course students begin to study the person from a biological perspective, looking at the major systems of the human body. We also examine psychological and sociological theories and knowledge by looking at cognition, emotion, the self as well as stress and coping. This course also examines the impact of culture, spirituality, the physical environment and social institutions in shaping human behavior. Finally, this course addresses different sized social systems from formal organizations, communities, groups and the family. Students begin to see how social systems promote or defer health and well being. *3 credits*

SCWK 222: Human Behavior and the Social Environment II
This is the continuation of HBSE I. This course takes a person-in-environment focus across the life span. For each stage in the Life Cycle biological, psychological, sociological, and spiritual variables that influence development are identified. This course addresses the impact of various size systems on human behaviors as well as issues of discrimination and social/economic justice. *3 credits*

SCWK 223: Human Behavior and the Social Environment III
Human Biology. Examination of the major human biological systems with a special emphasis on understanding the brain and the effects of drugs and alcohol. *3 credits*

SCWK 230: Human Diversity
This course studies the impact of discrimination and inequality on specific and generalized collectivities (groups) in our environment. Particular and specific attention will be given to the more vulnerable populations of women, gay and lesbians, and minorities of color. The course will examine the response(s) offered by specific disciplines (i.e., professional social work) and by the larger society, as they relate to discrimination and inequality. Methods to celebrate differences are explored. *3 credits*

SCWK 315: Bio Medical Aspects of Aging
This course is designed to acquaint students with the biological and medical changes occurring in the organs of man during the aging process. Course will include a layman's discussion of the aging and pathological process of the organs as well as common medical pharmacological, and surgical treatments of these organ systems. *3 credits*

SCWK 316: Counseling Older Adults
This course will identify various areas impacting lives of the "young" old, "middle" old, and the "old" old. Misconceptions, stereotypes, and biases toward the aging process will be explored. The course focuses on assessment, counseling interventions, and techniques designed to enrich the world of the mature adult and their families. *3 credits*

SCWK 322: Correctional Counseling and Case Management
An examination of strategies for affecting offender behavior change by correctional counseling and case management in both institutional and community based settings. Emphasis will be on functional and contemporary approaches. CRJS elective.
Prerequisite: CRJS 201 *3 credits*

SCWK 328: Drugs of Abuse
The U.S. has the highest rate of drug abuse of any industrialized country in the world. This course is designed to provide the student with a broad understanding and insight into drug abuse within American society and it's impact upon society in general. The primary focus will be on how the criminal justice system, health care system, and other institutions attempt to deal with the nations' drug problem. The course will focus on what has been done in the past by society about the drug problem, what is and what is not working now, and what needs to be done in the future. *3 credits*

SCWK 330: The Juvenile Justice System
An analysis of the justice system as it relates to the disposition of cases involving the juvenile offender. Where appropriate, a comparative analysis with the adult process will be emphasized. *3 credits, Spring and Distance Learning (Internet)*

SCWK 332: Balance and Restorative Justice
This course introduces the student to the state of the art in juvenile justice. It provides the student with an understanding and a working knowledge of the key principles in balanced and restorative justice. Key issues that will be addressed are how to implement and measure these principles. *3 credits*

SCWK 333: Victimology
This course will examine the plight of victims including child maltreatment, domestic violence, victimization at work and school. It further explores the extent of homicide victimization. In reviewing the above mentioned topics, guest speakers with expertise in these areas will present their viewpoints on the extent of victimology. Throughout this course, the BARJ principle will be the focus in balancing the victim's role in the criminal justice system. *3 credits*

SCWK 336: Mental Health and the Elderly
Factors involved in successful aging and maintenance of healthy personality functioning are investigated. The most common psychological disorders of the elderly are considered from etiological, diagnostic, and therapeutic aspects.
Prerequisite: GERO 211 *3 credits*

SCWK 360: Interviewing Skills
This course introduces students to the basic interpersonal helping skills using a problem solving model. Students are expected to demonstrate understanding of the relationship of interpersonal skills to social work practice and to demonstrate initial mastery of the basic helping skills. *3 credits*

SCWK 361: Introduction to Generalist Practice
Emphasis is placed on introducing students to a generalist problem-solving practice framework that is applicable across a wide range of settings, problems and different size systems.
Prerequisite: SCWK 360 *3 credits*

SCWK 362: Generalist Practice with Families/Groups
This is a continuation of SCWK 361. It is designed to reinforce, deepen and expand the student's knowledge of the generalist problem-solving practice framework with particular emphasis on recognizing its utility in working with groups and the family size systems.
Prerequisite: SCWK 361 *3 credits*

SCWK 363: Generalist Practice with Organizations/Communities
Continuing with the generalist problem-solving model, this course focuses on a generalist

approach to practice with community and institutional systems. Students gain knowledge and skills in working with both organizations and communities through such activities as community assessments and asset mapping, along with opportunities to demonstrate leadership by advocating for policies and services in their field placements. Professional social work interventions for vulnerable populations such as homeless and immigrant populations, the low-income elderly and disabled, and families residing in marginalized neighborhoods are considered utilizing organization theory and various frameworks for community analysis. This course is designed to be taken concurrently with SCWK 490 (Social Work Field Placement I) and facilitates the integration of field experience with course content.
Prerequisites: SCWK 361 and 362 *3 credits*

SCWK 364: Social Welfare Policy, Programs and Issues
This course analyzes social welfare policy, programs and services. In addition to developing conceptual understanding, students will begin to develop skills in policy analysis using the policies of local community agencies as case illustrations. The impact of State, Federal, and global policies on social welfare are explored.
Prerequisite: SCWK 212, SCWK 361 *3 credits*

SCWK 380: Social Work Research Methods
Through participation in a semester long research project, students learn that they are both a consumer and a producer of empirically based knowledge. This course includes an introduction to evidence-based practice models and assists students in developing beginning knowledge and skill in evaluating their practice and conducting evaluative research. The relationship between epistemological approaches, theory, and scientific are explored in light of ethical scientific inquiry and research practice informed by the NASW Code of Ethics Standards for Research.
Prerequisite: SCWK 361 *3 credits*

SCWK 390-394: Special Topics in Social Work
Topics of special and/or current interest in all areas of Social Work will be covered. The topics will vary from year to year, depending on the faculty resources and the needs of the students.
3 credits

SCWK 395-399: Independent Study *3 credits*

SCWK 400: Social Work Senior Integrating Seminar I
This course is intended to help students integrate knowledge along with developing and refining skills for beginning professional Social Work practice. Students will use specific episodes of services (live cases) from their field experience in this course.
Concurrent with SCWK 363, SCWK 490 *2 credits*

SCWK 401: Social Work Senior Integrating Seminar II
A continuation of SCWK 400 intended to facilitate the integration of knowledge, along with the development and refining of skills for beginning Social Work Practice. Taken concurrently with SCWK 491.
Prerequisite: SCWK 400. *1 credit*

SCWK 490 & 491: Social Work Field Placement I and II
In field placement, students are expected to demonstrate in specific and concrete ways that they are prepared as beginning professional generalist practitioners to work with all size systems from individual, family, group, organization and community. It is the program's expectation that students will not only use the values and ethics that they have acquired through their liberal arts foundation and the social work curriculum but that they will actively promote these values and ethics in agency settings. The field component by its very nature of exposing students to real and complex life situations demonstrates and requires students and field instructors to seek new social work knowledge in order to find the best solutions to meet the client systems needs.
Corequisite: SCWK 363, 400 *6 credits*

SCWK 495: Advanced Interviewing Skills
This course will focus on two very similar approaches to interviewing: solution focused and motivational interviewing. Both approaches are similar and reinforce each other and both approaches are aimed at what professionals label difficult clients. The course requires a basic understanding and skill in using basic interviewing skills. These skills will be quickly reviewed and then students will learn both solution focused and motivational interviewing.
Prerequisite: SCWK 360 *3 credits*

Social Work Curriculum

(Numerals in front of courses indicate credits)

FRESHMAN

	Fall Semester		*Spring Semester*
3	College Composition/LENG 111	3	Crit Analysis & Comp/LENG 112
3	Social Work/SCWK 111	3	Political Science/POLI 111
3	Sacred Scriptures/LTHE 121	3	Introduction to Philosophy/ LPHI 131
2	First-Year Seminar		
3	Speech/SPCH 111	3	PC Applications/CIS 170,171,172,173
		3	Social Problems, Services, Issues/SCWK 212
14		15	

SOPHOMORE

	Fall Semester		*Spring Semester*
3	Hist of West & World/LHST 111	3	Psychology/PSYC 111
3	Literature Series/LENG	3	Political Science/POLI 122
3	Theology II Series/LTHE/THEO	1	Leadership Seminar
3	Hum Beh & Soc Env I/SCWK 221	3	Interviewing Skills/SCWK 360
3	Human Diversity/SCWK 230	3	Hum Behav & Soc Env II/SCWK 222
3	Philosophy II Series/LPHI	3	Theology or Phil III Series/LTHE or LPHI
18		16	

JUNIOR

	Fall Semester		*Spring Semester*
3	Statistics/SOCI 351/PSYC 211	3	Hum Beh & Soc Env III/SCWK 223
3	Intro to Generalist Practice/SCWK 361	3	Generalist Practice with Families/Groups/SCWK 362
3	Organizational Behavior/MGMT 316 or Ethical & Social Responsibility/ MGMT 360	3	Social Welfare Policy, Prog & Issues/SCWK 364
3	Language	3	Social Work Research Meth/ SCWK 380
3	Fine Art Series/LFIN		
3	Electives	3	Language
18		15	

SENIOR

	Fall Semester		*Spring Semester*
6	Social Work Field Placement I/SCWK 490	6	Social Work Field Placement II/ SCWK 491
3	Generalist Practice with Comm. & Org./SCWK 363	1	Social Work Senior Integrating Seminar II/SCWK 401
5	Electives		
2	Social Work Senior Integrating Sem I/ SCWK 400	9	Elective
16		16	

THE NEXT STEP

Baccalaureate Degree Program for Graduates of Two Year Colleges

Social Work

(Numerals in front of courses indicate credits)

	Pre-Senior Year		*Senior Year*
3	HBSE I/SCWK 221	3	Interviewing Skills/SCWK 360
3	Human Behavior in the Social Environment II/SCWK 222	3	Generalist Practice with Organization/Communities/ SCWK 363
3	Intro to Generalist Practice/SCWK 361	6	Social Work Field Placement I/ SCWK 490
3	Generalist Practice with families/ groups/SCWK 362	6	Social Work Field Placement II/ SCWK 491
3	Social Welfare Policy, Programs and Issues/SCWK 364	2	Social Work Senior Integrating Seminar I/SCWK 400
3	Human Diversity/SCWK 230	1	Social Work Senior Integrating Seminar II/SCWK 401
3	Statistics for the Social Sciences/SOCI 351	3	HBSE III/SCWK 223
1	Libr Rsrch/Info Skills/LIBR 111	3	Elective
3	Intro to Philosophy/LPHI 131	3	Theology or Phil III Series/LTHE or LPHI
3	Sacred Scriptures/LTHE 121	1	Leadership Seminar
3	Literature Series/LENG	3	Social Work Research Methods/ SCWK 380
3	Fine Art Series/LFIN		
34		34	

***Academic credit is not given for Life Experience.*

Students will be permitted to take other courses in substitution for any course listed above which they have satisfactorily completed prior to admission into the Next Step program. Students are required to complete 7-19 credits in the Core of Discovery. Students may transfer courses equivalent to Sacred Scripture, Introduction to Philosophy, the Literature Series and/or the Fine Arts Series. Students must take the Leadership Seminar, the Theology/ Philosophy III Series, and the Senior Seminar or approved capstone at Gannon.

Social Work Minor

A minor in social work is intended to expand the knowledge and skills of individuals who hope to work in correctional settings, probation, group homes, mental health agencies, and other human service settings.

3	SCWK 111 Intro to Social Work
3	SCWK 212 Social Problems, Services, and Issues
3	SCWK 230 Human Diversity
3	SCWK 360 Interviewing Skills
3	SCWK 361 Intro to Generalist Practice
3	SCWK 362 Generalist Practice with Families/Groups
18	credits

SOCIOLOGY

DAVID B. BARKER, Ph.D., *Program Director*

FACULTY: *Associate Professor:* David B. Barker. *Assistant Professor:* Dorothy J.N. Kalanzi. *Adjunct Professor:* Richard W. Moodey

The Sociology Program is primarily a service provider offering courses and academic support for students, programs, and departments throughout the University. Substantive areas of inquiry covered by courses offered in the Sociology Program include: culture, human diversity, minority-majority group relations, social inequality, social theory, deviant behavior, and social institutions. Instruction in social research methods, applied statistics, and use of statistical software is also available.

COURSE DESCRIPTIONS:

SOCI 110: Basic Sociology
An introduction to the theories and perspectives of sociology, and to selected substantive areas. The substantive areas selected will vary. *3 credits, Fall, Spring*

SOCI 111: Introduction to Anthropology
An introduction to the traditional four fields of anthropology: archaeology, linguistics, physical anthropology, and cultural anthropology. *3 credits*

SOCI 120: Individual, Culture, and Society
An introduction to the social scientific study of human diversity, and to the practical implications of such knowledge. *3 credits, Spring*

SOCI 210: Deviant Behavior
An analysis of the processes by which behavior is characterized as deviant or conforming. Issues treated include labeling, control, stigma, and deviant careers. *3 credits*

SOCI 211: Social Psychology
Social Psychology examines how situations influence the affect, behavior, and cognition of the individual. Course topics include: the self, group behavior, attitudes and persuasion, attributions regarding causes of behavior, aggression, interpersonal attraction, and intimate relationships. Prerequisite: PSYC 111 *3 credits, Fall, Spring*

SOCI 230: Minority Groups
A study of the way certain categories of Americans, including but not limited to racial and ethnic minorities, have come to be objects of stereotyping, prejudice, and discrimination. Various ways of working to overcome prejudice and discrimination are discussed. *3 credits, Spring*

SOCI 292: Cultural Anthropology
An introduction to anthropological descriptions and explanations of the highly diverse ways of life created by people living in different times and places. *3 credits*

SOCI 293: Physical Anthropology
An introduction to physical anthropology, its history, methods, theories, and selected practical applications, including forensic anthropology. Topics include: the social history and application of physical anthropology, race and human variation, primatology, and hominid evolution. *3 credits*

SOCI 351: Statistics for the Social Sciences
This course is an introduction to the fundamentals of applied statistics. Students will learn basic descriptive and inferential methods for univariate, bivariate, and multivariate analyses. Emphasis is placed on practical applications of statistical methods. Critical evaluation of each

application is an important element of the process. Instruction in the use of statistical software is provided. *3 credits, Fall, Spring*

SOCI 352: Methods of Social Research
Practical guidance in the design of both quantitative and qualitative research. Topics include theory and research design, conceptualization, measurement, data construction and analysis, and the ethics of social research.
Prerequisite: SOCI 351 *3 credits*

SOCI 390-394: Supervised Readings and Special Topics in Sociology *3 credits*

SOCI 395-399: Independent Study *1-3 credits*

THEATRE AND COMMUNICATION ARTS

ANTHONY J. MICELI, *Chairperson*

FACULTY: *Associate Professor:* Shawn Jeffrey Clerkin. *Assistant Professors:* Mary Carol Gensheimer, Anthony J. Miceli, Brent Sleasman. *Instructor:* Paula Barrett, David T. Blaetz.

The Department of Theatre and Communication Arts serves students who desire a thorough preparation in the theatre arts, communication arts (specifically electronic media) or a combination of both. In addition to meeting all the general Gannon University requirements for graduation, the candidate for a Bachelor of Arts degree from the Department of Theatre and Communication Arts must meet the following conditions:

1. The student must have received credit for at least 128 hours of course work, of which a minimum of 63 hours originated in the Department of Theatre and Communication Arts.
2. The student must satisfactorily complete a Senior Seminar and Thesis course.

Juniors and Seniors are eligible for professional internships with WICU, WFXP, WQLN, WJET, WSEE, Cablevision, local radio stations, new media outlets, ad agencies and local theatre companies.

The graduate of this department will be qualified for positions in professional theatre, television and radio as performers, broadcasters and technicians; many graduates may find their fulfillment in advertising, public relations, teaching, broadcast journalism, playwriting, new media, industrial or commercial production and in public or private recreational programs. Due to the students' co-curricular participation in the Schuster Theatre and WERG-FM (the University broadcast radio station) graduates leave the department with a resume indicating practical expertise in communications and theatre.

COURSE DESCRIPTIONS:

Theatre

THEA 111: Introduction to Theatre
A foundations course which specifically considers Theatre as a Liberal Art, focusing on theatre as a multi cultural phenomenon. *3 credits*

THEA 112: Scene Technology
An examination of the technologies and practices of theatrical production. Emphasis is given to the interrelationship of the production team and the processes by which theatre is created. *3 credits*

THEA 140: Fundamentals of Acting
A laboratory course exploring the fundamental craft of acting. Development of skills in creativity, improvisation, imagination, concentration, and text analysis. *3 credits*

THEA 210: Contemporary Issues in Media and Theatre
An introduction to academic theatre and media scholarship forming a critical foundation on which students can formulate opinions based on factual observation and argue various points of view relating to current production in theatre, radio, television, digital communication, and performance studies. This course is both writing intensive and argumentatively provocative. *3 credits*

THEA 212: Issues in Theatre History
An historiographical survey of the forces which have created theatrical forms. Emphasis on Aesthetic, Social, Political, and Economic influences. *3 credits*

THEA 221: Voice and Diction
A practical examination of the voice as a communicative tool. Emphasis on vocal flexibility, breathing, vocal expansion, and a working understanding of the phonetic alphabet. *3 credits*

THEA 251: Principles of Design
An exploration of the fundamental principles of design: space, time, composition, etc. Emphasis on creative problem solving and aesthetic development. *3 credits*

THEA 252: Costume and Makeup Techniques
This course is designed to introduce the student to the basic materials and techniques of theatrical stage makeup. Emphasis will be on basic application of two-dimensional makeup, analysis of character as it relates to physical appearance, the development of a makeup portfolio and morgue, and exposure to more advanced three-dimensional techniques. An examination of costume as part of the character mask completes the overview. *3 credits*

THEA 310: Principles of Play Directing
A laboratory exploration of the directing process from play selection and analysis to rehearsal techniques. Emphasis on developing leadership qualities, communication skills, and aesthetic sensitivity. *3 credits*

THEA 331: Writing for the Stage and Screen
Practical writing experience at transferring ideas into written dramatic forms, including playwriting and critical writing. *3 credits*

THEA 340: Improvisation
This laboratory course stresses basic improvisation performance skills such as focus, teamwork, mime, character development, status work, story development and scene work. You will develop a number of practical skills that can be applied in almost any real-life situation, including creative problem-solving, quick-thinking skills, spontaneity, interpreting non-verbal communication, resolving conflict respectfully with others, and holding your place while working within a group dynamic. *3 credits*

THEA 350: Advanced Acting
The course focuses on character development and script analysis for theatrical performance focusing on, but not limited to, American realism. *3 credits*

THEA 360-376: Production and Performance in Theatre
A laboratory course investigating the rehearsal and performance process in creating a mainstage production. Students assume various roles, both on production crew and cast, and are evaluated on the quality of their participation in the work. The course culminates in public performance and post performance evaluation, by students and directors. *1 - 3 credits*

THEA 390-399: Special Topics/Electives/Independent Study
Specialty and elective courses offered on a rotating basis: Modern and Contemporary Drama and Theatre, Stage Combat, Make-up and Costuming, Advanced Acting, Light Design, Theatre Management, Rehearsal and Performance, Musical Theater, etc. *1-3 credits*

THEA 400: Theatre Research and Thesis
Prerequisite: COMM 350 or THEA 421, Senior status required. *3 credits*

THEA 421: Theatre Criticism
A capstone course focusing on ethical, moral, and aesthetic issues. Emphasis on both written and oral application of the principles of criticism to specific problems. *3 credits*

Communication Arts

COMM 111: Introduction to Electronic Media
A survey of the technological and programming history of Electronic Media inclusive of government, social opinion, and advertising influences from the beginning to present.
3 credits, Fall

COMM 112: Electronic Media Programming
A study of the theory and technique of programming for radio, television, and internet. Topics include the design and implementation of radio formats and television program schedules with a focus on the marketing and managerial aspects of the program executive's role in station operations. *3 credits, Spring*

COMM 161: First-Year Seminar: Practicum in Media and Theatre
Practicum is a "hands on" class in which the students gain one credit for planned discussion sessions and project-based experience in theatre, radio, video and new media. The course will introduce the first time student to the inner workings of "department people" and "department projects." The student will begin the process of portfolio development, take part in departmental activities, and participate in a final production. *2 credits, Fall*

COMM 162: Practicum in Media and Theatre
Students gain one credit for practical hands-on experience in media and theater activities on and off campus under the direct supervision of the department's faculty and staff members. *1 credit*

COMM 211: Television Production
A skills orientation in the basic technological considerations of television studio production inclusive of camera operation, lighting, audio, graphics, special effects, switching, and non-linear editing. *3 credits*

COMM 230: Television and Radio Performance
A practice in the skills of basic performance and broadcast styles, ranging from news and interview formats to dramatic presentation, emphasizing specific talent problems. *3 credits*

COMM 241: Digital Audio Production
A study of audio mixing and editing techniques in commercials, promos, and news applications. Professional material from the RAB will be used in class. *3 credits*

COMM 250: WERGi
The purpose of this course is to develop skills in online/digital media production and performance. Through planning, writing, production, performance and feedback, the student will be able to build a portfolio of quality audio work. This course involves a skill orientation in the basic technological considerations of digital audio production, inclusive of computers, microphones, on-air work, special effects, and editing. There is an additional emphasis on the process of radio show preparation and quality air shift production.
Prerequisites: COMM 241 *3 credits*

COMM 262: Practicum in Media and Theatre
Students gain one credit for practical hands-on experience in media and theater activities on and off campus under the direct supervision of the department's faculty and staff members. *1 credit*

COMM 321: Broadcast Copywriting
A study of the forms and formats of material suitable for both radio and television with an analysis of selected problems in the commercial uses of the media; practice in selection, adaptation and organization of content and production materials such as film, slides and graphics. *3 credits*

COMM 330: Corporate Video
A survey of the growing uses of video for instructional, institutional, corporate, and public access applications. The emphasis will be on the planning, scriptwriting, production and computer editing of these non-broadcast forms. The editing system software used is "Adobe Premiere Pro".
Prerequisite: COMM 211 TV Prod *3 credits*

COMM 341: Media Management
A study of the basic principles of management theory as they apply specifically to broadcast station organization, programming, sales, engineering, and the broadcast regulatory environment using both lecture and case study approaches. *3 credits*

COMM 350: Media Ethics and Criticism
An historical consideration of public opinion and the major media critics of the electronic media with practical writing experience in evaluating network television and local radio.
Prerequisite: Junior/Senior status *3 credits*

COMM 356: Digital Graphics
Digital Graphics is an exploration of the theories and skills required for visual electronic communication. Using traditional and non-traditional studio techniques, the student will produce a portfolio of electronic imagery. Through this accumulation of sensitivities and skills, the student will be able to effectively and efficiently produce messages for the electronic media. *3 credits*

COMM 357: Animation
Animation class is designed to explore the area of visual communication in the digital media, specifically the areas of vector graphics and motion. Through the exploration of various fundamental animation techniques, the student will create a portfolio of moving images and text. Through the accumulation of sensitivities and skills in creating animated visuals, the student will be able to communicate, effectively and efficiently, in the digital and electronic medium. *3 credits*

COMM 358: Digital Drawing
Digital Drawing is a drawing class designed to explore the area of visual communication in the digital media. The student will use both pencil and digital stylus to create images. In addition, the student will explore the relationship between the "objective of the communication" and its influence on the plan for the image. The student will create a portfolio of various vector-based images. The software used is "Adobe Illustrator." Skill in drawing is required. Drawing skill will be part of the evaluation. *3 credits*

COMM 362: Practicum in Media and Theatre
Students can gain one credit for practical hands-on experience in media and theater activities on and off campus under the direct supervision of the department's faculty and staff members. *1 credit*

COMM 380: Media Law and Regulation
A study of the laws and regulations that comprise the legal environment of broadcasting. The course moves from the historical perspective to current applications of Federal Law and FCC Rules and Regulations. *3 credits*

COMM 381: Advertising for Electronic Media
A study of skills and theory of Radio and Television advertising salesmanship. Includes discussion of ratings, rate structures, advertising packages, station promotions and role play in sales techniques. *3 credits*

COMM 390-394: Special Topics in Radio/TV *1-3 credits*

COMM 395-399: Independent Study *1-9 credits*

COMM 400: Communication Research and Thesis
Prerequisite: COMM 350 or THEA 421 Senior status required. For majors only. *3 credits*

COMM 411: Broadcast Newswriting and Production
An examination of the techniques used in writing material for broadcast in contrast to print, including shaping the spoken message to conform to broadcasting time limitations.
Prerequisite: COMM 211 *3 credits*

COMM 490: Professional Internship I in TV/Radio/Theatre
A full-semester work experience with a professional communications system. Internships at other Radio/TV stations and advertising agencies available based on student's interests and career goals. Requires recommendation of Department Chairman. *3 credits*

COMM 462: Practicum in Media and Theatre
Students gain one credit for practical hands-on experience in media and theater activities on and off campus under the direct supervision of the department's faculty and staff members. *1 credit*

COMM 491: Professional Internship II in TV/Radio/Theatre
A full-semester work experience with a professional communications system. Requires recommendation of Department Chairman. *3 credits*

Speech

SPCH 101: Introduction to Speech
This course is an exploration of the procedures of preparing a public speech with emphasis on personal credibility, audience analysis, and effective delivery techniques. This course fulfills Gannon University's Liberal Studies Speech requirement for students enrolled in various Associate programs. *1 credit*

SPCH 110: Technical Communication
This course is an introduction to the exploration of the procedures of preparing a public speech with emphasis on personal credibility, audience analysis, and effective delivery techniques. This course fulfills Gannon University's Liberal Studies Speech requirement for students enrolled in programs approved by the Liberal Studies Committee. *1 credit*

SPCH 111: Fundamentals of Speech
Procedures of preparing and delivering the public platform speech with emphasis on personal credibility, physical technique and effective vocal principles. *3 credits*

SPCH 225: Philosophy of Communication
An analysis of the epistemological foundations underlying all forms of communicative processes from individual gestures to the electronic world-wide media. *3 credits*

SPCH 235: Interpersonal Communication
Develops communication skills in a variety of personal and professional relationships, including friendships, romantic relationships, work relationships, and family relationships. *3 credits*

SPCH 313: Advanced Speech
A direct and individualized study of voice production, group discussion and platform procedure.
Prerequisite: SPCH 111 *3 credits*

SPCH 314: Persuasion
This course is a study of the nature and methods of persuasion as they relate to oral communication with emphasis on increasing the student's skill in persuasive speaking and ability to recognize and evaluate persuasive appeals. *3 credits*

SPCH 322: Argumentation and Debate
Practice in the art of rhetoric as it relates to persuasive, logical speech-making.
Prerequisite: SPCH 111 *3 credits*

SPCH 390-394: Special Topics in Speech *1-3 credits*

Theatre and Communication Arts Curriculum

(Numerals in front of courses indicate credits)

FRESHMAN

	Fall		*Spring*
2	First-Year Seminar/COMM 161	3	Crit Analysis & Comp/LENG 112
3	College Composition/LENG 111	3	Intro to Philosophy/LPHI 131
3	Hist of West & World/LHST 111	3	Scene Technology/THEA 112
3	Fund of Speech/SPCH 111	3	Sacred Scriptures/LTHE 121
3	Intro to Theatre/THEA 111	3	Media Programming/COMM 112
3	Intro to Electronic Media/COMM 111		
17		15	

SOPHOMORE

	Fall		*Spring*
3	Foreign Language I	3	Foreign Language II
3	Philosophy II Series/LPHI	3	Theology II Series/LTHE
3	Acting/THEA 140	3	TV Production/COMM 211
3	Voice & Diction/THEA 221	3	Electives
3	Digital Audio Production/COMM 241	3	TV Radio Performance/COMM 230
3	Contemporary Issues/THEA 210		
18		15	

JUNIOR

	Fall		*Spring*
3	Broadcast Copywriting/COMM 321	3	Corporate Video/COMM 330 or Principles of Play Directing/ THEA 310
3	Media Ethics and Criticism/ COMM 350 or Theatre Criticism/ THEA 421	3	Math
3	Theology or Phil III Series/LTHE or LPHI	3	Electives
1	Leadership Seminar	3	Literature Series/LENG
3	Electives	3	Digital Graphics/COMM 356
3	Production & Performance In Theatre/THEA 360-376	3	Argumentation Debate/SPCH 322
16		18	

SENIOR

	Fall		*Spring*
3	Media Management/COMM 341	3	Senior Seminar and Thesis/ COMM 400 or THEA 400
3	LS Science	8	Electives
3	Electives	3	Fine Arts Series
3	Social Science		
3	Interpersonal Communication/ SPCH 235		
15		14	

Total credits: 128

Communication Arts

(Numerals in front of courses indicate credits)

FRESHMAN

	Fall		*Spring*
2	First-Year Seminar/COMM 161	3	Crit Analysis & Comp/LENG 112
3	College Composition/LENG 111	3	Intro to Philosophy/LPHI 131
3	Hist of West & World/LHST 111	3	Media Programming/COMM 112
3	Fund of Speech/SPCH 111	3	Sacred Scriptures/LTHE 121
3	Theatre and Culture/THEA 111	1	Practicum/COMM 162
3	Intro to Electronic Media/COMM 111	3	Digital Audio Production/COMM 241
17		16	

SOPHOMORE

	Fall		*Spring*
3	Contemporary Issues/THEA 210	3	Foreign Language II
3	Foreign Language I	3	Theology II Series/LTHE
3	Philosophy II Series/LPHI	3	TV Radio Performance/COMM 230
3	TV Production/COMM 211	3	Electives
3	Acting/THEA 140	1	Practicum
3	Voice & Diction/THEA 221	3	Corporate Video/COMM 330
18		16	

JUNIOR

	Fall		*Spring*
3	Broadcast Copywriting/COMM 321	3	Argumentation and Debate/ SPCH 322
3	Media Ethics and Criticism/COMM 350 or Theatre Criticism/THEA 421	3	Digital Graphics/COMM 356 or Digital Animation/COMM 357 or Digital Drawing/COMM 358
3	Theology or Phil III Series/LTHE or LPHI	3	Math
1	Practicum	3	Electives
1	Leadership Seminar	3	Literature Series/LENG
3	Electives		
3	Digital Graphics/COMM 356 or Principles of Design/THEA 251		
17		15	

SENIOR

	Fall		*Spring*
3	Media Management/COMM 341	3	Senior Seminar and Thesis/ COMM 400
3	Interpersonal Communications/ SPCH 235	8	Electives
3	LS Science	3	Fine Arts Series/LFIN
3	Electives		
3	Social Science		
15		14	

Total credits: 128

Theatre

(Numerals in front of courses indicate credits)

FRESHMAN

	Fall		*Spring*
2	First-Year Seminar/COMM 161	3	Crit Analysis & Comp/LENG 112
3	College Composition/LENG 111	3	Intro to Philosophy/LPHI 131
3	Hist of West & World/LHST 111	3	Scene Technology/THEA 112
3	Fund of Speech/SPCH 111	3	Sacred Scriptures/LTHE 121
3	Intro to Theatre/THEA 111	3	Theatre History/THEA 212
3	Intro to Electronic Media/COMM 111		
17		15	

SOPHOMORE

	Fall		*Spring*
3	Foreign Language I	3	Foreign Language II
3	Philosophy II Series/LPHI	3	Theology II Series/LTHE
3	Acting/THEA 140	3	TV & Radio Performance/ COMM 230
3	Audio Production/COMM 241		
3	Contemporary Issues/THEA 210	3	TV Production/COMM 211
3	Voice & Diction/THEA 221	3	Electives
18		15	

JUNIOR

	Fall		*Spring*
3	Broadcast Copywriting/COMM 321	3	Advanced Acting/THEA 350 or Improvisation/THEA 240
3	Theatre Criticism/THEA 421 or Media Ethics and Criticism/ COMM 350	3	Electives
		3	Digital Graphics/COMM 356 or Principles of Design/THEA 251
3	Theology or Phil III Series/LTHE or LPHI	3	Argumentation and Debate/ SPCH 322
1	Leadership Seminar	3	Math
3	Electives	3	Literature Series/LENG
3	Production & Performance In Theatre/THEA 360-376		
16		18	

SENIOR

	Fall		*Spring*
3	Principles of Play Directing/ THEA 310	3	Senior Seminar and Thesis/ THEA 400
3	LS Science	8	Electives
3	Electives	3	Fine Arts Series/LFIN
3	Social Science		
3	Interpersonal Communication/ SPCH 235		
15		14	

Total credits: 128

COMMUNICATION & RHETORICAL STUDIES MINOR

Completion of the following 15 credits will satisfy the requirements for a minor in Communication & Rhetorical Studies.

3	Fundamentals of Speech/SPCH 111
3	Philosophy of Communication/SPCH 225
3	Interpersonal Communication/SPCH 235
3	Persuasion/SPCH 314
3	Argumentation & Debate/SPCH 322
15	

THEATRE MINOR

Completion of the following 15 credits will satisfy the requirement for a minor in Theatre.

3	Introduction to Theatre/THEA 111
3	Scene Technology/THEA 112
3	Basic Acting or Directing/THEA 140, THEA 310
3	Issues in Theatre History/THEA 212
3	Analysis of Dramatic Literature/THEA 211
15	

THE NEXT STEP

Baccalaureate Degree Program for Graduates of Two Year Colleges

Communication Arts

(Numerals in front of courses indicate credits)

	Pre-Senior Year		*Senior Year*
3	Intro to Electronic Media/COMM 111	3	Broadcast Copywriting/COMM 321
3	TV/Radio Performance/COMM 230	3	Digital Audio Production/ COMM 241
3	TV Production/COMM 211	3	Media Ethics and Criticism/ COMM 350
3	Corporate Video/COMM 330	3	Communication Research and Thesis/COMM 400*
3	Electronic Media Programming/ COMM 112	3	Advanced Speech/SPCH 313 or Argumentation and Debate/ SPCH 322
3	Fundamentals of Speech/SPCH 111	3	Fine Art Series/LFIN
3	Mass Media/ENGL 371	3	Literature Series/LENG
3	Sacred Scripture/LTHE 121	3	Theatre/THEA 221/140/310
3	Introduction to Philosophy/LPHI 131	9	Electives/Cognates/Practicum
3	Theology or Phil III Series/LTHE or LPHI		
1	Leadership Seminar		
3	Elective		
1	Practicum/COMM 162		
35		33	

** fulfills LBST 383 requirement*

All students graduating from Humanities must have completed six credits of a Modern Foreign Language. If a student has not completed 6 credits of a foreign language in the associate degree program, he or she must complete them as part of the Next Step program.

Students will be permitted to take other courses in substitution for any course listed above which they have satisfactorily completed prior to admission into the Next Step program.

Students are required to complete 7-19 credits in the Core of Discovery. Students may transfer courses equivalent to Sacred Scripture, Introduction to Philosophy, the Literature Series and/or the Fine Arts Series. Students must take the Leadership Seminar, the Theology/ Philosophy III Series, and the Senior Seminar or approved capstone at Gannon.

Note: Some of these courses are taught on a three-semester rotation so the actual timing may be changed.

THEOLOGY

REV. CASIMIR J. WOZNIAK, Ph.D., *Chairperson*

FACULTY: *Professors:* Rev. Terry Giles, Patrick F. O'Connell, Suzanne Richard. *Associate Professor:* Mary Anne Rivera. *Assistant Professors:* Sister Michele Healy, S.S.J., Rev. Edward C. Krause, Rev. Casimir Wozniak. *Instructor:* Rev. Jason Glover, Rev. Michael T. Kesicki. *Adjunct:* Eric Dart, Sr. Kathleen Marie Dietz, Mr. Corey Ferraro, Rev. Nicholas Rouch, Sr. Charlotte Anne Zalot.

Aims and Objectives:

Saint Anselm of Canterbury defines Theology as "faith seeking understanding." Since a faith commitment is an essential part to the Gannon University learning community, it follows that a scientific and systematic investigation of that faith plays an important part in the intellectual life at Gannon.

With this in mind, the Theology Department offers several courses as part of the Core of Discovery. Each student is required first to take Introduction to Sacred Scriptures (LTHE 121). After successful completion of this course, the student is offered his or her choice of one of any of the Theology catalog offerings which vary from semester to semester. Furthermore, each student is required to take either Theology of Moral Responsibility (LTHE 227) or Philosophy of Ethical Responsibility (LPHI 237).

In addition, the Theology Department offers a sequence of courses enabling a student to major in the study of Theology or to take specialized Theology courses as an elective in his or her field of concentration. The Theology major at Gannon will find the program to be very thorough in Catholic Theology, thus enabling him or her to specialize in either Biblical Studies or Systematic Theology. The Theology major is required to complete at least 30 credits in Theology and to write a thesis showing his or her competence in the field and the ability to do independent research.

COURSE DESCRIPTIONS:

LTHE 121: Introduction to Sacred Scriptures
A study of the Christian concept of God's self-revelation in the history of Israel and climatically in the person and redemptive work of Jesus Christ. **This course is a prerequisite for all Theology courses.**

LTHE 223: The Catholic Tradition
A study of some of the basic beliefs concerning Jesus Christ, the Church, worship and sacrament.
Prerequisite: LTHE 121

LTHE 225: The Protestant Tradition
A study of the development of Christianity with special emphasis on the Protestant Reformation and the thinking of significant contemporary Protestant theologians.
Prerequisite: LTHE 121

LTHE 227: The Theology of Moral Responsibility
A study of Christian ethical response based on God's word in Revelation and in the teachings of the believing Community.
Prerequisite: LTHE 121

THEO 240: Faith, Revelation and Theology
An investigation of the nature and methods of the science of Theology, with a study of the phenomenon of faith, of Revelation, and of Biblical and Magisterial hermeneutics. *3 credits*

THEO 320: Hebrew Bible I: Torah
The Hebrew Bible/Old Testament is constructed in three large sections or movements. This course considers the first part of the Hebrew Bible: the Torah. Composed of the first five books of the Old Testament, the Torah introduces the major concepts and themes that will be developed throughout the rest of the bible. *3 credits*

THEO 321: Hebrew Bible II: Prophets
The second part of the Hebrew Bible/Old Testament is composed of two great bodies of literature: the Former Prophets (telling the story of the ancient Israelite nation) and the Later Prophets (those towering figures like Isaiah, Jeremiah, and the Twelve). These two great bodies of literature are united by a common interest in social justice and God's work in the human arena. *3 credits*

THEO 322: Hebrew Bible III: Writings
The writings are the third and final part of the Hebrew Bible/Old Testament and include books that are familiar (Psalms) as well as those that are less familiar to the modern western reader (Ecclesiastes, Ezra). The material considers basic human experiences of grief, sorrow, and joy as well as exploring the meaning of evil and tragedy and everyday human realities like friendship, sexuality, and character. In many ways, this third part of the Hebrew Bible functions as a capstone. *3 credits*

THEO 333: The Synoptic Gospels
A study of the first three Gospels, their origin and composition, and their distinctive theological content. *3 credits*

THEO 334: The Theology of John and Paul
A study of the two great theologians of the New Testament, St. John and St. Paul. *3 credits*

THEO 342: Jesus Christ: Yesterday, Today and Forever
A consideration of the question, "Who is Jesus of Nazareth?", and a study of the answers to that question presented by the Scriptures, ecclesiastical tradition and classic and contemporary theology. *3 credits*

THEO 344: The Theology of Church
A study of the origins, nature, structure and role of the Church, with special emphasis on the theological insights of the II Vatican Council. *3 credits*

THEO 345: The Theology of Worship
A study of Christian worship in its christological, ecclesial and sacramental dimensions. *3 credits*

THEO 346: Women and the Pilgrim Church
A study of women's contribution in Scripture, Theology, and the Church from the Church's origins to contemporary times. *3 credits*

THEO 347: The Theology of Marriage
This course is a study of the Judeo-Christian understanding of marriage in its various aspects: biblical, theological, psychological, and canonical. It will concentrate on the following topics: defining marriage, God and marriage, marriage preparation, and issues surrounding marriage today. *3 credits*

THEO 350: Current Problems in Moral Theology
A presentation of principles of Christian moral theology as revealed in Sacred Scriptures and the Tradition of the community of believers. The principles, in turn, will be applied to specific and concrete moral issues raised by contemporary culture and society that are confronting the individual and social conscience of the human community so as to suggest an appropriate Christian response. *3 credits*

THEO 361: Christianity and World Religions: Western Traditions
This course will consider the teachings of the monotheistic world religions (Christianity, Judaism, Zoroastrianism, Islam) in the context of Christian belief, emphasizing both the openness of a post-conciliar Catholicism to insights from other faiths, points of similarity in beliefs and in practice between Christianity and other religions, and also the distinctiveness of other religious traditions. *3 credits*

THEO 362: Christianity and World Religions: Eastern Traditions
This course will consider the teachings of the South and East Asian world religions, as well as primal (pre-literate) religions, in the context of Christian belief, emphasizing both the openness of a post-conciliar Catholicism to insights from other faiths, points of similarity in beliefs and in practice between Christianity, and other religions, and also the distinctiveness of other religious traditions. *3 credits*

THEO 390-394: Special Topics *1-3 credits*

THEO 395-399: Independent Study *1-3 credits*

THEO 400: Senior Seminar
A research seminar of faculty and senior majors.
(Required of all senior majors) *3 credits*

Theology Curriculum

(Numerals in front of courses indicate credits)

FRESHMAN

	Fall		*Spring*
2	First-Year Seminar	3	Crit Analysis & Comp/LENG 112
3	College Composition/LENG 111	3	Protestant Tradition/LTHE 225
3	Sacred Scriptures/LTHE 121	3	Catholic Tradition/LTHE 223
3	Foreign Language	3	Foreign Language
3	Mathematics	3	Social Science
3	History of the West & World/ LHST 111		
17		15	

SOPHOMORE

	Fall		*Spring*
3	Introduction to Philosophy/LPHI 131	3	Philosophy of Knowledge/ LPHI 235
3	Literature Series/LENG	3	Philosophy of Ethical Responsibility/LPHI 237
3	Science	3	Hebrew Bible/THEO 320, 321 or 322
3	Speech/SPCH 111	3	Humanities Elective
3	Humanities Elective	1	Leadership Seminar
3	Faith, Revelation, Theology/ THEO 240	3	Free Elective
18		16	

	JUNIOR		
	Fall		*Spring*
3	Philosophy of God/LPHI 233	3	Theology of John and Paul/ THEO 334
3	Fine Arts Series/LFIN	3	Christianity and World Religions/ THEO 361 or THEO 362
3	Synoptic Gospels/THEO 333	3	Theology Elective
3	Theology of Moral Responsibility/ LTHE 227	3	Humanities Elective
3	Theology of Church/THEO 344	3	Free Elective
3	Humanities Elective		
18		15	
	SENIOR		
	Fall		*Spring*
3	Senior Seminar/LBST 383	3	Theology Senior Seminar/THEO 400
3	Christology/THEO 342	3	Theology of Marriage/THEO 347
3	Theology of Worship/THEO 345	3	Humanities Elective
3	Women in the Pilgrim Church/THEO 346	5	Free Electives
3	Theology Elective		
15		14	
			Total credits: 128

Humanities and Free Electives include Education, Philosophy, Sociology, History, Political Science, Classical Languages, Language and Literature, English, Economics, and Natural Sciences. A total of 26 credit hours in the Electives is required.

Theology Minor

This program is an ideal preparation for admission to some graduate programs and for anyone who plans on leadership roles in parish life or just personal enrichment. The minor consists of 18 credits and can usually fit in easily with the student's major.

Required:

3	Sacred Scriptures/LTHE 121
3	The Catholic Tradition/LTHE 223 or The Protestant Tradition/LTHE 225
3	Christianity and World Religions Western Tradition/THEO 361 or Christianity and World Religions Eastern Tradition/THEO 362 or Faith, Revelation and Theology/THEO 240
9	9 credits of upper level Theology courses.

ARCHAEOLOGY AND CULTURE MINOR

For a description see The Archaeology and Culture section in this catalog.

WOMEN'S STUDIES MINOR

ROBIN POWERS, Ph.D., *Program Coordinator*

The minor in Women's Studies is an interdisciplinary field of inquiry that encourages students to understand and articulate how gender makes a difference - in the lives and experiences of women, as well as men; in the practices and institutions of human societies; and in the cultural products of societies, such as art and literature. Emphasizing the importance of historical and cross-cultural perspectives, students in the minor will critically examine the intersections of gender, class, race, ethnicity, sexual orientation, age, and ability to make visible structures of power that otherwise remain hidden.

Curriculum Outline

A minor in Women's Studies will consist of 18 credits.

Required: (6 credits)

3 Introduction to Women's Studies/WMST 201
3 Gender and Rationality/LBST383

Electives: (12 credits)

3 The History of Women in the United States/HIST 236
3 Women in Photography/LFIN 252
3 Psychology of Women/PSYC275
3 Physical Activity and Women/SPRT 326
3 Women and Crime/CRJS 340
3 Women and the Pilgrim Church/THEO346
3 Women Writers/LENG 249
3 Special Topics in Women's Studies/WMST390

COURSE DESCRIPTIONS

WMST 201: Introduction to Women's Studies
An interdisciplinary course that explores the diversity of women's lives through essays, readings, and the study of scholarly theories and research. The course will examine a wide range of social issues and the status of women in an historical context and in contemporary society.
Prerequisite: Open to sophomore, junior or senior students or instructor's permission.
3 credits, Fall

WMST 390: Special Topics in Women's Studies
Courses may include: Gender and Identity in Literature; and Women in Science.
Prerequisite: WMST 201 (Introduction to Women's Studies) or permission of the professor
3 credits

Morosky College of Health Professions and Sciences

CAROLYNN MASTERS, Ph.D., R.N., CARN, *Dean*

The Morosky College of Health Professions and Sciences is composed of the School of Health Professions and the School of Sciences. The curriculum offered by each program within the college is designed to prepare students upon graduation to meet professional responsibilities in their field of learning or to pursue graduate studies. Students are engaged in active learning. They learn by working with the faculty — in the classroom, in research endeavors, in professional practice settings, in industry, and in the community. All of the programs within the college build upon the mission of Gannon University and provide the foundation for life-long learning.

BIOLOGY

DAVID J. GUSTAFSON, *Chairperson*

FACULTY: *Professors:* Rev. Joseph Gregorek, Elisa M. Konieczko, Edward (Ted) Phillips, Steven J. Ropski. *Associate Professors:* Gregory M. Andraso, Michael Ganger, David J. Gustafson, James J. McGivern. *Assistant Professors:* Sarah Ewing, Kelly A. Grant, Robert S. Rawding, Susan R. Sapone, Mary C. Vagula. *Instructor:* Melanie Gustafson-Ropski. *Retired Professors:* Kenneth W. Andersen, Stanley J. Zagorski.

Aims and Objectives:

Biologists study living organisms and their life processes. They are concerned with the origin, function, and preservation of life from the smallest cell to the largest Ecosystem. Career opportunities are diverse and possible in areas such as medicine, agriculture, environmental science, industrial research, teaching, biotechnology, biomedical and/or biological research and governmental employment.

To prepare students for a future in biology the Biology Department offers an extensive curriculum that will ensure a firm and broad background. Yet students can concentrate on courses of greatest benefit to them in their years of study. Students are individually counseled in their academic progress and advised in relation to their career goals by biology faculty.

COURSE DESCRIPTIONS:

Courses numbered BIOL 101 - BIOL 118 may not be used to fulfill requirements for a Biology major.

BIOL 100: First-Year Seminar: Scientific Reasoning and Biology
The First-Year Seminar serves the new student as an introduction to Gannon University through a unique and challenging learning experience. While each section of the First-Year Seminar course focuses on different content, each has as its intentions: the forging of the relationship between the new student and the Gannon community, the development of the integration of the academic, social, personal, and spiritual aspects of each student's life, and the animation of the tenets of Catholic social teaching in daily life and work.

In addition to the general goals inherent in each First Year seminar, BIOL 100 provides the student with the opportunity to examine the process of scientific reasoning and analysis, to

review career options in the field of biology, to consider how one can merge the philosophies of science and the humanities, and how one can reconcile the empirical disciplines of the sciences with the spiritual aspects of faith based learning. *2 credits*

BIOL 103: Environmental Issues
This course is a study of our environment and some of the interactions between humans and their surroundings. The course analyzes through an interdisciplinary approach how humans and their social institutions interact with physical and biological systems of the environment. The course surveys the most urgent environmental health problems facing humanity today. *3 credits, Fall, Spring*

BIOL 104: Human Biology
This course is designed to introduce students to some of the many complex, yet fascinating, processes of the human body. The course begins with a review of basic principles of chemistry. This introduction is followed by a limited discussion of cellular structure and metabolism. Subsequently the basic structure and functions of selected organ systems are discussed. The course also introduces students to some of the newer advances in medical and research technologies that are impacting our society, e.g. cloning, recombinant DNA technology, genetic engineering, stem cell research, and gene therapy. *3 credits Fall, Spring*

BIOL 105: Human Biology Lab
Lab exercises complement topics in BIOL 104. Concurrent with BIOL 104. *1 credit, Fall, Spring*

BIOL 106: Introductory Microbiology
This course covers basic morphological and behavioral characteristics of microorganisms (bacteria, fungi, prions, viruses, and protozoa) predominately associated with humans. Topics expand over microbial affiliations with different diseases, epidemiology, pathology and control. Additionally, an introduction to applied microbiology will be discussed.
Concurrent with BIOL 107 *3 credits*

BIOL 107: Introductory Microbiology Lab
This course consists of labs which complement topics taught in BIOL 106. Concurrent with BIOL 106. *1 credit, Fall*

BIOL 108: Essentials of Anatomy and Physiology I
This course is a survey of anatomy and physiology of the human body. The first semester covers basic principles of Biochemistry, metabolism, information processing, the cell, and the tissues. This leads to consideration of these body systems: integumentary, skeletal, muscular, nervous and endocrine. *3 credits, Fall*

BIOL 109: Essentials of Anatomy and Physiology I Lab
This course consists of labs which complement topics taught in BIOL 108. Concurrent with BIOL 108. *1 credit, Fall*

BIOL 110: Essentials of Anatomy and Physiology II
This is a continuation of BIOL 108 and covers structure and function of the cardiovascular, respiratory, immune, digestive, and excretory systems. It concludes with a unit on reproduction and development.
Prerequisite: BIOL 108 *3 credits, Spring*

BIOL 111: Essentials of Anatomy and Physiology II Lab
This course consists of labs which complement topics taught in BIOL 110. Concurrent with BIOL 110. *1 credit, Spring*

BIOL 115: Human Anatomy and Physiology I
This is the first course in a two-semester sequence examining the integrated structure and function of the human body. After introducing the student to anatomical nomenclature, chemical

and physiological principles, the course will follow a systems approach to the understanding of cell chemistry, cells and tissues, and the integumentary, musculoskeletal, and nervous systems.
3 credits, Fall, Spring

BIOL 116: Human Anatomy and Physiology I Lab
This course includes laboratory exercises to compliment topics taught in BIOL 115.
Concurrent with BIOL 115 *1 credit, Fall, Spring*

BIOL 117: Human Anatomy and Physiology II
This second course in a two-semester sequence will complete the integrated study of the structure and function of the human body. It will explore the endocrine, circulatory, lymphatic, respiratory, digestive, urinary and reproductive systems. Emphasis will be placed on the interrelationships of these systems with the integrative and control functions of the nervous and endocrine systems.
Prerequisite: BIOL 115 *3 credits, Fall, Spring*

BIOL 118: Human Anatomy and Physiology II Lab
This course includes laboratory exercises to compliment topics taught in BIOL 117.
Concurrent with BIOL 117 *1 credit, Fall, Spring*

BIOL 122: Molecular and Cellular Biology
This is the beginning course for the biology major. It is designed to introduce the student to certain aspects of cell structure and function, genetics, and molecular biology. This course, together with BIOL 124 and 126, provides the student with a firm foundation upon which the specialized courses can be built. *3 credits, Fall, Spring*

BIOL 123: Molecular and Cellular Biology Lab
This course provides the student with laboratory experiences in which topics covered in BIOL 122 lecture are studied in an experimental fashion. Concurrent with BIOL 122. *1 credit, Fall, Spring*

BIOL 124: Animal Form and Function
This course begins with a survey of several animal kingdom phyla (e.g. Cnidaria, Plathyhelminthes, Chordata, Annelida, Porifera). A functional approach is then taken to understanding the major organ systems in animals, emphasizing the vertebrates.
Prequisite: A grade of D or better in BIOL 122, 123. *3 credits, Fall, Spring*

BIOL 125: Animal Form and Function Lab
This course complements BIOL 124 lectures by giving the student a chance to experimentally investigate the anatomy and functions of some organ systems in animals. Concurrent with BIOL 124.
Prerequisite: A grade of D or better in BIOL 122, 123. *1 credit, Fall, Spring*

BIOL 126: Ecosystem Biology and Evolution
This course introduces principles pertaining to the evolution, ecology and behavior of diverse life forms, including the classification and characterization of all life kingdoms, with special emphasis on plants.
Prerequisite: A grade of D or better in BIOL 122, 123, 124, 125. *3 credits, Fall, Spring*

BIOL 127: Ecosystem Biology and Evolution Lab
This course compliments the topics of BIOL 126 through experimentation. Concurrent with BIOL 126.
Prerequisites: A grade of D or better in BIOL 122, 123, 124, 125. *1 credit, Fall, Spring*

BIOL 191: Special Topics *1-3 credits*

Note about Prerequisites: Courses numbered 200 or above have a prerequisite of at least 8 credits of biology. Additional prerequisites are indicated.

BIOL 220: Botany
This course is a general survey of the plant kingdom. It examines the anatomy, physiology, reproduction, cytology, and taxonomy of the plants with a special emphasis on the flowering plants. Topics include germination, development, mineral nutrition, water relations, plant hormones, and environmental physiology.
Prerequisites: BIOL 122-127 *3 credits, Fall*

BIOL 221: Botany Laboratory
This laboratory emphasizes plant identification and classification. The laboratories have an outdoor component.
Prerequisites: BIOL 122-127 *1 credit, Fall*

BIOL 223: Invertebrate Zoology
This course explores the taxonomic, morphological, and physiological diversity of invertebrate animals. It also emphasizes the ecological role of invertebrates.
Prerequisites: BIOL 122-127 *3 credits, Spring*

BIOL 224: Invertebrate Zoology Lab
This course emphasizes the classification and morphology of invertebrate animals.
Prerequisites: BIOL 122-127 *1 credit, Spring*

BIOL 232: Human Genetics
This course is intended to provide a broad exposure to introductory genetics, the study of inherited variation, and emphasizes human heredity and development. The course encompasses the fundamental principles of molecular, transmission, and population genetics. Basic cytogenetics topics will be introduced as will clinical aspects of selected heritable diseases.
Prerequisites: PA major, BIOL 122, 123, 124, 125 *3 credits, Spring*

BIOL 292: Comparative Vertebrate Anatomy
This course is a study of vertebrate structure, its functional significance, and the range of variation in structure and function in different species from an evolutionary viewpoint.
Concurrent with BIOL 293.
Prerequisites: BIOL 122-127 *2 credits, Spring*

BIOL 293: Comparative Vertebrate Anatomy Lab
This laboratory course complements and strengthens concepts covered in BIOL 292 through dissections of representative vertebrates.
Concurrent with BIOL 292.
Prerequisites: BIOL 122-127 *2 credits, Spring*

BIOL 298: Principles of Ecology
This course is a study of plants and animals in relationship to their environment. Basic ecological principles such as structure and function of the ecosystem as illustrated by energy flow, nutrient cycling, environmental influences, and producer-consumer-decomposer relationships are demonstrated. Selected topics on population ecology, human ecology, and special topics or current environmental problems and world wide issues.
Prerequisites: BIOL 122-127 *3 credits, Spring*

BIOL 299: Ecology Lab
The Ecology laboratory is designed to demonstrate basic ecological concepts discussed in lecture.
Prerequisites: BIOL 122-127 *1 credit, Spring*

BIOL 302: Animal Behavior
This course is a study of the mechanisms and evolution of behavior in a variety of animal taxa. The course examines interactions among the environment, genetics, the endocrine

system, and the nervous system in the development of behavior. It also addresses the current adaptive value of various behaviors and considers how natural selection may have altered behaviors in the past.
Prerequisites: BIOL 122-127 *3 credits*

BIOL 307: Vertebrate Embryology
This course compares the early embryonic development of amphibian, avian, and mammalian embryos and places special emphasis on human organogenesis.
Prerequisites: BIOL 122-127 *3 credits, Fall*

BIOL 308: Vertebrate Embryology Lab
Concurrent with BIOL 307
Prerequisites: BIOL 122-127 *1 credit, Fall*

BIOL 320: Histology
This course deals with the cellular ultrastructure and microscopic anatomy of the tissues and organs comprising the human body.
Prerequisites: BIOL 122-127 *3 credits, Spring*

BIOL 321: Histology Lab
Concurrent with BIOL 320
Prerequisites: BIOL 122-127 *1 credit, Spring*

BIOL 323: Wildlife Management
This course deals with basic management strategies, including the potential human role in using and benefiting from the preservation and management of the world's wildlife resources.
Prerequisites: BIOL 122-127, BIOL 298 or concurrent *3 credits, Spring; to alternate with BIOL 325*

BIOL 324: Wildlife Management Lab
This course deals with techniques of managing wildlife populations. Concurrent with BIOL 323.
Prerequisites: BIOL 122-127, BIOL 298 or concurrent *1 credit, Spring*

BIOL 325: Vertebrate Zoology
This course deals with vertebrate evolution, systematics, zoogeography, and physiological adaptations to specific environments.
Prerequisites: BIOL 122-127 *3 credits, Spring; to alternate with BIOL 323*

BIOL 326: Vertebrate Zoology Lab
This course acquaints the student with Pennsylvania vertebrates, including their taxonomy, ecology and distribution.
Prerequisites: BIOL 122-127 *1 credit, Spring*

BIOL 331: Microbiology
The course explores basic traits of microorganisms (bacteria, viruses, fungi, algae and protozoa) with an emphasis on bacterial structure, communication, physiology (catabolic and anabolic pathways), genetics and growth. Additionally, topics will include microbial associations with medicine, pathogenesis, bioremediation and biotechnology.
Prerequisites: BIOL 122-127 *3 credits*

BIOL 332: Microbiology Lab
Concurrent with BIOL 331. This lab involves the use of differential stains with microscopy enabling microbial visualization. Students will also be taught how to identify with molecular confirmation unknown microorganisms through the performance of multiple physiological tests. Additionally, an introduction to experiments performed in biotechnology and medical technology will be covered.
Prerequisites: BIOL 122-127 *1 credit*

BIOL 336: Clinical Microbiology
The appropriate methods for complete microbiological examination of clinical specimens is

reviewed in lecture and presented in the laboratory. Procedures for the isolation and identification of bacteria, fungi, and viruses are taught. Emphasis is given to those organisms most commonly found in human infection.
Prerequisite: BIOL 122-127, 331, 332 *2 credits*

BIOL 337: Clinical Microbiology Lab
Concurrent with BIOL 336.
Prerequisites: BIOL 122-127, 331, 332 *2 credits*

BIOL 338: Immunology
This course is designed to introduce students to the structure and function of the immune system. Course content begins with a discussion of the molecular and cellular components involved in the elicitation of the immune response, e.g. antigen receptors, MHC molecules, antibodies, and cytokines. Subsequent discussion includes the role of the immune system in the defense against infectious agents and cancer, immunodeficiencies, hypersensitivities, organ transplantation, and autoimmune disease.
Concurrent with BIOL 339.
Prerequisites: A grade of D or better in BIOL 122, 123, 124, 125, 331, 332 or permission of the instructor. *3 credits, Spring*

BIOL 339: Immunology Lab
The lab is designed to emphasize some of the basic immunological principles that are discussed in lecture. Students will also be introduced to some of the immunologically-based techniques routinely utilized in research and diagnostic laboratories (e.g. immunodiffusion, ELISA, immunoprecipitation, immunoelectrophoresis, RT-PCR, western blot and tissue culture techniques).
Concurrent with BIOL 338
Prerequisites: BIOL 122-125, 331, 332 *1 credit, Spring*

BIOL 340: Aquatic Microbiology
This course is designed to study the interrelationships between micro-organisms, and phytoplankton, aquatic plants and microorganisms, and the animal population of water masses having fundamental significance in the cycling of elements in a body of water.
Prerequisites: BIOL 122-127, 331, 332 *3 credits*

BIOL 341: Aquatic Microbiology Lab
Concurrent with BIOL 340.
Prerequisites: BIOL 122-127, 331, 332 *1 credit*

BIOL 344: Virology
This course is designed to expose students to the basic fundamentals (morphology, life cycles and host interactions) and advanced topics of viruses associated with human diseases. These topics will focus on selected viruses and discuss their disease associations, epidemiology, vaccines, unique viral life cycles, host evasion techniques and control. Course topics will also include viral gene therapy and emerging diseases.
Prerequisites: BIOL 122-127, 16 credits in Biology and 16 credits in Chemistry *3 credits*

BIOL 345: Genetics
This introductory course deals with the principles of variation in plants and animals, but with special reference to man. Students will be introduced to both Mendelian genetics, and some introductory aspects of molecular biology including biotechnology.
Prerequisites: BIOL 122-127, CHEM 111, CHEM 114, CHEM 221, CHEM 224 (concurrent)
3 credits, Fall, Spring

BIOL 346: Genetics Lab
Concurrent with BIOL 345.
Prerequisites: BIOL 122-127 *1 credit, Fall, Spring*

BIOL 347: Developmental Biology
This class will offer a broad survey of topics in molecular developmental biology. Topics include fertilization, induction, signal transduction, gastrulation, neural development, and environmental effects on development. In addition we will cover topics that are less intuitively associated with developmental biology such as metamorphosis, aging, and regeneration.
Concurrent with BIOL 348.
Prerequisites: BIOL 122-127; Optional Corequisite: BIOL 345 *3 credits*

BIOL 348: Developmental Biology Lab
Laboratory experiences will reinforce the topics covered in Developmental Biology lecture. Topics include fertilization, induction, signal transduction, and environmental effects on development.
Concurrent with BIOL 347.
Prerequisites: BIOL 122-127, 345 *1 credit*

BIOL 354: Parasitology
This course is concerned with organisms which live on or in other organisms, and which depend on their hosts for some essential metabolic factor. Life cycles, behavior and treatment, and control of parasites will be discussed. Recommended for students concentrating in the health sciences.
Prerequisites: BIOL 122-127 *3 credits, Spring*

BIOL 355: Parasitology Lab
The lab is designed to familiarize students with the identification and morphology of parasites. Required for students in Medical Technology. Concurrent with BIOL 354.
Prerequisites: BIOL 122-127 *1 credit, Spring*

BIOL 358: Plant Physiology
This course is intended to provide a broad exposure to plant physiology, the study of plant function. The role of internal and external regulators of plant growth and development will be explored. An attempt will be made to couple plant responses with molecular mechanisms. Important plant biochemical pathways will also be covered.
Prerequisites: BIOL 122-127, CHEM 221 *3 credits*

BIOL 359: Plant Physiology Lab
Current and classical techniques of experimental plant physiology.
Prerequisite: BIOL 122-127, CHEM 221 *1 credit*

BIOL 363: Endocrinology
Endocrinology, the study of hormones, is presented with an emphasis on neural-endocrine interactions, hormone-receptor interactions, mechanisms
of hormone action, metabolism, a survey of the major endocrine tissues and glands, and reproductive physiology. Case studies are also integrated into the course.
Prerequisite: BIOL 122, 123, 124, 125, 368, 369 *3 credits, Fall*

BIOL 365: Human Gross Anatomy
This course uses a regional approach to study the human body.
Concurrent with BIOL 366
Prerequisites: BIOL 122, 123, 124, 125 *3 credits, Fall, Spring*

BIOL 366: Human Gross Anatomy Lab
This course compliments and enhances the human gross anatomy lecture course. Dissection of human cadavers by students is a key component of the course. In addition, learning is facilitated through the use of anatomical models and prosected human cadavers.
Concurrent with BIOL 365.
Prerequisites: BIOL 122, 123, 124, 125 *1 credit, Fall, Spring*

BIOL 368: Animal Physiology
This course deals with the normal functioning of the body (primarily human body) and its component parts. The essential concepts of physiology are presented at various levels or organization, from cellular to organ system level with special emphasis on the understanding of homeostasis and integrated regulations of various body processes among several systems. Specifically the course focuses on physiological mechanisms involved in neuronal and chemical signaling, movement, metabolism, respiration, circulation, excretion, etc.
Prerequisites: BIOL 122, BIOL 123, BIOL 124 and BIOL 125 *3 credits*

BIOL 369: Animal Physiology Lab
The principles and concepts learnt in lecture class are reinforced through hands on experience in this course. The experiments in this course are designed to help the student develop the skills of acquiring and analyzing physiological signals, data interpretation and documentation.
Concurrent with BIOL 368.
Prerequisites: BIOL 122, 123, 124, 125 *1 credit*

BIOL 373: Cellular Biochemistry
This course is designed to present a comprehensive overview of the living cell with an emphasis on the design that makes life possible. The class will begin with an overview of the properties and the function of biomolecules, including proteins and nucleotides, then move into a discussion of recombinant DNA, followed by discussion of the regulation and synthesis of lipids, carbohydrates, enzymes, and bioenergetics. The class will culminate in an overarching discussion of the intricacies of metabolism. Special attention will be paid to clinical correlation between errors of metabolism and human diseases.
Prerequisite: BIOL 122-127 *3 credits, Spring; to alternate with BIOL 375*

BIOL 374: Cellular Biochemistry Lab
Experiments are used in this course to illustrate the principles and research methods of biochemistry. Concurrent with BIOL 373.
Prerequisites: BIOL 122-127 *1 credit, Spring*

BIOL 375: Cell Biology
Fundamental cellular, subcellular, and molecular characteristics of animal cells are studied in this course. Included are specific studies on cellular organelles, the cytoskeleton, cellular and intracellular membranes, intracellular transport, cell signaling, the cell nucleus, and protein synthesis, and protein structure and function. Also emphasized are current techniques used in cell biology, such as Southern, Northern, and Western Blots, PCR, RNA interference, and immunofluorescent confocal microscopy.
Concurrent with BIOL 376
Prerequisites: BIOL 122-127, 16 credits biology, 16 credits chemistry
3 credits, Spring; to alternate with BIOL 373

BIOL 376: Cell Biology Lab
This course is designed to enhance the lectures presented in BIOL 375. Experiments used in this course illustrate the principles and research techniques of many aspects of animal cell biology.
Concurrent with BIOL 375
Prerequisites: BIOL 122-127, 16 credits biology, 16 credits chemistry *1 credit, Spring*

BIOL 378: Medical Microbiology
This course is designed for future health care professionals that need to have a useful and comprehensive introduction to the host-parasite relationship, and a thorough understanding of the microbe in its role as a disease-producing etiological agent. Infectious diseases for this course have been selected from the realm of prions, viruses, rickettsiae, chlamydiae, PPLO forms, bacteria, fungal, and protozoan to illustrate introductory medical terminology and the principles of pathogenic microbiology.
Prerequisite: BIOL 122, 123, 124, 125, PA or LECOM majors *3 credits, Spring*

BIOL 379: Medical Microbiology Lab
This course consists of labs which complement topics taught in PHAS 365.
Prerequisite: BIOL 122, 123, 124, 125, PA or LECOM majors *1 credit, Spring*

BIOL 381: Field Ecology
A course devoted primarily to field work. Lectures will stress the structure of specific plant and animal communities indigenous to the Erie area. Community ecology will be utilized exclusively. Special emphasis will be placed on deleterious factors of the environment and how they affect community structure and function. Field exercises will demonstrate through modern sampling techniques the physical, chemical, and biological structure of the community. Visitations to a variety of ecosystems are an integral part of the laboratory.
Prerequisites: BIOL 122-127, 298, 299 or instructor's permission
2 credits, Fall; to alternate with BIOL 385

BIOL 382: Field Ecology Lab
The practical aspects of ecosystem ecology are studied in these courses. Visits are made to a variety of local ecosystems; e.g. streams, forests, ponds, bogs, marshes, etc.
Prerequisites: BIOL 122-127, 298, 299 or instructor's permission.
2 credits, Fall; to alternate with BIOL 386

BIOL 383: Tropical Marine Biology
This course is open to all students regardless of major. The course is offered over spring break in the Bahamas, where students investigate ecological systems such as coral reefs, mangroves, beaches, tidal pools, and inland habitats. *2 credits, Spring*

BIOL 384: Ecology of Yellowstone National Park
This course is taught at Yellowstone National Park where students examine the vegetation, thermophilic life, and ecology of Yellowstone National Park. Topics to be covered include grizzly bears, wolf reintroduction, impact of fires, geysers and past volcanic activity, geological history including earthquakes, vegetation, thermophilic life, and the herbivores of the park (bison, moose, antelope, and elk). One day will also be spent at the Museum of the Rockies in Bozeman reviewing their dinosaur exhibit and getting a behind-the-scenes tour.
Prerequisite: Instructor's permission *2-3 credits, Summer*

BIOL 385: Limnology
Limnology is designed to acquaint the student with the biota of fresh waters through the use of modern limnological techniques. Special emphasis is placed on Lake Erie and Presque Isle Bay.
Prerequisite: BIOL 122, 123, 124, 125, 8 credits of biology and Junior or Senior standing
2 credits, Fall; to alternate with BIOL 381

BIOL 386: Limnology Lab
Students will make weekly trips on Lake Erie and the Bay area utilizing Gannon's research vessel, "Environaut." They will collect physical, chemical, and biological samples to analyze in the laboratory using standard limnological methods.
Concurrent with BIOL 385.
Prerequisites: BIOL 122, 123, 124, 125 *2 credits, Fall; to alternate with BIOL 382*

BIOL 390: Plant Ecology
The abiotic and biotic factors that limit the abundance and distribution of plants will be discussed. These factors will be explored as several levels: individual, population, metapopulation, community, and ecosystem.
Prerequisites: BIOL 122-127 *3 credits*

BIOL 391: Plant Ecology Lab
This laboratory is intended to reinforce many of the concepts discussed in lecture. Hypothesis testing is important in science and as such data collection and analysis will be used to test hypotheses. These hypotheses will require us to become familiar with the local

plant families and common sampling methods. The laboratories have an outdoor component.
Prerequisites: BIOL 122-127 *1 credit*

BIOL 395: Fisheries Biology
This course explores the morphology, classification, life history, population dynamics, and ecology of freshwater fishes.
Prerequisite: BIOL 122-127 *3 credits, Fall*

BIOL 396: Fisheries Biology Lab
This course emphasizes collection, identification, and assessment of local fishes.
Prerequisite: BIOL 122-127; Concurrent: BIOL 395 *1 credit, Fall*

BIOL 487: Directed Research
In this course, the student works with a Biology faculty member on an ongoing or newly funded project. Upon completion of the project, or a designated portion thereof, the student will make a presentation. Credit for this course assigned on a pass/fail basis. Students must take the MFAT Examination while enrolled in the course.
Prerequisites: BIOL 122-127 *2 credits*

BIOL 488: Biology Research I
In this course, the student works individually with a Biology faculty member to identify a research project that can be conducted feasibly at Gannon University or in collaboration with another organization. The student will conduct a literature review, design a research project, and prepare a written research proposal that will be submitted to the faculty mentor at the end of the semester. Students must take the MFAT Examination while enrolled in the course.
Prerequisite: BIOL 122-127 & written permission of faculty mentor *1-3 credits, Fall & Spring*

BIOL 489: Biology Research II
In this course, the student works with a Biology faculty member to conduct the research proposed in Biology Research I (BIOL 488). The student will submit a written report of the results of the project to the faculty mentor. An internal or external presentation is required. Students must take the MFAT Examination while enrolled in the course.
Prerequisite: BIOL 122-127, 488 *1-3 credits, Fall & Spring*

BIOL 490-495: Special Topics in Biology
Topics of special and/or current interest in all areas of biology will be covered. For these courses, a student conducts a literature search. A written and oral report based on the review of applicable scientific literature must be accepted by the faculty before a grade is given. Students must take the MFAT Examination while enrolled in the course.
Prerequisites: BIOL 122-127 plus 8 additional BIOL credits. Instructor written permission is required. *1-3 credits*

BIOL 496-499:
These numbers designate special situations such as CO-OP projects, internships, Independent Study and experimental courses at the upper divisional level. A written report and oral presentation to the Biology faculty is required. **The credit may take the place of BIOL 490-494 providing it exceeds 1 credit and the requirement of a written and oral report is included.**
Prerequisites: BIOL 122-127 *1-3 credits*

Biology Curriculum

The Biology Department offers a variety of curricula that a student may choose from to best suit his/her career goals. These include the basic Biology curriculum and curricula with emphasis in Molecular and Cellular Biology, Organismal Biology, Ecology and Evolutionary Biology, and Biomedical Biology. All of these curricula lead to a major in Biology.

Courses required for biology majors are included in each curriculum. They include: BIOL 122-123, 124-125, 126-127, 345 and 488 or 490-494.

LABORATORY REQUIREMENTS

Labs for the following courses are required of all students: Molecular and Cellular Biology, Animal Form and Function, and Ecosystem Biology and Evolution. All upper division biology labs (200 level and above) are required with the course for biology majors. All biology majors are required to take the MFAT Examination during their junior or senior year during BIOL 490-495: Special Topics or BIOL 487, BIOL 488, or BIOL 489: Research credits.

Students majoring in Biology are permitted to waive two Biology labs during this program of study unless otherwise noted in the Gannon catalog. **Written permission to take a course without the lab must be obtained from the instructor and Academic Advisor.**

Biology Curriculum

(Numerals in front of courses indicate credits)

	FRESHMAN		
	First Semester		*Second Semester*
4	Molecular and Cellular Biology I/ BIOL 122-123	4	Animal Form & Function/BIOL 124-125
4	General Chemistry/CHEM 111-112	4	General Chemistry/CHEM 114-115
3	Sacred Scripture/LTHE 121	3	Mathematics/MATH 112 or 141
3	College Composition/LENG 111	3	Critical Analysis & Comp/LENG 112
2	First-Year Seminar	3	Introduction to Philosophy/ LPHI 131
16		17	

	SOPHOMORE		
	First Semester		*Second Semester*
4	Ecosystem Biology & Evolution/ BIOL 126-127	4	Biology Elective
4	Organic Chemistry/CHEM 221-222	4	Organic Chemistry/CHEM 224-225
3	Hist of West & World/LHST 111	2	General Elective
3	Theology II Series/LTHE	3	Philosophy II Series/LPHI
3	Mathematics/MATH 111, 112, or 140	3	Social Science Elective
17		16	

	JUNIOR		
	First Semester		*Second Semester*
4	Biology Electives	7-8	Biology Electives
3	Genetics/BIOL 345	4	General Physics/PHYS 108-109
4	General Physics/PHYS 105-106	3	Fine Art Series/LFIN
3	Theology or Phil III Series/ LTHE or LPHI	3	Speech/SPCH 111
1	Leadership Seminar		
15		17-18	

	SENIOR		
	First Semester		*Second Semester*
2	Biology Topics/BIOL 490-495 or Biology Research I/ BIOL 488 or Direct Research/ BIOL 487	4	Biology electives
		7-10	General electives
		3	Senior Seminar/LBST 383
8	Biology electives		
3	General electives		
3	Literature Series/LENG		
16		14-17	

The Biology Department values broadly trained students who are knowledgeable in a diversity of disciplines within biology. Such broad training is important in today's age, when there is considerable overlap among the biological disciplines. Students are therefore encouraged to take a variety of courses to fulfill the 28 credits of upper-level electives required in the major. However, students should select electives in biology and should work closely with their academic advisors to determine the coursework that best suits their interests and goals. Several emphases and courses relevant to each are listed below.

Molecular and Cellular Biology

Histology (BIOL 320/321)
Microbiology (BIOL 331/332)
Immunology (BIOL 338/339)
Developmental Biology (BIOL 347/348)
Cellular Biochemistry (BIOL 373/374)
Cell Biology (BIOL 375/376)
Virology (BIOL 344)

Organismal Biology

Botany (BIOL 220/221)
Invertebrate Zoology (BIOL 223/224)
Comparative Vertebrate Anatomy (BIOL 292/293)
Vertebrate Zoology (BIOL 325/326)
Microbiology (BIOL 331/332)
Plant Physiology (BIOL 358/359)
Human Gross Anatomy (BIOL 365/366)
Animal Physiology (BIOL 368/369)

Ecology and Evolutionary Biology

Comparative Vertebrate Anatomy (BIOL 292/293)
Principles of Ecology (BIOL 298/299)
Animal Behavior (BIOL 302)
Wildlife Management (BIOL 323/324)
Field Ecology (BIOL 381/382)
Tropical Marine Biology (BIOL 383)
Ecology of Yellowstone National Park (BIOL 384)
Limnology (BIOL 385/386)
Plant Ecology (BIOL 390/391)
Fisheries Biology (BIOL 395/396)

Biomedical Biology

Vertebrate Embryology (BIOL 307-308)
Histology (BIOL 320/321)
Microbiology (BIOL 331/332)
Immunology (BIOL 338/339)
Virology (BIOL 344)
Developmental Biology (BIOL 347/348)
Parasitology (BIOL 354/355)
Endocrinology (BIOL 363)
Human Gross Anatomy (BIOL 365/366)
Animal Physiology (BIOL 368/369)
Cellular Biochemistry (BIOL 373/374)
Cell Biology (BIOL 375/376)

Biology Teaching Certification

Students majoring in Biology qualify for Teacher Certification in Biology/Secondary Education.

Aims and Objectives

The objectives of the program are: (1) to give the students an opportunity to become broadly educated in the areas of Biology, and (2) to provide a program of teacher education which promotes growth, development, attitude and expertise for successful teaching.

Students who wish to prepare themselves as secondary Biology teachers must make formal application to the teacher education program through the School of Education. For a detailed explanation of all requirements refer to the catalog portion under Education.

BIOLOGY MINOR

A total of 24 credits of Biology is required for a minor. Completion of the following courses will satisfy the requirements for a minor in Biology: BIOL 122-123, BIOL 124-125, BIOL 126-127, 12 credits above BIOL 200. The 12 credits of biology electives should be geared toward a specific area of interest (e.g., ecology, microbiology, vertebrate biology).

THE NEXT STEP

Baccalaureate Degree Program for Graduates of Two Year Colleges concentrating in Science or Science related areas.

Biology

(Numerals in front of courses indicate credits)

	Pre-Senior Year		*Senior Year*
4	Biology/BIOL 126-127	4	Principles of Ecology & Lab/ BIOL 298, 299
2	Biology Elective	4	Microbiology & Lab/BIOL 331, 332
4	Vertebrate Zoology & Lab/BIOL 325, 326	4	Biology Elective
3	Genetics/BIOL 345	2	Biology Research I/BIOL 488
4	Vertebrate Embryology & Lab/ BIOL 307, 308	4	Organic Chemistry I & Lab/ CHEM 221, 222
	OR Vertebrate Physiology & Lab/ BIOL 361, 362	4	Organic Chemistry II & Lab/ CHEM 224, 225
4	Gen Chem I & Lab/CHEM 111, 112	4	Gen Physics II & Lab/PHYS 108, 109
4	Gen Chem II & Lab/CHEM 114, 115	3	Senior Seminar/LBST 383
4	Gen Physics I & Lab/PHYS 105, 106	3	Theology or Phil II Series/LTHE or LPHI
3	Introduction to Philosophy/LPHI 131	1	Leadership Seminar
3	Sacred Scriptures/LTHE 121	3	Literature Series/LENG
		3	Fine Art Series/LFIN
35		39	

Students will be permitted to take other courses in substitution for any course listed above which they have satisfactorily completed prior to admission into the Next Step program. Students are required to complete 7-19 credits in the Core of Discovery. Students may transfer courses equivalent to Sacred Scripture, Introduction to Philosophy, the Literature Series and/ or the Fine Arts Series. Students must take the Leadership Seminar, the Theology/Philosophy III Series, and the Senior Seminar or approved capstone at Gannon.

Prerequisites:

A basic Biology or Science course and a basic Mathematics course.

CHEMICAL ENGINEERING

FRANCIS A. PELCZAR, Ph.D., *Program Director*

The Department of Chemistry offers a cooperative program in Chemical Engineering with the University of Pittsburgh.

This program requires five years of study for completion: three years at Gannon University followed by two years of study at the University of Pittsburgh. Upon completion, the student is awarded two degrees, a B.S. in Chemistry from Gannon University and a B.S. in Chemical Engineering from the cooperating university.

During the period spent at Gannon, the student will take specified courses in Chemistry, Mathematics and Core of Discovery and will have the advantage of beginning college level work in small classes where there is a strong commitment to effective teaching. Upon transfer to the cooperating university a wide range of professional specializations are available, including opportunity to participate in a cooperative/work study program. Eligibility requirements for acceptance at the cooperating universities are no grades below "C", and a grade point average not less than 3.0.

Further information and career counseling is available from the Director.

COURSE DESCRIPTIONS:

CHEM 227: Material & Energy Balances
The principles of conservation of mass and energy are applied to the analysis of chemical processes. Included are material balances for batch through multiple unit processes with recycle, P-V-T relationships for single ideal gases through multicomponent real gas systems, thermochemistry and combined material and energy balances. Lecture: Three hours per week. Prerequisites: CHEM 112, Math/MATH 140 *3 credits, Fall*

(All other chemistry courses are listed under Department of Chemistry.)

Chemical Engineering Curriculum

(Numerals in front of course indicate credits)

FRESHMAN

	Fall		*Spring*
2	First-Year Seminar	4	General Chemistry II & Lab/ CHEM 114 & 115
3	College Composition/LENG 111	3	Calculus II/MATH 141
4	General Chemistry I & Lab/ CHEM 111 & 112	3	Sacred Scriptures/LTHE 121
3	Calculus I/MATH 140	3	Introduction to Philosophy/ LPHI 131
3	History of the West & World/LHST 111	4	General Physics III & Lab/ PHYS 111 & 112
2	Engineering Graphics/ME 207	1	Engineering Graphics/ME 208
17		18	

SOPHOMORE

	Fall		*Spring*
3	Crit Analysis & Comp/LENG 112	4	Organic Chemistry 2 & Lab/ CHEM 224 & 225
4	Organic Chemistry I & Lab/ CHEM 221 & 222	3	Fine Arts Series/LFIN
4	General Physics IV & Lab/ PHYS 212 & 213	3	Materials Science/ME 315
		3	Philosophy II Series/LPHI

3	Calculus III/MATH 242	3	Calculus IV/MATH 243
3	Theology II Series/LTHE		
17		16	

JUNIOR

Fall		*Spring*	
4	Physical Chemistry I & Lab/ CHEM 331 & 332	5	Intro to Modern Analytical Chemistry & Lab/CHEM 336 & 337
3	Structural Biochemistry/CHEM 366	4	Physical Chemistry II & Lab/ CHEM 334 & 335
3	Theology or Philosophy III Series/ LTHE or LPHI	3	Senior Seminar/LBST 383
1	Leadership Seminar	3	Literature Series/LENG
3	Fundamentals of Speech/SPCH 111	3	Differential Equations/MATH 304
3	Statistics/MATH 312		
17		18	

To complete degree requirements, the following courses are to be taken at the University of Pittsburgh: Social Science, PHYS 0175, ENGR 0012, plus additional credits to make 128 credits.

CHEMISTRY

WESLENE TALLMADGE, Ph.D., *Chairperson*

FACULTY: *Professors:* Michael Bucholtz, Carl Hultman, Francis A. Pelczar. *Associate Professors:* Timothy Laher, Weslene Tallmadge. *Assistant Professors:* Lisa Nogaj, Betty Jo Chitester, Matthew Heerboth.

Aims and Objectives:

Chemistry is required for a wide range of careers as a result of the technology that permeates our society. Science personnel at all levels, from the technician to the creative researcher, rely heavily on the fundamental principles of chemistry. In addition, careers in the many biological and physical sciences require a background in chemistry. Consequently, students at Gannon University take chemistry courses for different reasons. Some are motivated to pursue careers in chemistry such as research, management and sales. Others take both basic and advanced courses in preparation for work in fields such as medical, engineering, law, and environmental science. For example, chemistry is one of the most commonly chosen majors nationally for students wishing to enter medical and health professional schools. Also, students with an interest in Forensic Science may take Criminal Justice courses as technical electives (see advisor).

Essentially a student at Gannon will follow a sequence of chemistry courses in line with his or her interests, abilities, and vocational goals. There are several credit hours of elective courses in the chemistry degree program which allows the student to strengthen his or her background in allied sciences such as physics, biology, computer, and mathematics.

The department occupies the fourth floor of the Zurn Hall of Science. These spacious facilities contain modern equipment typically found in industrial, academic, and research laboratories. The student, for example, uses the atomic absorption spectrometers, polarograph, refractometer, flame photometer, gas chromatograph, infrared and ultraviolet spectrophotometers, nuclear magnetic resonance and mass spectrometers. Chemistry students also have access to computers capable of extensive molecular modeling.

The department offers to its students the advantages of small classes, individual attention, and frequent contact with staff members. Upper level chemistry students are required to participate in independent research and study under the guidance of a faculty member.

Seniors must complete at least one credit of undergraduate research in each of two successive semesters.

COURSE DESCRIPTIONS:

Courses numbered CHEM 001, 102, 103, 104, 105, 106, 107, 108, 121, 166, 170, or 171 may not be used to fulfill the requirements for a Chemistry major.

CHEM 001: Fundamentals of Chemistry
This course is designed for those students who have had no previous experience in chemistry or whose background in chemistry is weak. The purpose of the course is to prepare a student to later enroll in CHEM 103 or CHEM 111. Topics stressed are chemical calculations, atomic structure, the mole concept, nature of chemical reactions and bonding. *no credit, Fall*

CHEM 102: Introduction to Organic Chemistry and Biochemistry
A one semester overview of organic chemistry and biochemistry for Occupational Therapy students only. *3 credits*

CHEM 103: Chemistry of Life I
The course, designed for health professional majors, covers general chemical principles including atomic structure, chemical bonding, properties of the three states of matter, classes of chemical reactions, stoichiometry, acid-base chemistry, thermodynamics, kinetics, and solution chemistry. This course is limited to students enrolled in certain health professional programs. *3 credits, Fall*

CHEM 104: Chemistry of Life I Laboratory
Experiments are designed to reinforce the concepts taught in Chemistry of Life I (CHEM 103). Emphasis is on developing safe laboratory technique and proper recording and processing of data.
Co-requisite: CHEM 103 *1 credit, Fall*

CHEM 106: Chemistry of Life II
This course was designed for students in the health sciences. The course will provide students with knowledge of the introductory organic and biological chemistry that is fundamental to understanding molecular events in living organisms. Each class of organic compounds is studied in terms of structure, nomenclature and physical/chemical properties. The portion of the course devoted to biological chemistry emphasizes structural, physical and chemical properties of the major classes of biomolecules including amino acids and proteins, carbohydrates, and lipids.
Prerequisite: CHEM 103 *3 credits, Spring*

CHEM 107: Chemistry of Life II Laboratory
Experiments are designed to reinforce the concepts taught in CHEM 106 and to acquaint the student with the physical and chemical properties of the major organic functional group compounds as well as biochemically important compounds including proteins, carbohydrates and lipids. Emphasis is on developing safe laboratory technique and understanding concepts.
Co-requisite: CHEM 106 *1 credit, Spring*

CHEM 105: Physiological Chemistry
The course provides an introduction to the structure and chemical reactivity of the major organic functional groups pertinent to the study of biological chemistry, structure and function of the major classes of biomolecules including carbohydrates, proteins, lipids and nucleic acids and an overview of the underlying chemical principles and recurring themes of the major metabolic pathways.
Lecture: 3 hours per week. *3 credits, Fall*

CHEM 108: Physiological Chemistry Lab
The course consists of twelve three-hour laboratory periods. Experiments complement the material covered in the lecture course CHEM 105 Physiological Chemistry.
Laboratory 4 hours per week. *1 credit*

CHEM 111: General Chemistry I
This course represents a study of the fundamental theories and general principles of chemistry. The course is primarily designed as an introductory course for science majors and is a basic prerequisite for additional course work in chemistry. In this course the structure of matter, the relation of chemical structure to chemical and physical behavior of matter, the qualitative and quantitative aspects of chemical reactivity and associated energy changes are studied. In addition, selected topics are covered which illustrate the social relevance of the chemist/scientist and the historical significance of the field of chemistry.
Prerequisite: High School Algebra *3 credits, Fall*

CHEM 112: General Chemistry I Laboratory
Experiments are designed to reinforce the concepts taught in General Chemistry I (CHEM111). Emphasis is on developing safe and proper laboratory technique, as well as proper recording and processing of data. Included in the course are syntheses, analyses (both qualitative and quantitative), instrumental techniques and computational experiments.
Co-requisite: CHEM 111 *1 credit, Fall*

CHEM 114: General Chemistry II
This course emphasizes basic chemical principles that underlie a more advanced study of the broad field of chemistry. These topics include kinetics, thermodynamics, electrochemistry, acid base chemistry, equilibria, and solution properties.
Prerequisite: CHEM 111 *3 credits, Spring*

CHEM 115: General Chemistry II Laboratory
Experiments are designed to reinforce the concepts taught in General Chemistry II (CHEM 114). Emphasis is on developing safe, proper laboratory technique, and proper recording and processing of data. Included in the course are syntheses, analyses (both qualitative and quantitative), instrumental techniques and computational experiments.
Co-requisite: CHEM 114 *1 credit, Spring*

CHEM 121: Introduction to Nanotechnology
This course presents an overview of the field of nanotechnology, the study of objects 1nm-100nm in size. The topics include what nanotechnology is, the basic science for nanotechnology, the properties of nano materials, characterizing nano materials and societal/ethics/business/legal issues in nanotechnology. Nanotechnology is a multi-disciplinary field drawing on physics, chemistry, biology and engineering. How the topics in these diverse fields impact nanotechnology will be presented. The course will also cover how nanotechnology will change society based on the impact on the environment, ethics, law, health and business.
Prerequisite: The ability to perform high school algebra is required. *3 credits*

CHEM 166: Issues in Science and Technology
Designed to present the principles of science, particularly chemistry, to enable one to better understand the world. It is also designed to not only improve the student's ability to understand current problems, but also provide the basis for understanding future developments in the area of science and technology as they relate to the environment. *3 credits*

CHEM 170: Introduction to Criminalistics/Forensic Science
Designed to introduce the principles of scientific investigation to crime analysis. This course is designed for Criminal Justice majors and students with an interest in Forensic Science.
Lecture/discussion: 3 hours per week.
Prerequisite: CHEM 166 or Instructor's permission *3 credits, Fall*

CHEM 171: Criminalistics/Forensic Science Laboratory
Designed to introduce laboratory methods to crime scene analysis. Analysis of paint, arson accelerants, and fingerprinting are among the methods examined.
Laboratory: 3 1/2 hours per week.
Prerequisite: CHEM 166 or Instructor's permission *1 credit, Fall*

CHEM 221: Organic Chemistry I
In this course, the student will study hydrocarbons, both aliphatic and aromatic compounds. Emphasis is placed upon the structures, properties, syntheses, reactions and uses of these compounds.
Prerequisite: CHEM 114 *3 credit, Fall*

CHEM 222: Organic Chemistry Laboratory I
This course provides the student with an introduction to the laboratory methods and techniques of organic chemistry. Emphasis is placed upon the purification and characterization of organic molecules
Prerequisite: CHEM 115; Co-requisite: CHEM 221 *1 credit, Fall*

CHEM 224: Organic Chemistry II
In this course the student will study many monofunctional families of compounds. Emphasis is placed upon the structures, properties, syntheses, reactions and the uses of these compounds.
Prerequisite: CHEM 221 *3 credits, Spring*

CHEM 225: Organic Chemistry Laboratory II
This course involves experimental studies of the reactions of organic molecules and identification of molecules using infrared and nuclear magnetic resonance spectroscopy.
Prerequisite: CHEM 222; Co-requisite: CHEM 224 *1 credit, Spring*

CHEM 323: Organic Chemistry III
A continuation of Chemistry CHEM 224. A systematic study of the polyfunctional organic compounds. Emphasis is placed upon the structures, properties, syntheses, reactions and uses of these compounds.
Lectures: Two hours per week.
Prerequisite: CHEM 224 *2 credits, Fall*

CHEM 324: Organic Chemistry Laboratory III
Quantitative and qualitative organic analysis with emphasis on both classical and modern methods of analysis.
Laboratory: Eight hours per week.
Prerequisite: CHEM 225 *2 credits, Fall*

CHEM 331, 334: Physical Chemistry I & II
Introduction to the behavior of gases, kinetic-molecular theory, thermodynamics, quantum and statistical mechanics, phase equilibria, EMF, catalysis, and solution theory.
Lectures: Three hours per week.
Prerequisite: Math/MATH 141 for CHEM 331 *3 credits, Fall*
CHEM 331 for CHEM 334 *3 credits, Spring*

CHEM 332, 335: Physical Chemistry Laboratory I & II
Experimental studies of glassblowing, thermodynamics of liquids, gases and solutions, calorimetry, electrochemistry chemical kinetics, spectroscopy and diffraction. Emphasis on developing report writing skills.
Laboratory: Four hours per week.
Prerequisite: CHEM 222 for CHEM 332 *1 credit, Fall*
CHEM 332 for CHEM 335 *1 credit, Spring*

CHEM 336: Introduction to Modern Analytical Chemistry
Introduction to the methods of analysis in modern analytical chemistry. Application of general chemistry principles in the systematic analysis of materials. Classical methods of analysis examined include titrimetry and gravimetry. Instrumental methods include potentiometry, electrolytic deposition, spectrophotometry and chromatography.
Lectures: Three hours per week.
Prerequisite: CHEM 114 *3 credits, Spring*

CHEM 337: Modern Analytical Chemistry Laboratory
Experimental studies utilizing techniques used in modern analytical chemistry laboratories. Emphasis in precise measurements and use of instrumental methods.
Laboratory: Eight hours per week.
Corequisite: CHEM 336 *2 credits, Spring*

CHEM 356: Chemical Literature
Designed to acquaint the student with the various sources of literature available today including periodicals and the classical works of reference.
Lecture: One hour per week.
Prerequisite: CHEM 224 *1 credit, Spring*

CHEM 357: Organic Preparations
Preparations of organic compounds with emphasis placed on specialized and/or novel laboratory methods or techniques.
Laboratory: Four hours per week.
Prerequisite: CHEM 324 *1 credit, Fall*

CHEM 360: Polymer Science
An overview of polymer science including synthesis, characterization, properties, nomenclature and industrial processing of polymers. Thermodynamics and kinetics will be utilized to describe certain aspects of polymers.
Prerequisites: MATH 140, and CHEM 224 or ME 334 *3 credits, Spring*

CHEM 361: Advanced Inorganic Chemistry
Presentation of the principles and theories behind phenomena dealt with in previous chemistry courses including bonding, reactivity, structure, chemical periodicity, properties of materials, wave, mechanics, coordination chemistry ligand field theory, and group theory.
Lectures: Three hours per week.
Prerequisite: CHEM 331 or concurrent enrollment *3 credits, Fall*

CHEM 362: Advanced Inorganic Laboratory
Preparation techniques of inorganic chemistry.
Laboratory: Three hours per week. *1 credit, Fall*

CHEM 364: Advanced Inorganic Chemistry
Introduction to the application of wave mechanics, chemical bonding and ligand field theory to inorganic compounds.
Lecture: Three hours per week.
Prerequisite: CHEM 361 *3 credits, Spring*

CHEM 365: Advanced Inorganic Chemistry Laboratory
Advanced preparative techniques for inorganic compounds and the application of instrumental methods for structure determination.
Laboratory: Three hours per week.
Prerequisite: CHEM 361 *1 credit, Spring*

CHEM 366: Structural Biochemistry
A systematic study of the biologically important compounds including the amino acids,

proteins, nucleic acids, enzymes, carbohydrates and lipids. Emphasis is placed upon the structure, properties, syntheses, reactions and functions of these compounds.
Lectures: Three hours per week.
Prerequisite: CHEM 224 or permission of instructor *3 credits, Fall, Spring*

CHEM 367: Biochemical Laboratory
An introduction to the laboratory methods and techniques utilized for the isolation, characterization and syntheses of the biologically important compounds.
Laboratory: Four hours per week.
Prerequisite: CHEM 225 *1 credit, Spring*

CHEM 380, 381, 382: Undergraduate Research
Selected topics in the field of chemistry to be solved by the student with advice from the staff.
Prerequisite: Permission of the Instructor
Corequisite: Senior Status *1-3 credits, Fall*

CHEM 383, 384, 385: Undergraduate Research
Continuation of CHEM 380, 381, 382. *1-3 credits, Spring*

CHEM 402: Advanced Organic Chemistry
A study of topics specialized or current interest in the area of Organic Chemistry.
Lecture: Three hours per week.
Prerequisite: CHEM 224 *3 credits, Fall*

CHEM 408: Advanced Instrumental Analysis
An in-depth examination of the major instrumental methods used in analytical chemistry. Application of advanced chemical principles and fundamental instrumental concepts focusing on how they influence the precision and accuracy of the measurement aspect of analysis. Techniques examined include Spectrophotometry, Chromatography and Electrochemistry. The role computers play in modern instruments is examined.
Lecture: Three hours per week.
Prerequisite: CHEM 336 *3 credits, Spring*

CHEM 409: Advanced Instrumental Analysis Laboratory
Advanced experimental techniques utilizing modern chemical instrumentation. Emphasis in on verifying the chemical principles underlying the method and investigating factors influencing the validity of the analysis.
Laboratory: Four hours per week.
Prerequisite: Chem/CHEM 336 *1 credit, Spring*

CHEM 412: Industrial Internship
Selected students spend an extended period, usually 10-12 weeks during the summer, working in a chemistry laboratory under the direct supervision of a chemist. Where possible, a member of the Gannon faculty will meet regularly with the student and his supervisor to conduct a continuing evaluation of the student's work and progress. At the conclusion of the work period, the student is to write a paper on some phase of his project or experience for submission to his supervisor and faculty advisor and a presentation at a departmental seminar.
Prerequisite: Permission of the Chemistry Department and the cooperating laboratory *1-3 credits*

CHEM 414: Computational Chemistry
Computational chemistry is a field in the science of chemistry in which chemists use computers and computer software as tools to examine the effect of chemical structure at the molecular and atomic levels on the chemical and physical properties of chemical substances. Computational methods provide powerful tools for the prediction of properties or substances, designing new compounds that have a certain desirable property, examining reaction mechanisms, conformational analysis, examining how structure affects physiological properties of pharmaceuticals, and many other applications. In this course, the student will be

presented with a hands-on opportunity to explore the various techniques and use of computational equipment and characterizes the field of computational chemistry. Prerequisites: CHEM 224; and either CHEM 331 or CHEM 366 are a co requisite or prerequisite. *2 credits, Fall*

CHEM 418, 419: Special Topics in Chemistry
Topics of special and/or current interest in all areas of chemistry will be covered. Three topics will normally be covered in depth during the course of a semester. Typical topics include: organosulfur chemistry, organometallic chemistry, heterocyclic chemistry, polymer chemistry, catalysis, chromatography, natural products, photochemistry, nuclear chemistry, clinical chemistry, etc. *1-3 credits*

CHEM 420: Analysis of Industrial Practices (Senior Seminar)
The course examines the chemical industry as a means of presenting multi-disciplinary subjects as ethics, business practices, oral and written communication skills, history, literature searching, theology, environmental issues and legal issues. Faculty from different disciplines (theology, business and environmental science) participate in presenting the class. Along with class participation and tests, students work as a team in the preparation and presentation of a written and oral report on some major issue for the chemical industry. This course may be taken instead of LBST 383, but not as a chemistry elective. *3 credits*

Chemistry Curriculum

(Numerals in front of courses indicate credits)

	FRESHMAN		
	Fall		*Spring*
2	First-Year Seminar	3	Crit Analysis & Comp/LENG 112
3	College Composition/LENG 111	4	General Chemistry II & Lab/ CHEM 114 & 115
4	General Chemistry I & Lab/ CHEM 111 & 112	3	Sacred Scriptures/LTHE 121
3	Calculus I/MATH 140 *	3	Calculus II/MATH 141
4	Technical Electives **	4	Technical Electives **
16		17	

	SOPHOMORE		
	Fall		*Spring*
4	Organic Chemistry I & Lab/ CHEM 221 & 222	4	Organic Chemistry 2 & Lab/ CHEM 224 & 225
4	General Physics III & Lab/ PHYS 111 & 112	4	General Physics IV & Lab/ PHYS 212 & 213
3	History of West & World/LHST 111	3	Literature Series/LENG
3	Introduction to Philosophy/LPHI 131	7	Technical Electives **
3	Social Science		
17		18	

	JUNIOR		
	Fall		*Spring*
4	Organic Chemistry III & Lab/ CHEM 323 & 324	1	Leadership Seminar
3	Physical Chemistry I/CHEM 331	5	Intro to Modern Analytical Chemistry & Lab/CHEM 336 & 337
1	Physical Chemistry I Lab/CHEM 332	3	Physical Chemistry II/CHEM 334
3	Technical Elective **	1	Chemistry Elective (CHEM 335)
3	Theology II Series/LTHE	1	Chemistry Literature/CHEM 356
3	Philosophy II Series/LPHI	3	Theology or Philosophy III Series/ LTHE or LPHI
17		14	

SENIOR

	Fall		*Spring*
7	Chemistry Electives	3	Senior Seminar/LBST 383 ***
3	Fine Arts Series/LFIN	3	Technical Electives **
3	Technical Electives **	7	Chemistry Electives
1	Undergraduate Research/CHEM 380-383	1	Undergraduate Research/CHEM 380-383
1	General Elective		
15		14	

Total credits: 128

* *If necessary, students may take MATH 111 and MATH 112 before taking MATH 140 and MATH 141.*

** *Upper level science (physics, biology, etc.), mathematics courses or computer science are recommended. German may also be an elective. Your advisor can assist in choice of electives. The guidelines published by the American Chemical Society recommend at least one semester of Biochemistry and Advanced Inorganic Chemistry as well as 400 hours of laboratory in the chemical field.*

***Students may take CHEM 420 Analysis of Industrial Practices as the Senior Capstone course but not as a Chemistry or Technical Elective.*

In addition to the chemistry curriculum listed above, the department offers alternate interdisciplinary programs with special areas of emphasis that also lead to a chemistry degree. The programs are as follows:

Program	*Career Goal*
Chemistry-Biology	*Biochemistry, Medical or Dental school, Pharmacology, Medicinal Chemistry*
Chemistry-Business	*Technical Sales, Marketing Management*
Chemistry-Environment	*Pollution Control, Environmental Control*
Chemistry-Forensics	*Forensic Scientist*

Chemistry/Biology Curriculum

** *Electives should be chosen based upon the career intentions of the student. The student will take BIOL 122, 123, 124, and 125 as Technical Electives.*

Other biology courses at the 200 level or higher will also fulfill the requirements.

Chemistry/Business Curriculum

** *The following courses are accepted as Technical Electives: BCOR 111, BCOR 112, BCOR 201, BCOR 202, BCOR 203, BCOR 231, BCOR 241 and BCOR 251.*

Chemistry/Forensic Curriculum

** *Students may choose technical electives from CRJS 310, 312, 318, 321, or 325.*

The Next Step

Baccalaureate Degree Program for Graduates of Two Year Colleges

Chemistry

(Numerals in front of courses indicate credits)

	Pre-Senior Year
3	Organic Chemistry I/CHEM 221
1	Organic Chemistry I Lab/CHEM 222
3	Organic Chemistry II/CHEM 224
1	Organic Chemistry II Lab/CHEM 225
3	Modern Analytical Chemistry/CHEM 336
2	Modern Analytical Chemistry Lab/CHEM 337
3	General Physics I/PHYS 105
1	General Physics I Lab/PHYS 106
3	General Physics II/PHYS 108
1	General Physics II Lab/PHYS 109
3	Calculus I/MATH 140 (required)
3	Calculus II/MATH 141 (required)
3	Introduction to Philosophy/LPHI 131
3	Sacred Scripture/LTHE 121
33	
	Senior Year
3	Organic Chemistry III/CHEM 323
1	Organic Chemistry III Lab/CHEM 324
3	Physical Chemistry I/CHEM 331
3	Physical Chemistry II/CHEM 334
13	Chemistry Electives
1	Chemical Literature/CHEM 356
3	Senior Seminar/LBST 383
3	Literature Series/LENG
3	Fine Arts Series/LFIN
3	Theology or Philosophy III Series/LTHE or LPHI
1	Leadership Seminar
37	

Recommended: Calculus III

Prerequisites:

One year of General Chemistry
One semester of Calculus

Students will be permitted to take other courses in substitution for any course listed above which they have satisfactorily completed prior to admission into the Next Step program. Students are required to complete 7-19 credits in the Core of Discovery. Students may transfer courses equivalent to Sacred Scripture, Introduction to Philosophy, the Literature Series and/or the Fine Arts Series. Students must take the Leadership Seminar, the Theology/Philosophy III Series, and the Senior Seminar or approved capstone at Gannon.

HEALTH SCIENCE

ADVISORS: Cynthia L. Liotta, M.S., R.T.(R), (CT), Suzanne Sturdivant, M.Ed., R.T. (R), (CT), (M)

The Bachelor of Science degree with a major in Health Sciences is designed for students seeking a health-related major that is more broadly based than the focused, existing majors within the University. The major combines a foundation in sciences, humanities, and social sciences with a breadth of courses within one or more departments in the University. In addition to the major requirements, which represent the health focus of the college, students will select a concentration area or an existing University minor outside the college that will build on students' personal and career objectives and interests. There are three areas of concentration:

1) general education,
2) leadership/business, and
3) community health educator.

This major is ideal for students who may envision working in a variety of settings within the health services arena during their professional careers. A major in Health Sciences will open doors to entry level positions in a wide variety of health-related agencies-medical centers, long-term care facilities, assisted living facilities, private and public health organizations, as well as local, state, and federal health departments. In addition, the program is appropriate for students interested in graduate study in a variety of health-related fields.

The Bachelor of Science with a major in Health Science: Community Health Education option prepares students to pursue careers in staff and administration positions within the health care system, insurance agencies, government and not-for-profit community health agencies and in counseling programs. Individualized plans of study can lead to preparation for certification as a Certified Health Education Specialist (CHES).

Health educators are professionals who design, conduct, and evaluate activities that help improve the health of all people. These activities can take place in a variety of settings: schools, communities, health care facilities, businesses and colleges. Health educators are employed under a range of job titles such as patient educators, health education teachers, trainers, community organizers, and health program managers. The Certified Health Education Specialists (CHES) are those who have met the standards of quality established by the National Commission for Health Education Credentialing (NCHEC) by successfully passing the CHES examination. The CHES designation after a health educator's name is one indication of professional competency.

Admission requirements:

The minimum requirements to be considered for acceptance into the Bachelor of Science, Health Science program include:

1. Overall GPA of 2.0 or better (high school or college if transfer student)
2. SAT scores of 950 (or comparable act)

COURSE DESCRIPTIONS:

CHE 308: Introduction to Community Health Education and Health Promotion
This course introduces students to the basic principles of community health, community health education, health behavior change, health promotion, and community organization. Also included will be an overview of the competencies and skills needed to become a Certified Health Education Specialist, and the relationship of the course content to these competencies and skills. *3 credits, Fall*

CHE 312: Community Health Education Essentials
This course provides students with the knowledge and skills needed to successfully plan, implement, and evaluate community health education programs for both individuals and groups. This course also includes an overview of evidence-based health education methods, including health communications, social marketing, support groups, group presentations, and discussion regarding selection and use of printed materials, working with the media, and use of community organizing and advocacy to effect policy change. *3 credits, Spring*

CHE 408: Advanced Principles in Community Health Education
Students will learn theories and practical application of principles related to health communication, social marketing, health education ethics, and funding and financial management. Also included will be an overview of community health education settings and roles, as well as a review of the competencies and skills needed to become a Certified Health Education Specialist (CHES). *3 credits, Fall*

CHE 418: Community Health Education Internship
The Internship experience is designed to provide students the opportunity to synthesize and apply their knowledge and skills to real-world work settings, develop their professional skills, and gain meaningful experience that will prepare them to enter the workforce.
12 credits, Spring

Health Science Curriculum:

The curriculum* requires 128 credit hours comprised of the following:

Liberal Studies	39 credits
Science/mathematics/CIS	28 credits
Biology (8)	
Chemistry (8)	
Stats (3)	
CIS (3)	
Plus 6 additional	
Social Sciences (psyc, soc, scwk)	15 credits
SOCI 110 (3)	
PSYC 111 (3)	
PSYC 222 (3)	
Plus 6 additional	
Health-related Courses	19-22 credits
Nutrition (3)	
Research (3)	
Plus 13-16	
(can apply towards minor)	
Electives	9-12 credits
PLUS	
Education	15 credits
OR	
Business/Leadership	15 credits
OR	
Community Health Educator	21 credits
	128 total

MATHEMATICS

GEOFFREY DIETZ, *Chairperson*

FACULTY: *Associate Professors:* Michael Caulfield, Geoffrey Dietz, Patrick Headley, Edward A. Rogers. *Assistant Professors:* Christine Cedzo, David Prier, JoAnne E. Revelt.

Aims and Objectives:

Mathematics majors at Gannon must satisfactorily complete a minimum of forty-eight credits ranging over such areas as discrete mathematics, calculus, abstract algebra, mathematical analysis, probability, statistics, linear algebra, differential equations, and mathematical modeling. In addition, mathematics majors will receive a significant career-enhancing experience through placement in an appropriate internship position or through a challenging undergraduate research project.

The Mathematics curriculum is designed to allow students to develop a strong secondary interest in allied fields such as business, computer science, economics, physics, biology, chemistry, engineering or education. There is ample opportunity to select the most beneficial combination of courses to achieve the student's goals. The content of a particular student's curriculum requires department approval to insure proper competency by graduation. Mathematics majors receive preparation for the first Actuarial Exam administered by the Society of Actuaries. Students who pursue a concentration in Acturial Science will receive preparation for two additional exams.

This competency required of students in mathematics has resulted in careers in research, in education at all levels, and in advanced positions in industry and government. Among employers of Gannon mathematics graduates are IBM, GE, General Motors, International Paper and GTE. Mathematicians are increasingly in demand in today's employment market. Mathematics majors, by satisfying additional requirements of the School of Education, can earn Teacher Certification in Secondary Education for the State of Pennsylvania.

COURSE DESCRIPTIONS:

MATH 055: Algebra Refresher
Exponents, polynomial and rational expressions, factoring, linear equations and inequalities, rational equations, graphing, functions, and applications. This course will meet 4 hours per week during a regular semester, but will count as 3 credits of load for student financial aid and quality point average considerations. It may not be used to satisfy any graduation requirements in any degree program.
Prerequisite: One year of high-school algebra *3 credits (see description)*

MATH 103: Quantitative Literacy
Number sense, sets and basic enumeration. Causation, correlation, probability, independence, and conditional probability. Charts, graphs, measures of central tendency, and standard deviation. Rates of change, and linear and exponential models. Simple and compound interest, annuities and loan payments. Basic concepts of geometry and trigonometry. Inductive and deductive reasoning, symbolic logic, and valid and invalid arguments.
Prerequisite: Two years of high school algebra or MATH 055 *3 credits*

MATH 105: Fundamentals of Mathematics 1
This course investigates the nature of mathematical relationships through problem solving. Topics include set theory, algebra, systems of numeration, number theory and the real number system, and geometry.
Prerequisite: Two years of high school algebra. *3 credits*

MATH 106: Fundamentals of Mathematics 2
This course is a continuation of MATH 105, and like MATH 105, it continues to investigate mathematical relationships through problem solving. Topics include logic, graphs, functions, measurement systems, voting theory, probability, and statistics.
Prerequisite: Two years of high school algebra. *3 credits*

MATH 110: Mathematics in Human Progress
Most of the mathematics discussed has been developed in the last century. Topics covered are based on down-to-earth, real-life problems and will include: Mathematics of social choice including group decision making and democratic voting methods; Management science including methods for solving problems involving organization and management of complex activities; Growth and symmetry including population growth, geometrical patterns of biological growth and fractals.
Prerequisite: Two years of high-school algebra or MATH 055 *3 credits, Spring*

MATH 111: College Algebra
Polynomial, rational, radical, exponential, and logarithmic functions and equations; systems of equations; matrices and determinants; sequences and series; binomial theorem.
Prerequisite: Two years of high school algebra or MATH 055 *3 credits, Fall, Spring*

MATH 112: Trigonometry
Trigonometric functions, radian measure, trigonometric identities and equations, solution of triangles, DeMoivre's theorem, vectors, polar coordinates.
Prerequisite: MATH 111, or concurrently with MATH 111 or equivalent competency.
3 credits, Fall, Spring

MATH 114: Algebra for Business Students
Linear and quadratic equations, inequalities and systems of equations. Algebraic, exponential and logarithmic functions and their graphs. Mathematics of finance. Matrix algebra. Emphasis on business applications.
Prerequisite: High school algebra. *3 credits, Fall, Spring*

MATH 115: Calculus for Business Students
Limits and continuity. Derivatives and partial derivatives with applied maxima and minima problems. Integration with applications.
Prerequisite: MATH 114 or department recommendation. *3 credits*

MATH 125: Great Ideas of Mathematics
A history of the great ideas of mathematics including the Pythagorean Theorem, the works of Euclid, various discoveries of Archimedes, Cardano's solution of the cubic equation, various investigations of Bernoulli, Euler, and Gauss, and Cantor's study of infinite sets. The emphasis of the course is to be entirely on the beauty, originality, and creativity of the ideas involved.
Prerequisite: Two years of high school algebra and one of geometry *3 credits, Fall*

MATH 135: Precalculus
The course addresses concepts in algebra and trigonometry through the use of functions. The relationship between functions and their graphs is examined in detail. The course also covers topics in the mathematics of functions such as composition and inverses. Rates of change are studied with a view toward calculus.
Prerequisite: Two years of high school algebra. *3 credits*

MATH 140: Calculus 1
Limits; derivatives of algebraic and trigonometric functions; graphing; related rates; optimization problems.
Prerequisite: Trigonometry. *3 credits, Fall, Spring*

MATH 141: Calculus 2
The definite and indefinite integrals; applications of integration; techniques of integration; calculus of the exponential, logarithmic, and other transcendental functions.
Prerequisite: MATH 140 *3 credits, Fall, Spring*

MATH 213: Applied Statistics
Designed for students majoring in the natural or social sciences. Topics include measures of central tendency and dispersion, combinations and permutations, sampling distributions, testing hypotheses, Chi-Square applications, linear regression and correlation.
Prerequisite: High school algebra *3 credits, Fall, Spring*

MATH 222: Discrete Mathematics 1
Logic, sets, functions, mathematical induction, algorithms, counting methods, recurrence relations, graphs.
Prerequisite: MATH 111, MATH 114 or MATH 140 *3 credits, Fall*

MATH 223: Discrete Mathematics 2
Relations, topics in graph theory, tree traversal, spanning trees, Boolean algebra, logic gates, circuits, automata, Turing machines.
Prerequisite: MATH 222 *3 credits, Spring*

MATH 226: Geometry
Metric and synthetic approaches to Euclidean geometry. Incidence, separation, distance, congruence, similarity, angle, measurement. Geometric transformations of the Euclidean plane: isometries, symmetry groups, similarity, and affine transformations. Axiomatic systems for Euclidean and non-Euclidean geometries. Models of hyperbolic, projective, and finite geometries.
Prerequisite: MATH 222 *3 credits, Fall, even years*

MATH 242: Calculus 3
Infinite sequences and series; power series; Taylor series and polynomials; parametric equations; polar coordinates; vectors in the plane and space; vector-valued functions.
Prerequisite: MATH 141 *3 credits, Fall, Spring*

MATH 243: Calculus 4
Partial differentiation; multiple integration; vector calculus.
Prerequisite: MATH 242 *3 credits, Fall, Spring*

MATH 252: Linear Algebra
Systems of linear equations; matrix algebra; determinants; vector spaces; linear transformations; eigenvalues and eigenvectors; inner products.
Prerequisite: MATH 242 *3 credits, Spring*

MATH 260: History of Mathematics
Survey of the development of mathematics from the earliest historic times to the present. A true appreciation of mathematics is developed through the knowledge of the history of mathematics. The cultural and historical significance of mathematics will be discussed.
Prerequisite: MATH 140 *3 credits, Spring, odd years*

MATH 296: Cooperative Education Seminar
Seminar focusing on the development of employment and professional competencies, required of students planning a co-op placement in MATH 375. *1 credit*

MATH 301: Mathematical Analysis 1
Elementary set theory; properties of the real numbers; topology of the real line; sequences of functions; limits of functions; continuity; uniform continuity; differentiation of real-valued functions; integration.
Prerequisite: MATH 243 *3 credits*

MATH 302: Mathematical Analysis 2
Additional topics in real analysis: integration; infinite series; differentiation of vector-valued functions; integration of vector-valued functions.
Prerequisite: MATH 301 *3 credits*

MATH 304: Differential Equations 1
Ordinary differential equations with applications to science and engineering. Solution methods for first-order equations, linear equations, and systems of equations, including Laplace transforms. Other topics may include power series methods, numerical methods, or nonlinear phenomena.
Prerequisite: MATH 242 *3 credits, Fall, Spring*

MATH 305: Differential Equations 2
Bessel functions, Sturm-Liouville Problems, Fourier series and integral, partial differential equations, Laplace's equation.
Prerequisites: MATH 304 *3 credits*

MATH 308: Applied Complex Variables
A study of complex algebra, analytic functions, integration in the complex plane. Taylor and Laurent expansions, singularities, calculus of residues and meromorphic functions.
Prerequisite: MATH 243 *3 credits*

MATH 309: Abstract Algebra 1
Fundamentals of groups, rings, fields, and homomorphisms.
Prerequisite: MATH 222 and MATH 243 *3 credits*

MATH 310: Abstract Algebra 2
Additional topics in algebra that may include: prime fields, extension fields, Galois Theory, Sylow Theorems, number theory, advanced linear algebra and canonical forms, or computational algebraic geometry.
Prerequisite: MATH 309 *3 credits*

MATH 312: Probability and Statistics 1
Enumeration, probability, independence, probability distributions, random variables, expectation, mean, variance, moment generating functions, Central Limit Theorem, sampling distributions, and other selected topics.
Prerequisite: MATH 141 *3 credits, Fall*

MATH 313: Probability and Statistics 2
Point and interval estimations, hypothesis testing, Neyman-Pearson lemma, likelihood ratio tests, tests concerning means, proportions and variances, Chi-square tests, analysis of variance, regression, correlation analysis, nonparametric methods.
Prerequisite: MATH 312 *3 credits*

MATH 314: Numerical Analysis
Taylor polynomials, machine representation of numbers, computational error, interpolation, root finding, systems of linear equations, curve fitting, numerical differentiation and integration.
Prerequisites: MATH 141 and CIS 214 *3 credits, Fall*

MATH 315: Numerical Analysis 2
An extension in breadth and depth of MATH 314, including topics in the solution of equations and approximation theory.
Prerequisite: MATH 314 *3 credits*

MATH 320: Mathematical Modeling
Construction and analysis of mathematical models for the solution of 'real-world' problems. Topics discussed may include genetics, predator-prey problems, population growth, spread of disease, finance, etc.
Prerequisite: MATH 304 *3 credits, Fall*

MATH 331: Financial Mathematics 1
This course introduces the theory of interest and basic concepts of financial mathematics. Topics include the growth of money, equations of value and yield rate, annuities, amortization, bonds, stocks, and interest rate sensitivity. The course covers many of the topics found on the actuarial exam FM/2.
Prerequisite: MATH 141 *3 credits*

MATH 332: Financial Mathematics 2
This course continues the financial topics introduced in MATH 331. Topics include interest rate models, valuation of derivative securities, and risk management. The course covers many of the topics found on the actuarial exam MFE/3F.
Prerequisite: MATH 331 *3 credits*

MATH 341: Methods of Teaching Secondary Mathematics
This course is designed to prepare students to teach mathematics in secondary schools. It includes an examination of theories, research, and methods related to student learning and achievement in mathematics. Students will teach a variety of mathematics lessons as well as analyze the strategies of others. Students will also gain experience with graphing calculators and Geometer's Sketchpad.
Prerequisite: MATH 243 *3 credits, Fall, Odd years*

MATH 375: Internship
Student obtains professional work experience in a position involving substantial use of mathematics.
Prerequisite: MATH 296 *3 credits*

MATH 380: Undergraduate Mathematics Research
Student obtains an introduction to the nature and methods of modern mathematics research after selection of an appropriate project under the guidance of a faculty mentor. *3 credits*

MATH 391-394: Directed Study in Mathematics
Supervised reading in selected subjects approved by a three-person department committee. May be taken more than once for a total of at most four credits.
Prerequisite: Approval of faculty supervisor. *1-3 credits*

MATH 395-399: Special Topics in Mathematics
Topics which are not covered by regularly scheduled courses but have the approval of a three-person department committee. At most six credits of Special Topics may be used toward meeting departmental requirements for mathematics electives.
Prerequisite: Consent of the department chair. *3 credits*

Mathematics Curriculum (128 - 129 credits)

(Numerals in front of courses indicate credits)

FRESHMAN

	First Semester		*Second Semester*
3	College Composition/LENG 111	3	Critical Analysis & Composition/ LENG 112
3	Hist of West & World/LHST 111	3	Applied Statistics/MATH 213
3	Calculus I/MATH 140	3	Calculus II/MATH 141
3	Principles of Computing/CIS 190	3	Intro to Programming & Lab/ CIS 214 & 215
3	Intro to Philosophy/LPHI 131	3	Sacred Scriptures/LTHE 121
2	First-Year Seminar		
17		15	

SOPHOMORE

	First Semester		*Second Semester*
3	Calculus III/MATH 242	4	General Physics & Lab *2
3	Discrete Mathematics 1/MATH 222	3	Theology or Philosophy III Series/ LTHE or LPHI
3	Philosophy II Series/LPHI		
4	Gen Phys III & Lab/PHYS 111&112	3	Linear Algebra/MATH 252
3	Literature Series/LENG	3	Calculus IV/MATH 243
1	Co-op Education Seminar/MATH 296*1	3	Fine Arts Series/LFIN
		1	Leadership Seminar
17		17	

JUNIOR

	First Semester		*Second Semester*
3	Cognate Elective	3	Speech/SPCH 111
3	Social Science	3	Differential Equations 1/MATH 304
3	Probability & Statistics I/MATH 312	3	Mathematics Elective *3
3	MATH 301 or MATH 309 *4	3	Department approved 300 level MATH elective
3	General Elective		
		3	Cognate Electives *3
		3	Theology II Series/LTHE
15		18	

SENIOR

	First Semester		*Second Semester*
3	Senior Seminar/LBST 383	3	Department approved 300 level MATH elective
3	MATH 301 or MATH 309 *4		
3	Mathematical Modeling/MATH 320	3	Internship/Research/MATH 375 or 380 *1
3	Cognate Electives *3		
3	General Electives	3	Mathematics Elective *3
		3	Cognate Electives *3
		3	General Electives
15		15	

*1 Students are required to take either MATH 375 or MATH 380. MATH 296 is required of students planning a co-op placement in MATH 375. MATH 375 may be taken prior to the senior year.

*2 Students can choose either Physics IV & Lab or Physics V & Lab (PHYS 212 & 213 or 214 & 215).

*3 All mathematics and cognate electives must be approved by the Mathematics advisor and chosen to suit student interests.

*4 Required Mathematics: MATH 301 (Fall even years) and MATH 309 (Fall odd years)

Mathematics Curriculum with Secondary Education (135 credits)

Students majoring in Mathematics qualify for Teacher Certification in Mathematics/ Secondary Education.

Aims and Objectives

The objectives of the program are: (1) to give the students an opportunity to become broadly educated in the areas of Mathematics, and (2) to provide a program of teacher education which promotes growth, development, professionalism and expertise for successful teaching.

Students who wish to prepare themselves as secondary Mathematics teachers must make formal application to the teacher education program through the School of Education. For a detailed explanation of all requirements refer to the catalog portion under Education.

(Numerals in front of courses indicate credits)

FRESHMAN

	First Semester		*Second Semester*
3	College Composition/LENG 111	3	Critical Analysis & Comp/LENG 112
3	Calculus I/MATH 140	3	Applied Statistics/MATH 213
3	Principles of Computing/CIS 190	3	Calculus II/MATH 141
3	Intro to Philosophy/LPHI 131	3	Intro to Prog & Lab/CIS 214 & 215
1	Foundations of Teaching/EDCR 103	3	Psych of Learning & Teaching/ EDCR 101
2	First-Year Seminar/EDCR 104 +		
3	Fundamentals of Speech/SPCH 111	3	Special Education Overview/ SPED 101
18		18	

SOPHOMORE

	First Semester		*Second Semester*
4	Gen Phys III & Lab/PHYS 111&112	3	Phil of Ethical Responsibility/ LPHI 237
3	Calculus III/MATH 242		
3	Discrete Mathematics/MATH 222	3	Linear Algebra/MATH 252
3	Literature Series/LENG	4	General Physics & Lab *2
3	Reading Across the Content Area/ EDCR 326 +	3	Calculus IV/MATH 243
		3	MATH 260 or MATH 304 *1
0	Secondary/K-12 Education Practicum/EDFL 101	1	Leadership Seminar
16		17	

JUNIOR

	First Semester		*Second Semester*
3	Philosophy II Series/LPHI	3	Theology II Series/LTHE
3	Probability & Statistics I/MATH 312	3	Fine Art Series/LFIN or MATH 260 *1
3	MATH 226 or MATH 341+ *3	3	History of West & World/LHST 111
3	MATH 301 or MATH 309 *4	3	Department approved 300 level MATH elective
3	Sacred Scriptures/LTHE 121		
3	Methods & Materials for ELL/ EDCR 420 +	3	MATH 260 or MATH 304 *1
		3	Meet Needs of Stud Excp Mid-HS/ SPEC 340 +
		0	Secondary Education Practicum/ EDFL 102
18		18	

SENIOR

	First Semester		*Second Semester*
3	Assessment & Evaluation/EDCR 330	12	Student Teaching/EDFL 410
3	MATH 226 or MATH 341 +*3	3	Professional Seminar/EDCR 401
3	MATH 301 or MATH 309 *4		
3	Mathematical Modeling/MATH 320		
3	Methods & Materials Practicum EDCR 320 +		
0	Secondary/K-12 Education Practicum/EDFL 103		
15		15	

\+ Embedded practicum throughout the semester.
*1 Required Mathematics: MATH 260 (Spring odd years) and MATH 304 (Spring even years)
*2 Students can choose either Physics IV & Lab or Physics V & Lab (PHYS 212 & 213 or 214 & 215)

*3 Required Mathematics: MATH 226 (Fall even years) and MATH 341 (Fall odd years)
*4 Required Mathematics: MATH 301 (Fall even years) and MATH 309 (Fall odd years)

Mathematics Curriculum with Concentration in Actuarial Science (128 credits)

This concentration augments the mathematics curriculum with courses in Economics, Finance, Risk Management, and Financial Mathematics. It provides preparation for three exams administered by the Society of Actuaries and the Casualty Actuarial Society: P/1 (Probability), FM/2 (Financial Mathematics), and MFE/3F (Financial Economics). In addition, the curriculum has been approved by the actuarial societies as satisfying Validation by Educational Experience (VEE) requirements in Economics and Corporate Finance.

(Numerals in front of courses indicate credits)

FRESHMAN

	First Semester		*Second Semester*
3	College Composition/LENG 111	3	Critical Analysis and Composition/ LENG 112
3	Principles of Microeconomics/BCOR 111	3	Sacred Scripture/LTHE 121
3	Calculus 1/MATH 140	3	Applied Statistics/MATH 213
3	Principles of Computing/CIS 190	3	Calculus 2/MATH 141
3	Intro to Philosophy/LPHI 131	3	Intro to Programming and Lab/ CIS 214 & 215
2	First-Year Seminar	1	Co-op Ed Seminar/MATH 296 1*
17		16	

SOPHOMORE

	First Semester		*Second Semester*
3	Philosophy II Series/LPHI	3	Philosophy or Theology III Series/ LPHI or LTHE
3	Calculus 3/MATH 242	3	Financial Accounting/BCOR 201
3	Discrete Mathematics 1/MATH 222	3	Linear Algebra/MATH 252
3	Theology II Series/LTHE	3	Calculus 4/MATH 243
4	Gen Phys III and Lab/PHYS 111 & 112	3	Principles of Macroeconomics/ BCOR 112
		1	Leadership Seminar
16		16	

JUNIOR

	First Semester		*Second Semester*
3	Literature Series/LENG	3	Fundamentals of Speech/SPCH 111
3	History of West and the World/ LHST 111	3	Differential Equations/MATH 304
3	Financial Mathematics/BCOR 311	3	MATH 313 or MATH 332 *4
3	MATH 312 or MATH 331 *2	3	Department-approved 300 level Math elective
3	MATH 301 or MATH 309 *3	3	Financial Management II/FINC 312
3	Intro to Risk Management/RISK 220		
18		15	

SENIOR

	First Semester		*Second Semester*
3	Senior Seminar/LBST 383	3	Department approved 300 level MATH elective
3	MATH 312 or MATH 331 *2	3	Internship/Research/MATH 375 or 380 *1
3	MATH 301 or MATH 309 *3		
3	Mathematical Modeling/MATH 320		

3	Life and Health Insurance/RISK 325	3	MATH 313 or MATH 332 *4
		3	Fine Arts Series/LFIN
		3	Commercial Property and Liability Insurance/RISK 321
15		15	

*1 Students are required to take either MATH 375 or MATH 380. MATH 296 is required for all students pursuing this concentration.
*2 Required Mathematics: MATH 312 (Fall even years) and MATH 331 (Fall odd years)
*3 Required Mathematics: MATH 301 (Fall even years) and MATH 309 (Fall odd years)
*4 Required Mathematics: MATH 313 (Spring odd years) and MATH 332 (Spring even years)

MATHEMATICS MINOR

A total of 24 credits is required for a minor in mathematics, including MATH 140, 141, 242, and 243; and 12 credits chosen from among any MATH courses at the 200 level or higher.

STATISTICS MINOR

A total of 24 credits in mathematics is required for a minor in statistics, including MATH 140, 141, 242, 243, 252, 213, 312, and 313.

MEDICAL TECHNOLOGY

DAWNA TORRES MUGHAL, PH.D., R.D., *Program Director*

Medical technologists are problem-solvers, dealing with the complexities and outcomes of medicine and science. They provide invaluable service to patient care by performing a wide range of laboratory tests, confirming the accuracy of test results, and reporting the test results to the pathologists and other physicians. Medical technologists work in blood banking, chemistry, hematology, immunology, and microbiology. They apply their solid foundation in the sciences and laboratory education to the screening, diagnosis, and treatment of diseases.

Practice settings for medical technologists include hospitals, independent laboratories, clinics, public health agencies, and industries. Molecular diagnostics, molecular biotechnology companies, and other specialized laboratories offer additional career opportunities. Experienced medical technologists have opportunities to advance their career by specializing in certain areas, such as cell marker technology, bioengineering and cancer research, drug testing, therapeutic drug monitoring and biogenetics. Industry offers career opportunities in product development, marketing, sales, and quality assurance.

Currently, the demand for medical technologists far exceeds the supply of educated professionals qualified to work in such jobs. With continued population growth and medical advances, the need for laboratory science professionals is expected to increase.

The goal of the Medical Technology Program is to provide a solid program of study that qualifies students for admission to a hospital-based program for clinical or laboratory education. The mission of Gannon is inherent in this goal. The program involves three years of study at Gannon and a fourth year of clinical or laboratory education at a hospital-based medical technology program accredited by the National Accrediting Agency for Clinical Laboratory Science (NAACLS). Currently, through an agreement for educational purposes, Gannon is affiliated with the medical technology programs of Saint Vincent Health Center, Erie, Pennsylvania; and W. C. A. Hospital, Jamestown, New York. Students may apply to any hospital having an accredited medical technology program in the United States even though Gannon is not affiliated with that program.

Students who complete Gannon's three-year academic requirements and successfully complete their fourth year of studies (approximately 12 months) at an accredited medical technology program will be awarded the Bachelor of Science degree with a major in medical technology. Selection of students for admission to the hospital laboratory program is based primarily on grade point average (GPA) (minimum 3.0). Students with low GPA, therefore, especially in the sciences, may not be accepted by the hospitals for the laboratory portion of the program. In general, students apply for admission to hospital-based programs during fall semester of their junior year and upon acceptance, begin their clinical education the following summer. Students will have completed all their prerequisite courses prior to their clinical education. Because the programs have different calendars, it is important for students to obtain information from programs as early as possible. The program director at Gannon assists students with the application process; however, the university does not guarantee admission of students to the hospital-based programs. These programs conduct their own selection process. While students are completing their laboratory education, they are considered students of that program and do not register at Gannon. They are governed by the academic policies of their laboratory education program. Directors of affiliated medical technology programs send students' grades to Gannon to be recorded on the students' transcripts. Following a typical 3 +1 curriculum, students graduate in summer immediately following completion of their laboratory education.

Graduates are eligible to take a national certification test given by the Board of Registry of the American Society for Clinical Pathology (ASCP). Those who pass the exam may use the initials, MT (ASCP) after their name, showing proficiency in the field.

The following course descriptions are for the courses offered by the hospital's Medical Technology Program. Hospitals' programs may have different course titles.

COURSE DESCRIPTIONS:

MDTC 410: Hematology and Coagulation
The course includes a study of the blood and blood forming tissues and their relation to the care of patients as they are correlated with the entire clinical condition. *6 credits*

MDTC 420: Clinical Chemistry (includes instrumentation and RIA)
This course includes a brief review of analytical chemistry and qualitative analysis and stresses the chemistry of proteins, lipids, carbohydrates, endocrinology, vitamins, hormones, enzymes, etc., and the physiology, metabolisms, and methodologies used in the study of these substances in relation to biologic processes as found in health and pathologic states. Clinical correlation is made with the various situations in which the substances are altered. *8 credits*

MDTC 430: Immunchematology and Blood Banking
Immunchematology emphasizes the application of principles of red cell antigens which are detectable only by the reactivity of red cells with antibodies corresponding to the antigens. Topics include ABO groupings, Rh factor, and numerous other blood group systems. These are all correlated with the compatibility of transfused blood and the various procedures needed to test for this compatibility. *4 credits*

MDTC 440: Urinalysis
The course considers the examination of urine and all other body fluids, such as cerebral spinal fluid, feces, gastric fluid, seminal fluid, amniotic fluid, etc. Emphasis is placed on anatomy and physiology of the kidney and urinary system, methodologies, clinical correlation, kidney function tests, microscopic examination and urinary calculi. *2 credits*

MDTC 450: Microbiology (includes mycology, parasitology, virology and microbiology)
The course includes the study of the various micro-organisms, i.e. bacteria, fungi, rickettsia, parasites, and viruses recovered in clinical material. The critical identifying characteristics of the organisms, the diseases with which they are commonly associated, and the sites from

which they are commonly isolated are presented. Fluorescent microscopy and its application to identification of micro-organisms is presented. *8 credits*

MDTC 460: Immunology and Serology
The course encompasses the serologic reactions employed in the diagnosis of bacterial, parasitic, rickettsial, and viral diseases. The principles of antigen-antibody reactions are developed and the various procedures including agglutination, flocculation, precipitation, and complement fixation are stressed. *4 credits*

MDTC 470: Medical Technology Education
Basic principles of education to include lecture presentation and preparation, writing behavioral objectives, toxonomy levels, curriculum development, and evaluation procedures are presented. Each student is required to give one lecture to include outline, objectives, and some form of evaluation. *0 credit*

MDTC 480: Management and Supervision
Principles of management techniques, budget, personnel practices, laboratory supplies, procurement of equipment. Federal and State Regulations, lab safety, medical/legal matters, and psychology of management are presented. *0 credit*

Medical Technology Curriculum

(Numerals in front of courses indicate credits)

FRESHMAN

	First Semester		*Second Semester*
3	Molecular Cellular Biology/BIOL 122	3	Animal Form & Function/BIOL 124
1	Molecular Cellular Lab/BIOL 123	1	Animal Form & Funct Lab/BIOL 125
3	General Chemistry I/CHEM 111	3	General Chemistry II/CHEM 114
1	General Chemistry I Lab/CHEM 112	1	General Chem Lab II/CHEM 115
3	College Algebra/MATH 111	3	Hist of West & World/LHST 111
3	College Composition/LENG 111	3	Crit Analysis & Comp/LENG 112
2	First-Year Seminar	3	Sacred Scriptures/LTHE 121
16		17	

SOPHOMORE

	First Semester		*Second Semester*
2	Microbiology I/BIOL 331	3	Psychology/PSYC 111
2	Microbiology Lab/BIOL 332	3	Organic Chemistry II/CHEM 224
3	Organic Chemistry I/CHEM 221	1	Organic Chemistry II Lab/CHEM 225
1	Organic Chemistry I Lab/CHEM 222	3	Philosophy II Series/LPHI
3	Introduction to Philosophy/LPHI 131	3	Theology II Series/LTHE
3	Speech/SPCH 111	3	Parasitology/BIOL 354*
3	Computer Science Series/CIS 170-174	1	Parasitology Lab/BIOL 355*
17		17	

JUNIOR

	First Semester		*Second Semester*
3	Structural Biochemistry/CHEM 366	3	Genetics/BIOL 345
1	Biochemistry Laboratory/CHEM 367	3	Literature Series/LENG
3	Fine Art Series/LFIN	3	Statistics/MATH 213 or PSYC 211
3	Theology or Phil III Series/LTHE or LPHI	3	Senior Seminar/LBST 383
		3	Immunology/BIOL 338
3	Physics for Life Sciences/PHYS 101	1	Immunology Lab/BIOL 339
1	Leadership Seminar		
14		16	

Hospital Phase (12 months):

SENIOR

	First Semester		*Second Semester*
6	Hematology & Coagulation/MDTC 410	2	Urinalysis/MDTC 440
8	Clinical Chemistry/MDTC 420	8	Microbiology/MDTC 450
4	Immunohematology/MDTC 430	4	Immunology & Serology/MDTC 460
18		14	

Summer

0	Medical Technology Education/MDTC 470
0	Management & Supervision/MDTC 480
0	

Total credits: 129

** Parasitology is offered every other year.*

Next-Step Program

The major goal of the Next Step curriculum is to provide opportunity for graduates of Medical Laboratory Technician (MLT) programs to earn their bachelor's degree at Gannon. The curriculum offers two tracks, Track A and Track B, to meet the academic requirements for a bachelor's degree as well as courses required by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS). The Next Step curriculum prepares both groups of students for graduate studies.

Track A provides a bridge for MLT graduates (with qualifying professional work experience) to complete their bachelor's degree which offers opportunities for further career advancement. This track provides for a blanket transfer of 32 credits from the MLT program, 33 other credits to be evaluated for transfer (or a total of 65 transfer credits), and 63 credits to completed at Gannon. The courses (63 credits) are distributed among four semesters. This track includes Liberal Studies (seven courses or 19 credits specified in the University catalog for the Next Step Plan). The track requires 129 credits to complete.

Track B prepares MLT graduates (without qualifying work experience) for admission to clinical internship and entry-level practice. Students with Associate degree in sciences may be able to follow this track. Track B has similar provision for transfer credits and Core of Discovery requirements; however because of the clinical internship (32 credits), the track requires three years to complete or 148 credits.

Track A
Blanket transfer of 32 credits from associate degree program

(Numerals in front of courses indicate credits)

33 other credits that will be evaluated for transfer from MLT Program

4	Molecular Cellular Biology/Lab BIOL 122/123 (Human Anatomy and Physiology I) Or equivalent
4	Animal Form and Function/Lab BIOL 124/125 (Human Anatomy and Physiology II) Or equivalent
4	General Chemistry I/lab/CHEM 111/112
4	General Chemistry II/Lab/CHEM 114/115 Or equivalent

4	Organic Chemistry I/Lab/CHEM 221/222
	Introduction to Organic Chemistry (Elective)
4	Microbiology/Lab/BIOL 331/332
3	Math (Algebra/Trig/Calculus)
3	Computer Science Series
3	Introduction to Psychology/PSYC 111
33	

Courses above that have not been completed will be additional degree requirements.
Additional Science and Math Courses: 29 credits

3	Immunology/BIOL 338
1	Immunology/Lab BIOL 339
3	Genetics/BIOL 345
3	Parasitology/BIOL 354
1	Parasitology Lab/BIOL 355
3	Organic Chemistry I/CHEM 221
1	Organic Chemistry I Lab/CHEM 222
3	Organic Chemistry II/CHEM 224
1	Organic Chemistry II Lab/CHEM 225
3	Structural Biochemistry /CHEM 366
1	Structural Biochemistry Lab/ CHEM 367
3	Physics for Life Sciences/PHYS 101
3	Applied Statistics/ MATH 213 or
	Psychological Statistics/ PSYC 211
29	

16	Electives

Liberal Studies for Next Step

3	LTHE 121	Sacred Scripture
3	LPHI 131	Introduction to Philosophy
3	LENG	Literature Series
3	LFIN	Fine Arts Series
3	LTHE/LPHI	Theology/Philosophy III Series
1	Leadership Seminar	
3	LBST 383	Senior Seminar or approved capstone

Students will be permitted to take other courses in substitution for any course listed above which they have satisfactorily completed prior to admission into the Next Step program. Students are required to complete 7-19 credits in Liberal Studies. Students may transfer courses equivalent to Sacred Scripture, Introduction to Philosophy, the Literature Series and/or the Fine Arts Series. Students must take the Leadership Seminar, the Theology/ Philosophy III Series, and the Senior Seminar or approved capstone at Gannon.

Total = 129 credits

First Year (Junior Year)

	First Semester		*Second Semester*
3	Organic Chemistry I/CHEM 221	3	Organic Chemistry II/CHEM 224
1	Organic Chemistry I Lab/CHEM 222	1	Organic Chemistry II Lab/CHEM 225
3	Intro to Sacred Scriptures/LTHE 121	3	Physics for Life Science/PHYS 101
3	Intro to Philosophy/LPHI 131	3	Theology or Philosophy III Series/ LTHE or LPHI
6	Electives		

		3	Electives
		3	Fine Arts/LFIN
16		16	
	Second Year (Senior Year)		
	First Semester		*Second Semester*
3	Structural Biochemistry/CHEM 366	3	Immunology/BIOL 338
1	Structural Biochemistry Lab/CHEM 367	1	Immunology Lab/BIOL 339
3	Literature Series/LENG	3	Parasitology/BIOL 354
3	Genetics/BIOL 345	1	Parasitology Lab/BIOL 355
3	Applied Statistics/MATH 213	3	Senior Seminar/LBST 383
	Or Psych Statistics/PSYC 211	4	Electives
1	Leadership Seminar		
3	Electives		
17		15	

Track B

This track requires an internship in a NAACLS accredited program. The internship (50-51 weeks) provides 32 credits which are transferred to the students' transcript at Gannon.

For information on the additional and mathematics science requirements and Liberal Studies, please see Track A.

(Numerals in front of courses indicate credits)

32	Blanket transfer
33	Other credits for transfer evaluation
29	Additional science and math courses
3	Electives
19	Liberal Studies
32	Hospital Internship

Total credits from Gannon, including the hospital internship: 83 credits

	First Year (Junior Year)		
	First Semester		*Second Semester*
3	Organic Chemistry I/CHEM 221	3	Organic Chemistry II/CHEM 224
1	Organic Chemistry Lab/CHEM 222	1	Organic Chemistry II Lab/CHEM 225
3	Intro to Sacred Scriptures/LTHE 121	3	Fine Arts/LFIN
3	Intro to Philosophy/LPHI 131	3	Physics for Life Science/PHYS 101
3	Elective	3	Theology or Philosophy III Series/ LTHE or LPHI
13		13	
	Second Year (Senior Year)		
	First Semester		*Second Semester*
3	Structural Biochemistry/CHEM 366	3	Immunology/BIOL 338
1	Structural Biochemistry Lab/CHEM 367	1	Immunology/BIOL 339
3	Genetics/BIOL 345	3	Parasitology/BIOL 354
3	Literature Series/LENG	1	Parasitology Lab/BIOL 355
3	Applied Statistics/MATH 213	3	Senior Seminar/LBST 383
	Or Psych Statistics/PSYC 211		
1	Leadership Seminar		
14		11	

(Electives can be taken if full-time status is needed.)

Third Year (Hospital Phase: 32 Credits)

	First Semester		*Second Semester*
6	Hematology and Coagulation/ MDTC 410	2	Urinalysis/MDTC 440
8	Clinical Chemistry/MDTC 420	8	Microbiology/MDTC 450
4	Immunochematology/MDTC 430	4	Immunology & Serology/MDTC 460
18		14	

Summer Semester

0	Medical Technology Education/MDTC 470
0	Management & Supervision/MDTC480

Total: 148 credits

NURSING (VILLA MARIA SCHOOL OF) - BSN

KATHLEEN PATTERSON, Ph.D., R.N., *School Director*

PATRICIA MARSHALL, M.S.N., R.N., CCRN, *Undergraduate Program Director*

FACULTY: *Associate Professors:* Dr. Min Shik Kim, Dr. Sharon Thompson, Dr. Lisa Quinn. *Assistant Professors:* Valerie Baker, Gary Berringer, Kimberly Blount, Susan Carnes, Karen Lumia, Patricia Marshall, Dr. Kathleen Patterson, Melissa Peterson. *Instructor:* Carol Amann, Diann Cooper, Janet Minzenberger, Mary Beth Moreland.

The Villa Maria School of Nursing programs are approved by the Pennsylvania State Board of Nursing and accredited by the Commission on Collegiate Nursing Education (CCNE).

Applicants to Gannon University Morosky College of Health Professions and Sciences, Villa Maria School of Nursing are admitted to the undergraduate nursing major as freshmen. The study of professional nursing starts in the freshman year with clinical nursing courses beginning at the sophomore level. The curriculum is composed of three distinct but interrelated elements: (1) a common liberal core which is the same for all baccalaureate students in the University and which reflects the parent institution's concepts concerning a liberal education; (2) supportive courses which are required prerequisites for the development of the major; and (3) professional nursing courses which prepare the student for a bachelor of science in nursing. Of the total 128 credits required for graduation at Gannon University, the nursing major comprises 60 credits or 46.8 % of the total program of study.

All students must meet the Liberal Core requirements as well as prerequisite, support and required courses as established by the Villa Maria School of Nursing faculty to earn a Bachelor of Science in Nursing. The nursing curriculum is arranged in three sequential levels that build in complexity from simple to complex.

All nursing curriculum level one courses (Freshman and Sophomore years) must be completed before the student progresses to level two of the nursing curriculum. The level one support courses include: BIOL106, 107, 115, 116, 117, 118, 122 and 123 or their equivalents; CHEM 105 and 108 or their equivalents; DIET 202 or its equivalent; PSYC 222 or its equivalent; SOCI 110 or its equivalent; Statistics (PSYC 211, SOCI 351 or MATH 213) or its equivalent. Level two courses (Junior year) must be successfully completed prior to student progression to level three courses (Senior year). Exceptions in progression will be reviewed by the Undergraduate Program Director (See Villa Maria School of Nursing Handbook for complete listing of Policies and Procedures).

Upon successful completion of the prescribed program of study, Gannon University awards

the Bachelor of Science in Nursing degree. The student is eligible, upon certification by the Villa Maria School of Nursing to take the NCLEX-RN licensing exam. Upon successfully passing the NCLEX-RN licensing exam the title Registered Nurse (R.N.) can be used.

The purpose of the professional nursing program is to prepare students for entry into professional practice and provide an academic foundation for graduate study. The community-based baccalaureate program provides competencies, knowledge, values and roles that prepare professional nurses to provide high quality care to diverse populations, in and across all environments. The program also prepares students for advanced study and to value life-long learning. The baccalaureate program in Nursing provides for a balanced study of natural and social sciences in addition to humanities within the content of professional education to promote critical thinking, effective communication, caring, respect, and concern for individuals, groups, and communities.

The State Board of Nursing shall not issue a license or certificate to an applicant who has been convicted of a felonious act as identified in the Nurse Practice Act No. 1985-109. See complete policy in Nursing Handbook.

Proof of current health records including a physical and specific health care provider testing, health insurance, child abuse clearance, criminal clearance, Finger printing, Health Care Provider CPR and the ability to meet the nursing student performance standards are required.

Policies specific to nursing standards and the Villa Maria School of Nursing are published and distributed annually in the Villa Maria School of Nursing handbook.

Students intending to apply to the graduate level physical therapy program may select nursing as a major field of study for the undergraduate degree. Summer coursework is required to obtain all the pre-requisites for the graduate level physical therapy program. A separate curriculum planner for BSN-NURS/Pre-PT is available on request from the Villa Maria School of Nursing.

COURSE DESCRIPTIONS:

(# indicates Clinical Laboratory Component)

NURS 101: First-Year Seminar, Part One
The First Year Seminar is a discussion/experience-based course intended to orient the new student to Gannon University, to introduce the Liberal Studies Core and LIFECORE, to assist in the transition from high school to university life and to encourage development of academic, personal and spiritual aspects of the student's life. Each seminar is unique, depending upon the instructor and/or program in which it is offered.

This first year seminar, offered by the Villa Maria School of Nursing, is the first in a series of two first year seminars. This seminar explores the history of professional nursing and introduces concepts underlying professionalism. The evolution of professional nursing, current educational patterns, nursing roles and practice settings, and nursing as a research-based practice are addressed. The university requirements for speech are begun with this seminar. Students are introduced to: the key concept of caring as it relates to their professional nursing role, the necessity of on-going reflection and self-evaluation; service learning and its role in personal and professional development. Students participate in a critical thinking entrance exam. **To qualify for credit as a Liberal Studies First Year Seminar, both NURS 101 and NURS 102 must be completed.** This seminar is open to all University students. *1 credit, Fall*

NURS 102: First Year Seminar, Part Two
The First Year Seminar is a discussion/experience-based course intended to orient the new student to Gannon University, to introduce the Liberal Studies Core and LIFECORE, to assist in the transition from high school to university life and to encourage development of

academic, personal and spiritual aspects of the student's life. Each seminar is unique, depending upon the instructor and/or program in which it is offered.

This first year seminar, offered by the Villa Maria School of Nursing, is the second in a series of two first year seminars. This seminar underscores nursing's role with the health care environment, and emphasizes nursing's expertise in health promotion and risk reduction across the lifespan. The concept of the health-illness continuum is discussed as well as the impact of culture, ethnicity, and personal values on health behaviors. The university requirements for speech are begun with this seminar. Students are introduced to: legal and ethical principles that guide nursing practice; the impact of personal and professional values on decision making and professional behavior; basic models for delivery of nursing care; and human services agencies. **To qualify for credit as a Liberal Studies First Year Seminar, both NURS 101 and NURS 102 must be completed.** This seminar is open to all University students. Learning Cohort is formed with LENG 112. *1 credit, Spring*

NURS 204: Pharmacology and Nursing Implications of Medication Administration
This course is designed to focus on nursing pharmacology by presenting a firm theoretical foundation and a practical approach to drug therapy applicable in community-based settings. The course presents general principles, theories, and facts about drugs. General characteristics of major classifications of medications are discussed. Specific information regarding action, dosage, side effects, adverse reactions, and contraindications of selected medications within each classification is addressed. Practical information is presented on how the nursing process is integrated with pharmacology. Specific drug information is discussed in relation to assessment, nursing diagnoses, client monitoring, interventions, client education, and evaluation of safe and effective drug therapy. Concurrent with NURS 205, BIOL 117, 118.
Prerequisites: CHEM 105, 108, BIOL 106, 107, 115, 116, 122, 123, PSYC 222 *2 credits, Spring*

#NURS 205: Nursing Practice Competencies
This course focuses on the acquisition and use of nursing practice competencies required for the delivery of nursing care. Emphasis is placed on mastery of core scientific principles that underlie all competencies. It is not within the scope of this course to cover every skill encountered by the professional nurse. Strategies are employed which help the student identify those competencies essential for baccalaureate nursing practice and understand the scientific principles that underpin the application of those competencies. Students are expected to apply concepts and assessment techniques learned during previous courses. Supervised on-campus and off-campus labs are scheduled for student learning. Concurrent with NURS 204, 207, BIOL 117, 118.
Prerequisite: NURS 206, BIOL 115, 116 *2 clinical laboratory credits, Spring*

#NURS 206: Health Assessment I
This is the first course in a two-course sequence in health assessment for the professional nursing student. Successful completion of this course will provide the student a nursing approach for conducting and documenting a comprehensive health assessment. The student will learn to consider normal variations specific to gender, age, developmental level, and culture. A major expectation is that the student applies appropriate health promotion strategies to members of the peer group and to identified populations within the community.

Health Assessment I focuses on concepts specific to the nursing process, the environment, and safety, as well as physical assessment techniques, interviewing and communication skills, the taking of health histories, vital signs and physical measurements, including height, weight, and body mass index.

In addition, specific health assessment data collection strategies are stressed, including general health, nutritional, mental status, pain, spiritual, and sexual. Expected findings across the lifespan are identified. The student learns documentation requirements, medical terminology and abbreviations, and begins the application of the principles of teaching and learning.

Students are expected to identify appropriate health assessment data collection strategies and

to apply appropriate health promotion strategies as outlined by course faculty. Supervised on-campus and off-campus clinical laboratory sessions are scheduled to enhance student learning.
Prerequisite: PSYC 222
Corequisite: BIOL 115, 116 *1 clinical laboratory credit, Fall*

#NURS 207: Health Assessment II
This is the second course in a two-course sequence in health assessment for the professional nursing student. Successful completion of this course will enhance the nursing approach for conducting and documenting a comprehensive health assessment. The student will add to the knowledge gained in the first course in this series. A major expectation is that the student applies appropriate health promotion strategies to identified populations within the community.

Health Assessment II builds on all concepts learned in Health Assessment I, concepts specific to the nursing process, the environment, and safety, as well as physical assessment techniques, interviewing and communication skills, the taking of health histories, vital signs and physical measurements, including height, weight, and body mass index.

The student is expected to incorporate specific health assessment data collection strategies, including general health, nutritional, mental status, pain, spiritual, and sexual, as well as expected findings across the lifespan into nursing care strategies. In addition, the student is expected to document appropriately, use medical terminology and abbreviations correctly, and apply the principles of teaching and learning effectively.

Systems are introduced to increase physical assessment capabilities. Systems presented during this semester include: integumentary; head, eye, ear, nose, and throat [HEENT]; cardiovascular; respiratory; gastrointestinal [GI]; genitourinary [GU]; musculoskeletal; reproductive; neurological; peripheral vascular; lymphatic; and endocrine.

Students are expected to use concepts learned in Health Assessment I and add knowledge gained in Health Assessment II to increase competency in health assessment. Students are required to conduct a comprehensive health assessment and to apply appropriate health promotion strategies as outlined by course faculty. Supervised on-campus and off-campus clinical laboratory sessions are scheduled to enhance student learning.
Prerequisites: NURS 206, BIOL 115, 116; Corequisites: BIOL 117, 118
1 clinical laboratory credit, Spring

NURS 308: The Research Process in Nursing
Using a comprehensive approach, this course is designed to stimulate student interest in the research process, theory development, and translation of findings to nursing practice. Students learn the components, principles, and methods of scientific research to become discerning consumers of research.
Prerequisite: PSYC 211, SOCI 351 or MATH 213 *3 credits, Fall or Spring*

NURS 309: Influences on Health and Disease
This course enables the student to explore values that underlie health seeking behaviors and the provision of care. Students explore various behaviors that influence health, wellness, and motivation to seek health care. The influences of family, culture, lifestyle choices, and at-risk behaviors are considered. The course enables the student to understand the basic concepts of biological, psychological, and spiritual processes and how these affect the health of an individual across the life span. The concepts of homeostasis, mechanisms of disease, and crisis and stress related to acute or chronic illness are explored specific to how these concepts affect the patient and the patient's family. An overview of shock, inflammation, infection, altered immune response, oncology, and fluid and electrolyte balance is presented. In addition, the student will learn the nursing responsibilities associated with care of the patient during the perioperative period. This course **must** be taken in the fall semester, at the beginning of the Junior level of nursing courses.
Prerequisites: BIOL 115, 116, 117, 118, CHEM 105, 108,
NURS 101, 102, 204, 205, 206, 207 *2 credits, Fall*

#NURS 310: Promoting Healthy Childbearing
In this course students will have the opportunity to participate in the excitement, wonder, and mystery of birth - a learning experience that will forever influence the way they see the self, the world, and the future. They also have the opportunity to examine theoretical and clinical experiences from a personal perspective and to explore their beliefs and values about childbirth and parenting.
Maternal-newborn nursing focuses on the health needs and responses of women, their partners and their families. The practice of maternal-newborn nursing is directed toward improving the quality of life for infants and the adults who assume primary responsibility for the infants well being. Nursing not only involves direct care to the childbearing family, but also includes health teaching and counseling. Concurrent with NURS 309.
Prerequisites: PSYC 222, NURS 204, 205, 206, 207
5 credits (3 theory, 2 clinical laboratory), Fall or Spring

#NURS 311: Promoting Health and Health Restoration of Older Adults
This course is designed to assist the student to adopt the behaviors inherent in the role of the professional nurse. Through lectures and planned clinical experiences, the student applies concepts of health promotion, risk reduction, disease prevention and health restoration for older adults. The student will work with older adults in a variety of community-based settings as they assess and manage physical, psychological, social and spiritual needs of older adults. Concurrent with NURS 309.
Prerequisites: PSYC 222, NURS 204, 205, 206, 207 *5 credits (3 theory, 2 clinical laboratory)*

#NURS 312: Promoting Health in Childrearing Families
This course provides students with the opportunity to apply the nursing process in promoting the health of pediatric populations. Three levels of prevention are addressed with students providing anticipatory guidance, wellness care, age appropriate screenings and illness care. Health promotion strategies are applied in such a manner as to recognize the family as the primary caregiver. Clinical experiences are community-based and include ambulatory clinics, educational and in-patient sites. Concurrent with NURS 309.
Prerequisites: PSYC 222, NURS 204, 205, 206, 207
5 credits (3 theory, 2 clinical laboratory), Fall or Spring

#NURS 313: Promoting Health and Health Restoration in Adults I
This course is designed to assist the student to gain an understanding of the health care needs of the acute or chronically ill adult. The course incorporates principles of developmental needs of adults, who have socially and culturally diverse backgrounds, in a variety of settings. Collaboration of the client and health care team in promoting and maintaining an optimal level of functioning are addressed. Health promotion, risk reduction, disease prevention and illness care in the adult client are emphasized.
Prerequisites: PSYC 222, NURS 204, 205, 206, 207, NURS 309
5 credits (3 theory, 2 clinical laboratory), Spring

NURS 320: Leadership Seminar
The Leadership seminar introduces students to a three dimensional model of leadership, including a repertoire of leadership skills and means of using those skills responsibly in various communities to which they belong. In addition, the course helps students explore the relevance of leadership skills in the leadership process. Ethical reasoning and Catholic social justice teaching serve as the basis for the students' leadership development as reflected both in this course and the co-requisite Theology or Philosophy Series III courses. This course, while housed in the Villa Maria School of Nursing, is open to all University students and meets the Liberal Core requirement for Leadership Seminar. The course **must** be taken concurrently with the Liberal Studies Core Theo/Phil III series course. *1 credit, Fall or Spring*

NURS 404: Nurse Power Politics (Capstone)
This capstone Liberal Studies course is a seminar experience designed to provide the student

with an opportunity to explore contemporary health care issues, to analyze these issues within the historical, professional context as well as the context of his or her value system, and to adopt a position regarding such issues. The student is engaged in an active exploration of his/her own philosophy of nursing. Students are guided through this analysis by faculty who facilitate open discussions and exchange of ideas. Students develop skill in formulation of a position, consideration of others' viewpoints and defense of such a position, as well as to realize the potential impact and power of political activity. Students also realize the importance of individual action and commitment. Service learning is a required component of the course.
Prerequisites: NURS 408 *3 credits (seminar), Spring*

#NURS 406: Promoting Health and Health Restoration in Adults II
This course provides the student with knowledge and nursing strategies that can be applied to clients with complex health concerns including chronic, multisystem, life threatening, and end of life care. The focus is on strategies that recognize the quality of life and maintain optimal level of functioning. Students build upon concepts learned in previous courses and apply concepts from concurrent courses. Adult critical care nursing is emphasized.
Prerequisites: NURS 308, 309, 310, 311, 312, 313
5 credits (3 theory, 2 clinical laboratory), Fall or Spring

#NURS 407: Promoting and Restoring Mental Health
This course incorporates nursing care of persons who are mentally healthy as well as those with known psychiatric disorders. The course provides students with an opportunity to explore a broad range of nursing interventions to promote optimal mental health. The emphasis is placed on the use of advanced therapeutic communication techniques.
Prerequisites: NURS 308, 309, 310, 311, 312, 313
5 credits (3 theory, 2 clinical laboratory), Fall or Spring

#NURS 414: Promoting Healthy Communities
This course provides students a perspective of professional nursing at the community level of practice. Course content will provide an overview of specific issues and societal concerns that affect community health nursing practice; epidemiological applications in community health nursing; educational theories, models, and principles applied in community health nursing; risk factors and health problems for defined populations across the lifespan; issues and approaches in providing for the health care of defined populations in the community; specific health care needs and issues for populations at risk; communicable disease risk and prevention; and the diversity in the role of the community health nurse. Students apply previous knowledge and the nursing process in maximizing the health status of individuals, families, and defined populations within the community.
Prerequisites: NURS 308, 309, 310, 311, 312, 313
5 credits (3 theory, 2 clinical laboratory), Fall or Spring

#NURS 415: Comprehensive Nursing Practicum
This senior nursing practicum facilitates the students' ability to synthesize knowledge, skills, and experiences in selected health care settings. This experience enables the student to develop independence in professional practice. Individual goals and objectives are mutually determined by faculty and student to evaluate success in the practicum. Students are paired with an agency preceptor to attain individualized course objectives. A faculty-facilitated seminar is conducted weekly. Last semester of the Senior year.
Prerequisites: NURS 408 *6 clinical laboratory credits (16 hours clinical and 2 hours seminar per week)*

NURS 420: Management and Leadership Strategies for Professional Nursing
This course focuses on the knowledge and skills related to the delivery of health care services within a professional nursing leadership context. Concepts, introductory knowledge related to fiscal management, quality care concepts, and staffing models are presented which provide the student a basic knowledge base required for effective management, organizational behavior, and assuming or assisting others in a leadership role in professional nursing

practice. Additionally, this course provides skill acquisition necessary to apply principles in planning and delegating nursing care, and discusses developing creative roles for managing and leading in professional nursing.
Prerequisites: NURS 308, 309, 310, 311, 312, 313 or senior level standing *3 credits, Fall*

Elective Courses

The following courses are offered as electives to provide the student with the opportunity to investigate in more detail a specific area of interest.

NURS 215/GNURS 515 Native American Peoples: State of the Nation's Health.
This course provides learners with an opportunity to explore the state of Native American health. Students explore the historical, legal, socioeconomic and cultural factors which impact the current health 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 art, music and literature as well as contact with Native American persons. Themes of sovereignty and native healing practices are central to the course. Open to all majors.
Prerequisites: Sophomore level standing or higher *3 credits*

NURS 343/GNURS 543: Palliative Care
This course provides an examination of the theory of palliative care focusing on the complexities of caring for terminally ill and dying patients as well as those with life-threatening or chronic illness. This course is designed for students from a variety of health care 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 as well as ethical and legal issues concerning care are explored. Open to all majors.
Prerequisites: LTHE 121, LPHI 131, and minimum of junior standing as an undergraduate student recommended. *3 credits*

NURS 416: Special Topics in Nursing
Special topic courses are developed by faculty around a specific area of interest. Objectives may be defined by faculty or mutually identified by students and faculty. *1-3 credits, Fall or Spring*

#NURS 417: Elective Clinical Practicum
The Elective Clinical Practicum provides senior professional nursing majors with learning experiences to expand the student's understanding of the professional nurse role in a chosen clinical area. The course is limited to seniors who have a demonstrated ability to work independently. The student must follow the School of Nursing guidelines for practicum courses. *1-3 clinical laboratory credits, Fall or Spring*

NURS 419: Basic Dysrhythmia and 12 Lead EKG Interpretation
This course is designed for professional nursing majors who desire to develop skills in dysrhythmia interpretation. Identification of EKG features, predisposing conditions and treatments; role of the nurse in patient care; and current ACLS interventions are emphasized. Crosslisted with SPRT 425.
Prerequisites: BIOL 115, 116, 117, 118. *3 credits*

NURS 423/GNURS 523: Women's Health Issues
This course will provide the student an understanding of health issues affecting women. Major health promotion strategies and their theoretical models will be presented. Analysis of case studies will enhance student understanding of effective methods of promoting positive health-seeking behaviors among women of all ages across cultural, ethnic, and socioeconomic backgrounds. The influence of social, economic and political issues on women's health will be stressed. Open to all university students. The course is cross-listed for undergraduate and graduate nursing curricula. *3 credits*

#NURS 428: School Nursing
This course is designed to focus on the professional nurse's role in school health. Emphasis is placed on the dimensions of school nursing. Clinical facilities for this course include the Erie City School District and other school systems within the County. Required for School Nurse Certification. 100 hours supervised clinical in school nursing. Not open to juniors. Senior year standing. *5 credits*

NURS 435/GNURS 535 Fundamentals of Forensic Nursing
This introductory course provides the student with knowledge and nursing strategy to better meet the needs of those affected by forensic related health care situations and ultimately improve patient outcomes. The course explores the history and development of forensic nursing as a scientific subspecialty of nursing; the forensic nursing process; application of the forensic nursing role (i.e. sexual assault management, death investigation, child death review, abuse/neglect, emergency department, etc.), violence and victimology; injury identification and interpretation; evidence recognition, collection, preservation, and documentation; and finally, forensic nursing and the law/legal interface.
The course is cross-listed for undergraduate and graduate nursing curricula. *3 credits*

BSN Nursing Curriculum and Suggested Course Sequence

(Numerals in front of courses indicate credits)

FRESHMAN

	Fall Semester		*Spring Semester*
3	Introduction to Psychology/PSYC 111	4	Mol/Cell Biol & Lab/BIOL 122,123
3	College Composition/LENG 111	3	Basic Sociology/SOCI 110
3	Hist of West & World/LHST 111	3	Crit Analysis & Comp/LENG 112
3	Sacred Scripture/LTHE 121	3	Psych of Human Devel/PSYC 222
4	Physiological Chem&Lab/CHEM 105, 108	1	First-Year Seminar, Part II/NURS 102**
1	First-Year Seminar, Part I/NURS 101**	3	Intro to Philosophy/LPHI 131
17		17	

SOPHOMORE

	Fall Semester		*Spring Semester*
3	Literature Series/LENG	3	Theology II Series/LTHE
4	Anat and Phys I & Lab/BIOL115/116	3	Philosophy II Series/LPHI
3	Stats/PSYC 211 or SOCI 351 or MATH 213	3	Nutrition/DIET 202
		4	Anat and Phys II&Lab/BIOL 117,118
3	Fine Art Series/LFIN	2	#Nursing Practice Competencies/ NURS 205
1	#Health Assessment I/NURS 206		
4	Microbiology & Lab/BIOL 106,107	2	Pharm & Nsg Implications of Med Admin/NURS 204
		1	#Health Assessment II/NURS 207
18		18	

JUNIOR

	Fall Semester		*Spring Semester*
3	Nursing Research/NURS 308	5	#Prom Hlth & Hlth Restoration in Adults I/NURS 313
2	Influences Hlth / Disease/NURS 309		
5	#Prom Healthy Childbearing/NURS 310	5	#Prom Hlth in Childrear Fam/ NURS 312
5	#Prom Hlth & Hlth Restoration of Older Adults/NURS 311		
		3	Theol/Phil III Series/LTHE or LPHI
		1	Leadership Seminar/NURS 320**
15		14	

SENIOR YEAR

	Fall Semester		*Spring Semester*
5	#Prom Hlth & Hlth Restoration in Adults II/NURS 406	5	#Prom Hlthy Com/NURS 414
5	#Prom & Restoring Mental Health/ NURS 407	6	#Comp Nursing Prac/NURS 415
3	Mgmt and Lead Strat Pro Nursing/ NURS 420	3	Nurse Power Pol/NURS 404**
3	Elective		
16		14	

Total credits: 128

clinical course - meets 3 hours per week per clinical laboratory credit.

Students must earn a grade of C or higher in each science course: CHEM 105, CHEM 108, BIOL 122, BIOL 123, BIOL 115, BIOL 116, BIOL 117, BIOL 118, BIOL 106, BIOL 107 to progress in the program.

Students must earn a grade of C or higher in each nursing course to progress in the program. Nursing requires a cumulative GPA of 2.7 or above to progress in the program.

**Meets Liberal Core requirements.

The Liberal Core requirement of SPCH 111 is met through specific content throughout the BSN major. Students who leave the major prior to graduation must take the SPCH 111 course.

Total credit requirements for Bachelor of Science in Nursing (B.S.N.) is 128 credits.

BSN-NURS Next-Step

The Next-Step program may be offered to students admitted to Gannon with a non-Nursing Associate's degree, Bachelor's degree, or equivalent international degree. Refer to the Liberal Studies component of the Next-Step Programs.

NURSING (VILLA MARIA SCHOOL OF) - RN to BSN OPTION

PATRICIA MARSHALL, M.S.N., R.N., CCRN, *Undergraduate Program Director*

The Villa Maria School of Nursing, in agreement with the Pennsylvania Nursing Articulation Model, believes that a common core of knowledge exists between accredited basic nursing programs and should be recognized without the requirements of special testing. The goal of the Pennsylvania Nursing Articulation Model is to provide an appropriate path of articulation between RN and BSN programs, which eliminates duplication of content. Villa Maria School of Nursing has created an option including the use of transfer credits, articulation credits, challenge exams and validation by portfolio which all aid in eliminating duplication of content. Transfer credits are awarded in accordance with the University guidelines and policies. Villa Maria School of Nursing provides articulation credits for basic nursing knowledge gained from an accredited RN program. Up to thirty-two (32) credits of nursing are granted, during the final semester of study, for articulation credit.

Nursing knowledge gained through professional experience, which demonstrates attainment of professional nursing course outcomes may be validated through portfolio. Students admitted to the RN to BSN Option may choose to create a portfolio for qualifying professional nursing courses. The process for creation of and validation of course outcomes by portfolio is presented, practiced and refined in the Transition to Professional Nursing course (NURS 203).

The student, who believes that specific required courses would involve repetitive learning, may have an opportunity to challenge the course by examination. Students may also earn credits through the College Level Examination Program (CLEP). Students must receive academic advisement regarding course credits approved for challenge examinations and CLEP exams from their advisor. CLEP exams and transfer credits do not qualify as meeting the 30 institutional credits which must be completed to meet graduation requirements.

NLN Achievement testing may demonstrate a student's knowledge in specific subjects, such as nutrition.

NLN Achievement testing may be required for students who have not graduated from an accredited nursing program.

All RN to BSN Option students must earn 128 credits to graduate with the BSN. All RN to BSN option students must complete 30 institutional credits. Credits earned by CLEP and transfer credits are NOT qualified as institutional credits.

Registered Nurses with an Associate Degree in Nursing (ADN) may qualify to obtain the BSN through the next-step program.

Next-Step Program

BSN Option for Graduates of Two Year Colleges (ADN) includes GOLD Program

I. Acceptance of transfer credits from the accredited ADN program, which includes a maximum of 32 nursing articulation credits.

II. The student must take 19 credits of the Liberal Studies Core after completion of the Associate of Science in Nursing degree.

(Numerals in front of courses indicate credits)

3	Sacred Scripture/LTHE 121
3	Introduction to Philosophy/LPHI 131
3	Literature Series/LENG
3	Fine Art Series/LFIN
3	Theo/Phil III Series/LTHE or LPHI
1	Leadership Seminar/NURS 320
3	Capstone Seminar: Nurse Power Politics/NURS 404*
19	

*NURS 404 as the approved Liberal Core capstone course for the nursing major. If achieved through portfolio, the student must attend a scheduled seminar to fulfill the LBST 383 requirements.

Students may transfer course equivalents to Sacred Scripture, Introduction to Philosophy, the Literature Series and/or the Fine Arts Series. Students must take the Leadership Seminar, the Theology/Philosophy III Series, and NURS 404 (Nurse Power Politics) at Gannon.

III. Completion or transfer equivalent of 25 credits of nursing pre-requisites:

8	Human Anatomy & Physiology I and II/ BIOL 115, 116, 117, 118
4	Physiologic Chemistry and lab/CHEM 105 and 108
4	Microbiology/BIOL 106 & 107
3	Human Growth and Development/PSYC 222
3	Nutrition/DIET 202
3	Statistics/PSYC 211 or SOCI 351 or MATH 213
25	

IV. Nursing Credits required:

5 Transition to Professional Nursing/NURS 203 (required)
3 Nursing Research/NURS 308 (required)
3 Nurse Power Politics/*NURS 404 (validation by Portfolio available)
5 Promoting Healthy Communities/NURS 414 (validation by Portfolio available)
3 Management and Leadership in Nursing/NURS 408 (validation by Portfolio available)
19

*If achieved through portfolio, the student must attend a scheduled seminar to fulfill the LBST 383 requirements.

V. Elective Credits:
To meet the total 128 degree credits and/or the 30 institutional credits.
14 Free electives
9 Nursing electives

The student must earn 128 credits to complete the Baccalaureate of Science in Nursing degree. The RN to BSN student will have a total of 60 credits in nursing through the combination of articulation credits and those nursing courses taken at Gannon in pursuit of the BSN.

Registered Nurses with a hospital diploma in nursing may qualify to obtain the BSN through the completion of the following courses.

I. Acceptance of a maximum of 32 nursing articulation credits from the accredited RN diploma program.

II. The student must take the entire Liberal Studies Core.

(Numerals in front of courses indicate credits)
English:
3 College Composition/LENG 111
3 Critical Analysis and Comp/LENG 112
3 English Literature Series/LENG

Theology:
3 Sacred Scriptures/LTHE 121
3 Theology II Series

Philosophy:
3 Introduction to Philosophy I/LPHI 131
3 Philosophy II Series

Ethics:
3 Theo/Phil III Series/LTHE 227 or LPHI 237

Social Science:
3 Intro Psychology/PSYC 111
3 Basic Sociology/SOCI 110

Fine Arts:
3 Fine Art Series/LFIN

Liberal Studies:
3 Hist of West & World/LHST 111
3 Capstone Seminar/NURS 404*
1 Leadership Seminar/NURS 320
40

*NURS 404 fulfills LBST 383 requirements. If NURS 404 is achieved through portfolio, the student must attend a scheduled seminar to fulfill the LBST 383 requirements.

III. Completion of 25 credits of nursing pre-requisites:

8	Human Anatomy & Physiology I and II/BIOL 115, 116, 117, 118
4	Physiologic Chemistry and lab/CHEM 105 and 108
4	Microbiology/BIOL 106 & 107
3	Human Growth and Development/PSYC 222
3	Nutrition/DIET 202
3	Statistics/PSYC 211 or SOCI 351 or MATH 213
25	

IV. Nursing Credits required:

5	Transition to Professional Nursing/NURS 203 (required)
4	Nursing Research/NURS 308 (required)
3	Nurse Power Politics/*NURS 404 (validation by Portfolio available)
5	Promoting Healthy Communities/ NURS 414 (validation by Portfolio available)
3	Management and Leadership in Nursing/ NURS 408 (validation by Portfolio available)
19	

*If achieved through portfolio, the student must attend a scheduled seminar to fulfill the LBST 383 requirements.

V. Elective Credits:
To meet the total 128 degree credits and/or 30 institutional credits.

10	Free electives
9	Nursing electives

The student must earn 128 credits to complete the Baccalaureate of Science in Nursing degree. The RN to BSN student will have a total of 60 credits in nursing through a combination of articulation credits and those nursing courses taken at Gannon in pursuit of the BSN.

GOLD RN to BSN – Unique Online Program

The GOLD RN to BSN program requires students to have an Associate degree in nursing. A total of 128 credit hours is required for this baccalaureate degree. The program consists of 20 credit hours of nursing (some of which qualify as liberal studies core), 16 credit hours of science, 15 credit hours of support courses and 19 credit hours of Gannon's Liberal Studies core. The remaining credit hours are a combination of transfer credits (up to 32 nursing articulation credits from the student's Associate degree) and elective credits (9 of which must be nursing related) to total 128 credits. Students may enroll as part-time or full-time students.

Three credit courses will be delivered in seven-week sessions; course learning objectives and assessments will remain the same as the face-to-face RN to BSN program. Learning experiences are included in each online course to ensure that total contact hours for the student will meet all regulatory guidelines and be consistent with our face-to-face courses as explained in the next section. There is an expectation that the student will stay current with the course, remain engaged in all learning activities, and seek help in a timely fashion if necessary. The exceptions to the seven-week session model are the courses that are more than 3 credits; these higher credit value courses will remain in a 14-week format.

Enrollment in the on-line GOLD courses is limited to on-line cohort students only. Exceptions can be made only by the Director of the Villa Maria School of Nursing or the Undergraduate Program Director.

NURSING (VILLA MARIA SCHOOL OF) - RN TO MSN OPTION

PATRICIA MARSHALL, M.S.N., R.N., CCRN, *Undergraduate Program Director*

The RN to MSN option of the Villa Maria School of Nursing is designed for selected nurses holding an Associate Degree or Diploma in Nursing who seek a Master's of Science in Nursing. Students in this option are not awarded a Baccalaureate Degree in Nursing. Experienced registered nurses from NLN accredited programs, who have demonstrated leadership potential are eligible to apply. Students may earn credits through CLEP, challenge examinations, portfolio option courses or transfer credits. Up to thirty-two (32) nursing articulation credits are granted for previous basic nursing education.

Admission Requirements

1. An associated degree or diploma in nursing from a NLN accredited program.
2. Evidence of current registered nurse licensure in the United States and eligibility to obtain a registered nurse license from the Commonwealth of Pennsylvania
3. Four years of full-time work experience as a registered nurse within the past five years or 1,000 hours per year for the past four years.
4. A grade point average of 3.0 on a 4.0 scale from the basic program completed
5. Personal interview with the Undergraduate Program Director
6. Three references reflecting leadership skills, communication skills, and motivation for a higher degree.

Curriculum Plan

Undergraduate Courses:

Support and Liberal Core Courses (46 credits):

Microbiology and lab/BIOL 106, 107	4 credits
Human Anatomy & Physiology I & II with labs/ BIOL 115, 116, 117, 118	8 credits
Physiological Chemistry and lab/CHEM 105, 108	4 credits
Sociology/SOCI 110	3 credits
Introduction to Psychology/PSYC 111	3 credits
Human Growth and Development/PSYC 222	3 credits
Nutrition/DIET 202	3 credits
Statistics/PSYC 211 or SOCI 351 or MATH 213	3 credits
Theology/LTHE 121	3 credits
Philosophy/LPHI 131	3 credits
THEO/PHIL III series course	3 credits
Fine Art Series/LFIN	3 credits
Leadership Seminar/NURS 320	1 credit
Literature Series/LENG	3 credits
Senior Capstone Seminar * see below	

Undergraduate Nursing Courses (19 Credits)

NURS 203 Transition to Professional Nursing	5 credits
NURS 308 Research Process in Nursing	3 credits
NURS 404 Nurse Power Politics**	3 credits
NURS 408 Management & Leadership in Nursing**	3 credits
NURS 414 Promoting Healthy Communities **	5 credits

** Portfolio option available

Nursing Articulation Credits (Up to 32 credits)
Graduate Courses - as per the option selected, upon completion of undergraduate course requirements.

NOTE: Graduate Record Examination (GRE) is required upon progression to the graduate option.

COURSE DESCRIPTIONS:

#NURS 203: Transition to Professional Nursing
This course is designed to provide learning opportunities for RN to BSN or RN to MSN students to broaden their perspectives of the professional nursing role in health care delivery. This course introduces the major concepts of Person, Society, Health, and Nursing. The process for creation of and validation of course outcomes by portfolio is presented, practiced and refined. Clinical laboratory time is required. Internet.
Prerequisites: PSYC 111, 222, DIET 202, BIOL 115, 116, 117, 118, CHEM 105, 108, LENG 111.
5 credits

NURS 320: Leadership Seminar
The Leadership seminar introduces students to a three dimensional model of leadership, including a repertoire of leadership skills and means of using those skills responsibly in various communities to which they belong. In addition, the course helps students explore the relevance of leadership skills in the leadership process. Ethical reasoning and Catholic social justice teaching serve as the basis for the students' leadership development as reflected both in this course and the co-requisite Theology or Philosophy Series III courses. This course, while housed in the Villa Maria School of Nursing, is open to all University students. The course must be taken concurrently with the Liberal Studies Core Theo/Phil III series course.
1 credit

NURS 400 : Portfolio for NURS 404
Students ready to complete a portfolio for NURS 404 Nurse Power Politics register for this portfolio course in the semester the portfolio is to be completed. Portfolio process and criteria are published in the Villa Maria School of Nursing Handbook. The assigned course (NURS 404) credits may be included in the student's credit load and applied toward financial aid. The credits for the course are posted to the transcript upon completion of the portfolio and payment of appropriate fees.
Prerequisite: NURS 203 *0 credits, Fall, Spring or Summer*

NURS 401 : Portfolio for NURS 408
Students ready to complete a portfolio for NURS 408 Management and Leadership in Nursing register for this portfolio course in the semester the portfolio is to be completed. Portfolio process and criteria are published in the Villa Maria School of Nursing Handbook. The assigned course (NURS 408) credits may be included in the student's credit load and applied toward financial aid. The credits for the course are posted to the transcript upon completion of the portfolio and payment of appropriate fees.
Prerequisite: NURS 203 *0 credits, Fall, Spring or Summer*

NURS 402: Portfolio for NURS 414
Students ready to complete a portfolio for NURS 414 Promoting Healthy Communities register for this portfolio course in the semester the portfolio is to be completed. Portfolio process and criteria are published in the Villa Maria School of Nursing Handbook. The assigned course (NURS 414) credits may be included in the student's credit load and applied toward financial aid. The credits for the course are posted to the transcript upon completion of the portfolio and payment of appropriate fees.
Prerequisite: NURS 203 *0 credits, Fall, Spring or Summer*

NURS 404: Nurse Power Politics (Capstone)
This capstone Liberal Studies course is a seminar experience designed to provide the student with an opportunity to explore contemporary health care issues, to analyze these issues within the historical, professional context as well as the context of his or her value system, and to adopt a position regarding such issues. The student is engaged in an active exploration of his/her own philosophy of nursing. Students are guided through this analysis by faculty who facilitate open discussions and exchange of ideas. Students develop skill in formulation of a position, consideration of others' viewpoints and defense of such a position, as well as to realize the potential impact and power of political activity. Students also realize the importance of individual action and commitment. Service learning is a required component of the course.
Prerequisites: NURS 408 *3 credits (seminar), Spring*

NURS 408: Management and Leadership in Nursing
This course focuses on the knowledge and skills related to the delivery of health care services within a nursing management context. Theories, concepts and models are presented which give the student an understanding of the knowledge base required for effective management and assuming a leadership role in professional nursing practice. The course provides the knowledge and skills necessary to apply principles in planning and delegating nursing care and discusses developing creative roles for managing and leading in nursing.
Prerequisites: NURS 203 3 *credits, Fall*

#NURS 414NU: Promoting Healthy Communities
This course provides RN to BSN or RN to MSN option students a perspective of professional nursing at the community level of practice. Course content will provide an overview of specific issues and societal concerns that affect community health nursing practice; epidemiological applications in community health nursing; educational theories, models, and principles applied in community health nursing; risk factors and health problems for defined populations across the lifespan; issues and approaches in providing for the health care of defined populations in the community; specific health care needs and issues for populations at risk; communicable disease risk and prevention; and the diversity in the role of the community health nurse. Students apply previous knowledge and the nursing process in maximizing the health status of individuals, families, and defined populations within the community. Adult learning teaching strategies are employed in this courses. The RN student participates in faculty guided-independent clinical experiences.
Prerequisite: NURS 203 *5 credits*

NURSING (VILLA MARIA SCHOOL OF) - SCHOOL NURSE CERTIFICATION

PATRICIA MARSHALL, M.S.N., R.N., CCRN, *Undergraduate Program Director*

The Villa Maria School, in cooperation with the School of Education, offers a post-baccalaureate degree in nursing (BSN) certificate for school nursing. The school nurse certificate program is open to registered nurses who have earned a BSN. Students who are currently enrolled in Gannon University's Villa Maria School of Nursing's BSN program may take the courses for the certificate during their undergraduate program, but do not qualify for certification until licensed as a registered nurse in the Commonwealth of Pennsylvania.

The purpose of this post-BSN certificate is to prepare nurses to meet the health care needs of children of all ages in diverse school settings. Health promotion, risk reduction, and health education are emphasized. The program is approved by the Pennsylvania Department of Education.

Admission Requirements:

A. Licensed Registered Nurse
   a. Completed application to Gannon University Villa Maria School of Nursing's School Nurse Certificate Program.
   b. Proof of licensure as a registered nurse in the Commonwealth of Pennsylvania.
      i. Submit photocopy of RN license
   c. Currently hold a Bachelor's of Science in Nursing degree from an accredited program with a cumulative grade point average of 3.0 in undergraduate course work.
      i. Submit official BSN transcript

B. Current BSN student, unlicensed:
   a. Student with senior standing, currently enrolled in Gannon University Villa Maria School of Nursing's BSN program
   b. Current overall QPA of 3.0 or higher
      i. Submit request to BSN Program director
      ii. Submit copy of current transcript

C. Current RN to BSN or RN to MSN student, licensed registered nurse
   a. Student is currently enrolled in Gannon University Villa Maria School of Nursing's BSN-RNBS or ND-RNMSN major
   b. Current overall QPA of 3.0 or higher
      i. Submit request to BSN Program director
      ii. Submit copy of current transcript
   c. Proof of licensure as a registered nurse in the Commonwealth of Pennsylvania.
      i. Submit photocopy of RN license

Program and Certification Requirements:

1. Admission, progression and graduation requirements from the Pennsylvania Department of Education (Chapter 354) for School Nurse Certification require an overall GPA of at least 3.0 in all undergraduate and certificate course work.

2. 5 credits of NURS 428 School Nursing which contains 100 hours of supervised clinical experience with a certified school nurse.
   a. For admission to NURS 428 School Nursing the following are required
      i. Holds a BSN or is a senior student in the BSN program.*
      ii. Proof of valid CPR certification
      iii. Proof of current PPD (tuberculin testing)
      iv. Proof of completed health records
      v. Proof of Act 33 and 34 clearances (child abuse and criminal)
      vi. Finger printing requirements

3. Mathematics requirement
   a. 6 credit hours of college level Mathematics are required. Three credits may be awarded for the undergraduate statistics course.

4. English requirement
   a. 6 credits hours of college level English as defined below:
      i. 3 credit hours of college level English composition
      ii. 3 credit hours of college level English literature

5. Support course requirement
   a. 3 credit hours of SPED 101 Special Education Overview
   b. 3 credit hours of EDCR 414 Sociology of Education

6. Proof of Licensure in the Commonwealth of Pennsylvania as a registered nurse exempts the student from taking the PRAXIS I exams.

* Gannon University students enrolled in the BSN-NURS or BSN-RNBS or ND-RNMS programs may be eligible to pursue this certificate. Students must declare their intent to obtain the certification to the BSN program director and complete appropriate paperwork. Upon completion of the BSN program and proof of licensure as a registered nurse in the Commonwealth of Pennsylvania, the student must file a certification approval form with the School of Nursing to initiate the formal School Nurse Certification Process.

Permanent Certification

Pennsylvania offers permanent certification as a School Nurse when a graduate of a School Nurse Certification program has accumulated a minimum of 24 post-baccalaureate credit hours within 6 years of initial certification. In most cases, courses taken toward School Nurse Certification count toward permanent certification as long as they have been taken after the date on which the initial BSN degree was granted.

OCCUPATIONAL THERAPY

BERNADETTE HATTJAR, Dr. OT, M.Ed., OTR/L, *Program Director*

FACULTY: *Assistant Professors:* Jeffrey Boss, Bernadette Hattjar. *Instructors:* John Connelly, Anita Hotchkiss, David LeVan, Lynne Oberle.

The Occupational therapy program allows opportunities for in-depth study and field practicum experiences with individuals of all ages who have limited capacity to perform in their everyday lives. The goal of occupational therapy is to assist the individual to achieve the maximum level of independent living through remediation of or adaptation to physical, cognitive, perceptual, or mental health impairments.

This program is designed to prepare students for career opportunities in occupational therapy. Gannon's OT Program has two points of entry: a five-year, entry-level masters degree program, beginning at the Freshman year, and a three-year entry level masters degree program for students who enter after obtaining a baccalaureate degree in another field. Students in the five-year program are awarded a baccalaureate degree in health sciences at the end of their fourth year. Upon completion of their fifth year students are awarded a Master of Science degree and are eligible to take the National Certification Examination. Students in the three-year program graduate with the Master of Science degree and are eligible to take the National Certification Examination at the end of the three-year program.

Two three month clinical fieldwork experiences are required during the summer and fall of the last year of the program. Students must maintain a 3.00 GPA. Space may be available for transfer into the sophomore or junior year for students who began their studies in other majors and for individuals who are Certified Occupational Therapy Assistants.

The Occupational Therapy Program is accredited by the Accreditation Council for Occupational Therapy Education (ACOTE). Graduates are eligible to sit for the national certification examination 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 license eligibility is usually based on the results of the Certification Examination. For further information on accreditation, the address, and web address telephone number for ACOTE are 4720 Montgomery Lane, P.O. Box 31220, Bethesda, MD 20824-1220; (301) 652-2682; www.aota.org/nonmembers/area13/links/link13.asp.

Individuals with certain types of criminal records (felonies) may be barred from practicing occupational therapy at the national or state level. Individuals with records should contact

NBCOT at the following address: NBCOT, 12 South Summit Avenue, Suite 1000, Gaithersburg, MD 20877-4150 or via e-mail at: http://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 record and let the individual know if they would be allowed to practice and any restrictions with might apply.

COURSE DESCRIPTIONS:

OCCT 108: First-Year Seminar: Occupational Therapy
The First-Year Seminar is a discussion/experience-based course intended to orient the new student to Gannon University, to introduce the Liberal Studies Core and LIFECORE, to assist in the transition from high school to university life, and to encourage development of academic, personal and spiritual aspects of the student's life. Each seminar is unique, depending upon the instructor and/or program in which it is offered. The Occupational Therapy First-Year Seminar takes the challenges the new college student faces and ties them to the challenges faced by clients you will be treating in the future. The assessments and activities done during this class will have the potential for being useful as assessments and treatment for those future clients. *2 credits*

OCCT 201: Introduction to Occupational Therapy Process
Development of occupational therapy as a profession; concepts of role acquisition and role dysfunction, human competence and adaptation; use of human occupation as therapeutic intervention, exploration of domains of practice of OT; scope of practice of health professionals; health & wellness; healthcare delivery systems; disability; professional behaviors. *3 credits*

OCCT 212: Occupational Role Acquisition
Development across the life span with emphasis on skill acquisition. All aspects of development in human and non-human environmental interaction will be considered including motor, sensory integrative, cognitive, perceptual, social, cultural and religious. Emphasis will be placed on development of performance components and competence in performance areas within a temporal and environmental context. Multicultural factors relating to development of competence will also be addressed. Lab will provide community experiences with different ages and cultures.
Prerequisite: OCCT 201 or PI *4 credits*

OCCT 313: Occupational Science &Analysis
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.
Prerequisite: OCCT 212 *3 credits*

OCCT 399: Independent Study
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.
1-3 credits, Fall, Spring, Summer

OCCT 425: Structural Function of the Neuromusculoskeletal System
The purpose of this course is to provide students with lecture material on the neuro-musculo-skeletal system sufficient to prepare them for progression to junior level courses in the program. The course will focus on the functional anatomy of the muscular, skeletal, nervous and circulatory systems. It will concentrate on the function of these systems within the context of volitional movement. *3 credits*

OCCT 426: Structural Function of the Neuromusculoskeletal System Lab
Prerequisites: BIOL 108, BIOL 109 *1 credit*

OCCT 441: Analysis of Human Movement
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.
Prerequisites: PHYS 101, BIOL 110, BIOL 111, OCCT 313 *4 credits*

OCCT 461: Theoretical Foundations of Occupational Therapy
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.
Prerequisite: OCCT 313 *3 credits*

OCCT 486: Occupational Therapy Medical Sciences
Signs, symptoms, medical management, and pharmacological management of general medical, neurological, orthopedic and psychiatric conditions relevant to occupational therapy intervention.
Prerequisites: BIOL 110, BIOL 111 *3 credits*

OCCT 490: Special Topics
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.
Prerequisite: Enrollment in OT; Specific pre-requisites are topic related. *1-3 credits*

GOCCT 505: Clinical Neuroscience
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. Lab includes examination of brain specimens.
Prerequisites: BIOL 110, BIOL 111, OCCT 313 or PI *4 credits*

GOCCT 508: Neurorehabilitation Techniques
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.
Prerequisites: OCCT 441, GOCCT 505, OCCT 486 *4 credits*

GOCCT 509/510: Occupational Therapy Intervention: Psychosocial Dysfunction I & II
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 and maintenance of competence and adaptations related to psychosocial dysfunction within various cultures. The courses are composed of three sections; lecture, laboratory exercises and a clinical fieldwork experience.
Prerequisites: PSYC 232, OCCT 313, OCCT 461, 481. Prerequisite to GOCCT 509, GOCCT 410 *4/5 credits*

GOCCT 515/516: Occupational Therapy Intervention: Physical Disabilities I & II
Analysis and adaptation of the human and non-human environments in 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 and review of relevant research. Level I fieldwork in an adult Physical Disabilities setting included. Sessions will consist of lecture and lab hours weekly. One credit is assigned to the fieldwork experience in GOCCT 516.
Prerequisites: OCCT 486, GOCCT 508, GOCCT 510; Prerequisite to GOCCT 516: GOCCT 515 *4/5 credits*

GOCCT 521/522: Occupational Therapy Intervention: Pediatrics and Developmental Disabilities I & II
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.
Prerequisites: OCCT 486, GOCCT 508; GOCCT 510; Prerequisite to GOCCT 522: GOCCT 521 *5/4 credits*

GOCCT 530: Community-Based Intervention
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.
Prerequisites: OCCT 486, GOCCT 508, GOCCT 510; Co-requisites: GOCCT 515, 521 *3 credits*

GOCCT 550: The Research Process
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 occupational therapy. Students learn the components, principles, and methods of scientific research to become discerning consumers of research.
Prerequisites: OCCT 300, 461 *5 credits*

GOCCT 552: Qualitative Research
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 the health sciences. Students learn the components, principles, and methods of scientific qualitative research to become discerning consumers of research.
Prerequisite: Instructor approval *3 credit*

GOCCT 590: Special Topics
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.
Prerequisite: Completion of all fourth year courses, PI *1-3 credits*

GOCCT 620: Leadership and Management in OT
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.
Prerequisites: GOCCT 660, GOCCT 661 *3 credits*

GOCCT 630: Intervention Techniques for Gerontology
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.
Prerequisites: GOCCT 510, GOCCT 515 *3 credits*

GOCCT 640: Clinical Reasoning Seminar I
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.
Prerequisites: GOCCT 515, GOCCT 521; Co-requisites: GOCCT 516, 522, 530 *3 credits*

GOCCT 650: Research Seminar
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.
Prerequisite: GOCCT 550; Senior standing in the OT program *3 credits*

GOCCT 660/661: Fieldwork Experience I & II
Six months full time clinical experience in two different occupational therapy settings; supervised practice of therapeutic assessment and intervention techniques; students will gain experience in a wide variety of clinical conditions and age ranges.
Prerequisite: Satisfactory completion of all academic requirements in the fourth year; permission of faculty *8/8 credits*

GOCCT 710: Emerging Models of Practice
This course will examine emerging models of practice in the field of OT as well as related job opportunities. These will vary, based upon current healthcare systems, Occupational Therapy theories, practice, and service delivery models. In-depth exploration and understanding of current health-care policies; social, demographic, and political issues driving the health-care system; influences in delivery of services in OT. Informatics will be utilized as the system for investigation of resources. New methods and settings in which to provide OT intervention will be examined and applied in a local agency or organization. Participants will also evaluate the effectiveness of these services and modify them as needed.
Prerequisites: GOCCT 660, GOCCT 661 *3 credits*

GOCCT 725: Advanced Intervention: Theory and Techniques
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 complimentary and alternative therapies. Review of current research in all areas of practice. Clinical reasoning through case studies.
Prerequisites: GOCCT 660, GOCCT 661 *3 credits*

GOCCT 730: Professional Issues Seminar
Critical analysis of current professional issues will be examined in this course. Topics will include, but not be limited to: health care delivery systems, professional boundaries, regulatory agencies, specialization, validation of theory; continuing professional competence; contributions to the profession and society.
Prerequisites: GOCCT 660, GOCCT 661 *3 credits*

GOCCT 750/751: Thesis I & II
This course builds on GOCCT 650 by further development and completion of the group research project. Systematic investigation of a research problem including gathering and analyzing the data, synthesizing and discussing the information collected, and summarizing the conclusions.
Prerequisite: GOCCT 650, approval of the thesis director *1-3 credits*

MS in Occupational Therapy Curriculum Requirements

FIRST YEAR

	Fall		*Spring*
2	First-Year Seminar/OCCT 108	4	Occ Role Acquisition/OCCT 212
3	Intro to Occ Therapy/OCCT 201	3	Crit Analysis & Comp/LENG 112
3	College Composition/LENG 111	3	Individual/Culture/Soc/SOCI 120
3	Intro to Psychology/PSYC 111	3	Physics for Life Sci/PHYS 101
3	Intro to Philosophy/LPHI 131	3	Speech/SPCH 111
3	Intro Organic & Biochem/CHEM 102		
17		16	

SECOND YEAR

	Fall		*Spring*
3	Occ Science & Analysis/OCCT 313	3	Theoretical Fund of OT/OCCT 461
3	Hist of West & World/LHST 111	3	Philosophy II Series/LPHI
3	Sacred Scripture/LTHE 121	3	Psychopathology/PSYC 232
3	Essentials of Anat & Phys I/BIOL 108	3	Theology II Series/LTHE
1	Essentials of Anat & Phys I Lab/ BIOL 109	3	Essentials of Anat & Phys II/ BIOL 110
1	Leadership Seminar	1	Essentials of Anat & Phys II Lab/ BIOL 111
3	Theology or Philosophy III Series/ LTHE/LPHI	1	Neuromusculoskeletal Lab/BIOL 113
17		17	

THIRD YEAR

	Fall		*Spring*
4	Analysis of Human Move/OCCT 441	4	Neurorehab Tech/GOCCT 508
4	Clinical Neuroscience/GOCCT 505	5	OT Interv: Psychosocial II/GOCCT 510
4	OT Interven:Psychosocial I/GOCCT 509	5	The Research Process/GOCCT 550
3	Applied Statistics/MATH 213	3	Literature Series/LENG
3	OT Medical Sci/OCCT 486		
18		17	

FOURTH YEAR

	Fall		*Spring*
4	Interv:Physical Disabil I/GOCCT 515	5	Interv:Phys Disab II/GOCCT 516
5	Interv:Pediatrics & Dev Disab I/ GOCCT 521	4	Interv:Pediatrics & Dev Disab II/ GOCCT 522
3	Community Based Interv/GOCCT 530	3	Clinical Reasoning Sem I/GOCCT 640
3	Research Seminar/GOCCT 650	1	Thesis I/GOCCT 750
3	Fine Arts Series/LFIN	3	Interv Tech for Gerontology/ GOCCT 630
18		16	

FIFTH YEAR

	Summer/Fall (Start of graduate phase)		*Spring*
8	Field Work Experience I/GOCCT 660	3	Emerging Models of Practice/ GOCCT 710
8	Field Work Experience II/GOCCT 661	3	Adv Interv:Theory & Techniq/ GOCCT 725
		3	Professional Issues Sem/GOCCT 730
		3	Thesis II/GOCCT 751
		3	Leadership & Mgmt in OT/ GOCCT 620
16		15	

Total Credits: 167

PHYSICAL THERAPY

KRISTINE LEGTERS, PT, DSc, NCS, *Chairperson*

CAROLYN GALLEHER, PT, DHS, *Coordinator of Undergraduate Physical Therapy:*

FACULTY: *Professor:* Pamela Reynolds. *Associate Professor:* Kristine Legters. *Assistant Professors:* Carolyn Galleher, Beth Gustafson, Thomas Hudson, Kate Reynolds, Donna Skelly. *Instructors:* Steven Bitticker, Julie Hartmann.

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.

The job opportunities for physical therapists remain abundant, and according to the *Occupation Outlook Handbook,* are expected to continue to grow during the new millennium. Advances in medical technology continue to allow for the treatment of more severe disabilities. As a result, physical therapists will be needed to care for the aging baby boomers who face heart disease, strokes and arthritis, and to attend to the growing number of newborns who suffer severe birth defects.

Gannon's undergraduate Physical Therapy curriculum assists students in preparing themselves for acceptance into Gannon's Doctor of Physical Therapy program. With the guidance of the physical therapy advisor, students select courses to fulfill prerequisites specific to the professional program, or programs, to which students wish to apply.

All entry-level physical therapy programs offer only graduate level (master's or doctorate degree) professional preparation. Because of this, students entering Gannon's undergraduate physical therapy program intending to apply to graduate level professional programs should select a major field of study. The choice of a major will depend upon the student's personal interest. Students may select any of the following majors available at Gannon: Biology, Business Administration, Chemistry, Mathematics, Nursing*, Psychology, Science, and Sport and Exercise Science. *May require summer courses.

Gannon University offers a doctoral degree program in physical therapy. The curriculum is seven years in length with a 4+3 model. Graduates must complete a Baccalaureate degree and 3 years of professional preparation. While enrollment in Gannon's undergraduate physical therapy program does not guarantee acceptance into the professional graduate program, 75 percent of the seats in each entering class at the graduate level are reserved for "qualified Gannon graduates".

Admission into the Undergraduate program:

The minimum requirements to be considered for acceptance to the undergraduate Physical Therapy program include:

1. Overall high school GPA of 3.0 or better.
2. SAT score of 1010 or higher or ACT score of 21 or higher
3. Completion of college prep biology and chemistry with labs and three years of college prep mathematics

Acceptance into the Graduate Program:

The graduate program gives preference to qualified Gannon University undergraduate physical therapy applicants who meet the following criteria:

1. Maintain a minimum overall 3.0 GPA
2. Satisfy the prerequisite course GPA requirements of 3.0 with no more than four credits of repeat course work, grades of D are not accepted.
3. Successful completion of an undergraduate degree from Gannon University.
4. Transferred to Gannon University and completed a minimum of 30 credits in the undergraduate physical therapy program at Gannon University.

Early Acceptance Opportunity into the Graduate Program:

Four plus three guaranteed acceptance:

A guaranteed position in the Doctor of Physical Therapy program will be reserved for any freshman if the following criteria are met:

1. SAT total of 1050 or higher
2. GPA of 3.20 or higher on a 4.0 scale.
3. Must maintain a GPA of 3.20 or higher in Gannon undergraduate courses.
4. Must maintain a GPA of 3.20 or higher in prerequisite courses with no repeated courses
5. Overall GPA will be reviewed at the end of the Freshman, Sophomore and Junior year. Overall and pre-requisite GPA will be reviewed at the end of the Senior year. GPA's are evaluated as reported by the Registrar's Office.

3 + 3 Program Opportunity

Gannon also offers the opportunity to participate in a 3 + 3 program. This program has been designed for qualified students to earn an undergraduate degree and a Doctor of Physical Therapy degree in six years rather than seven. Students who wish to apply must choose a Science or Sport and Exercise Science major and meet the following criteria:

1. SAT total of 1100 or higher

2. A high school GPA of 3.40 or better.
3. Must maintain a GPA of 3.40 or higher in Gannon undergraduate courses.
4. Must maintain a GPA of 3.40 or higher in prerequisite courses with no repeated courses.
5. Overall GPA will be reviewed at the end of the Freshman, Sophomore, and Junior Year. Pre-requisite GPA will be reviewed at the end of the Junior Year. GPA's are evaluated as reported by the Registrar's Office.

Course Selection:

The following coursework meets the general requirements for most professional schools of physical therapy including Gannon's graduate program:

Biology with laboratories	8 credits	Human Anatomy with lab	1 semester
Chemistry with laboratories	8 credits	Human Physiology with lab	1 semester
Physics with laboratories	8 credits	Exercise Physiology	1 semester
Mathematics	3 - 6 credits	Exercise Physiology lab	1 semester
Psychology	6 credits	Statistics	1 semester
Sociology	3 credits	Kinesiology (recommended)	

Professional schools of physical therapy vary in regard to entry requirements. Consultation with the physical therapy school of choice during the freshman year is recommended.

Undergraduate Physical Therapy Curriculum:

The following course sequence can be varied dependent upon the undergraduate field of study that has been selected.

FRESHMAN

	Fall Semester		*Spring Semester*
3	General Chemistry I/CHEM 111	3	General Chemistry II/CHEM 114
1	General Chemistry I Lab/CHEM 112	1	General Chem II Lab/CHEM 115
3	College Composition/LENG 111	3	Critical Anal. and Comp/LENG 112
3	Sacred Scripture/LTHE 121	3	Psychology 200 level or higher/PSYC
3	Intro to Psychology/PSYC 111	3	College Algebra/MATH 111
2	First-Year Seminar	3	Hist of West & World/LHST 111
		1	PT Seminar I/PT 110
15		17	

SOPHOMORE

	Fall Semester		*Spring Semester*
3	Molecular Cell Biology/BIOL 122	3	Animal Form Function/BIOL 124
1	Molecular Cell Bio Lab/BIOL 123	1	Animal Form Lab/BIOL 125
3	Statistics	3	Trigonometry/MATH 112
3	Introduction to Philosophy/LPHI 131	3	Literature Series/LENG
3	Theology II Series/LTHE	3	Philosophy II Series/LPHI
3	Fine Art Series/LFIN	1	PT Seminar II/PT 210
		3	Fundamentals of Speech/SPCH 111
16		17	

JUNIOR and SENIOR

3	Basic Sociology/SOCI 110
3	Physics I /PHYS 105
1	Physics I Lab/PHYS 106
3	Physics II /PHYS 108
1	Physics II Lab/PHYS 109

3	Human Gross Anatomy/BIOL 365
1	Human Gross Anatomy Lab/BIOL 366
3	Animal Physiology/BIOL 368
1	Animal Physiology Lab/BIOL 369
3	Physiology of Exercise and Sport/SPRT 390
1	Physiology of Exercise and Sport Lab/SPRT 391
3	Structural Kinesiology/SPRT 360 (recommended)
26	

All students receiving a bachelor's degree from Gannon must complete the Core of Discovery requirements and the course requirements for their field of study in addition to the courses listed above.

Doctor of Physical Therapy 3 + 3 Program

This program has been designed for qualified students to earn an undergraduate degree in either Sport and Exercise Science or general Science and a Doctor of Physical Therapy Degree at Gannon University in six years rather than seven. Under the early entry program, the students may receive a Bachelors Degree with a specific major in either of the undergraduate options (Sport and Exercise Science/General Science) after three years of undergraduate work and the successful completion of the first year of full time study in the Doctor of Physical Therapy program. Students would receive their DPT Degree after successful completion of three years in the Doctor of Physical Therapy Degree at Gannon University. The curriculum in either Science or Sports and Exercise Science allows for the completion of the Core of Discovery, the necessary coursework for completion of the intended major, and the prerequisites for physical therapy.

Under the provisions of this program, students will matriculate at Gannon University for a minimum of a hundred and two (102) to a hundred and five (105) semester hours leading toward either the Bachelor of Science-Science/Pre Physical Therapy tract or Bachelor of Sport and Exercise Science/Pre Physical Therapy tract. A guaranteed position in our 3+3 Doctor of Physical Therapy Program will be reserved for freshman if the following criteria are met:

- SAT total of 1100 or higher
- Grade point average of 3.40 or higher on a 4.0 scale
- Must maintain a grade point average of 3.40 or higher in Gannon undergraduate courses.
- Must maintain a grade point average of 3.40 or higher in the prerequisite courses (with no repeat courses).

Overall GPA will be reviewed at the end of the Freshman and Sophomore year. Overall and pre-requisite GPA will be reviewed at the end of the Junior year. GPA's are evaluated as reported by the Registrar's Office.

At the end of your junior year, your status will change from an undergraduate to graduate status that may affect your financial aid and on-campus housing. In addition, in order for the 3 +3 students to complete their undergraduate degree, they must be formally admitted to the DPT program and successfully complete the first year graduate courses. The graduate credits as specified below are the only credits which will be accepted for transfer to the undergraduate transcript for completion of the intended undergraduate degree. (B.S. Sport and Exercise Science or B.S. Science) Failure to successfully complete the graduate course work may result in additional undergraduate course work to fulfill the undergraduate degree requirements.

Suggested Sport and Exercise Science Curriculum

FRESHMAN *(34 credits)*

	Fall		*Spring*
3	College Composition/LENG 111	3	Animal Form and Function/BIOL 124
3	Sacred Scriptures/LTHE 121	1	Animal Form and Funct Lab/BIOL 125
3	Molecular & Cellular Biology/BIOL 122	3	Critical Analysis and Composition/ LENG 112
1	Molecular & Cell Biol Lab/BIOL 123		
3	Intro to Psychology/PSYC 111	3	Sport Nutrition/SPRT 130
3	Fundamentals of Speech/SPCH 111	3	Intro to Philosophy/LPHI 131
2	First-Year Seminar	3	Precalculus/MATH 135
		1	PT Seminar I/PT 110
18		17	

SOPHOMORE *(34 credits)*

	Fall		*Spring*
3	Philosophy II Series/LPHI	3	History of West & World/LHST 111
3	General Chemistry I/CHEM 111	3	General Physics II/PHYS 108
1	General Chemistry I Lab/CHEM 112	1	Gen Physics II Lab/PHYS 109
3	General Physics I/PHYS 105	3	General Chemistry II/CHEM 114
1	Gen Physics I lab/PHYS 106	1	General Chemistry II Lab/CHEM 115
3	Fine Art Series/LFIN	3	Theology II Series/LTHE
3	Statistics/PSYC 211 or MATH 213	3	Literature Series/LENG
		1	PT Seminar II/PT 210
17		18	

JUNIOR *(34 credits)*

	Fall		*Spring*
3	Motor Development/SPRT 414	3	Animal Physio/BIOL 368
3	Theo/Philosophy III Series/LTHE, LPHI	1	Animal Physio Lab/BIOL 369
1	Leadership Seminar	3	Sport Ethics/SPRT 460
3	Structural Kinesiology/SPRT 360	3	Prev. & Care of Ath Inj/SPRT 420
1	Struct Kinesiology Lab/SPRT 361	3	Motor Learning and Performance/ SPRT 415
3	Psychopathology/PSYC 232		
3	Human Gross Anatomy/BIOL 365	3	Physiology of Exercise and Sport/ SPRT 390
1	Human Gross Anat Lab/BIOL 366		
		1	Physiology of Exercise and Sport Lab/SPRT 391
18		17	

SENIOR *(26 credits)*

	Fall		*Spring*
5	Found of Human Mvmt/GDPT 818	9	Exam, Eval & Interv for Musculoskeletal Mvmt Dysf of the Extremities & Lab/GDPT 822/824
1	Found of Human Mvmt Lab/GDPT 819		
2	Research Applications: Evidence Based Practice I/GDPT 814	4	Exam, Eval, & Interv for Musculoskeletal Mvmt Dysfunct of the Spine & Lab/GDPT 825/827
1	Community Health Initiative I/ GDPT 816		
		1	Pharmacology/GDPT 890
		2	Health Care Systems & Policy I/ GDPT 810
		1	Community Health Initiative II/ GDPT 826
9		17	

131 Total credits

Suggested Science Curriculum:

FIRST YEAR

	First Semester		*Second Semester*
3	Intro to Sacred Scripture/LTHE 121	3	History of West & World/LHST 111
3	College Composition/LENG 111	3	Critical Analysis & Comp/LENG 112
3	Molecular Cellular Biology/BIOL 122	3	Animal Form & Function/BIOL 124
1	Molecular Cellular Biol Lab/BIOL 123	1	Animal Form & Funct Lab/BIOL 125
3	Gen Chemistry I/CHEM 111	3	General Chemistry II/CHEM 114
1	Gen Chemistry Lab/CHEM 112	1	General Chemistry II Lab/CHEM 115
2	First-Year Seminar	3	Precalculus/MATH 135
		1	PT Seminar I/PT 110
16		18	

SECOND YEAR

	First Semester		*Second Semester*
3	Fundamentals of Speech/ SPCH 111	3	Statistics/MATH 213, PSYC 211, SOCI 351
3	Theology II Series/LTHE	3	Psychology 200 level or higher/PSYC
3	Intro to Psychology/PSYC 111	3	Philosophy II Series/LPHI
3	Physics I/PHYS 105	3	Physics II/PHYS 108
1	Physics I Lab/PHYS 106	1	Physics II Lab/PHYS 109
3	Introduction to Philosophy/LPHI 131	3	Animal Physiology/BIOL 368
		1	Animal Physiology Lab/BIOL 369
		1	PT Seminar II/PT 210
16		18	

THIRD YEAR

	First Semester		*Second Semester*
3	Theology or Phil III Series/LTHE or LPHI	3	Physiology of Exercise and Sport/ SPRT 390
3	Literature Series/LENG	1	Physiology of Exercise and Sport Lab/SPRT 391
3	Structural Kinesiology/SPRT 360	3	Basic Sociology/SOCI 110
1	Struct Kinesiology Lab/SPRT 361	3	Fine Art Series/LFIN
3	Human Anatomy/BIOL 365	3	Senior Seminar/LBST 383
1	Human Anatomy Lab/BIOL 366	3	Earth Sci/Environmental Sci Elective
3	Earth Sci/Environmental Sci Elective		
1	Leadership Seminar		
18		16	

FOURTH YEAR *(Graduate School)*

	First Semester		*Second Semester*
2	Applied Anatomy/GDPT 811	6	Exam, Eval & Intervention for Musculoskeletal Mvmt of the Extremities/GDPT 822
5	Foundations in Human Movement/ GDPT 818	3	Exam, Eval & Intervention for Musculoskeletal Mvmt Dysfunct of the Extremities Lab/GDPT 824
1	Foundations in Human Movement Lab/GDPT 819	2	Exam, Evaluation & Intervention for Musculoskeletal Mvmt Dysfunc of the Spine/GDPT 825
2	Research Applications: Evidence-Based Practice I/GDPT 814	2	Health Care System & Policy I/ GDPT 810
		2	Exam, Evaluation & Intervention for Musculoskeletal Movement Dysf. of the Spine Lab/GDPT 827
		1	Pharmacology/GDPT 890
10		16	

128 credits total

Course Descriptions:

PT 110: Physical Therapy Seminar I
This course will discuss the history of the physical therapy profession. Scope of practice, responsibilities, and relationships with other health professionals will be reviewed. The professional organization for physical therapists will be introduced to the students. The students will meet with clinicians who will discuss the many opportunities available to physical therapists. *1 credit*

PT 210: Physical Therapy Seminar II
This course is the second in the series of seminar classes to introduce the student to the physical therapy profession. It will allow the students additional observation of physical therapists in the clinic and to share their experiences with each other. It also enables the students to begin to develop their professional communication style including introduction to medical terminology and reading professional journals. *1 credit*

PHYSICIAN ASSISTANT

MICHELE KAUFFMAN, J.D., MPAS, PA-C., *Chairperson*

KIMBERLY CAVANAGH, DHSc, MPAS, PA-C, *Associate Director*

FACULTY: *Professor:* Michele Kauffman. *Associate Professor:* Holly Jodon. *Assistant Professors:* Kimberly Cavanagh, Jennifer Freer, Carolyn Knox. *Medical Director:* John Jageman.

Physician Assistants (PA) 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 following five years of increasingly specialized study. The curriculum is predominantly clinical during the fifth year. During the fifth year, clinical faculty, in conjunction with various health care institutions, introduce the students to professional physician assistant training. The program is offered primarily in clinical sites in northwestern Pennsylvania, Ohio and western New York, as well as some locations farther afield. Students are responsible for their own housing and transportation to and from clinical sites.

The PA program curricula of Gannon University's Physician Assistant Program is accredited by the Accreditation Review Commission on Education for the Physician Assistant, Inc. Applicants must meet the technical standards for admission to the program. For further details, contact the Admissions office.

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 permit 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 permit 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 fourth year of the PA Program is not recommended. Demanding courses and time constraints are to be expected. Employment during the fifth year of the PA Program is strongly discouraged. Students will spend an average of 40 hours per week at

their clinical site, plus complete reading assignments 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.

Transfer Policies

- Transfer students are accepted on a space availability basis at the freshman, sophomore, and junior level of the program.
- Students should apply through the Office of Admissions and request transfer status. Courses for transfer must be approved by the Dean's Office. Students accepted into the program will receive a written evaluation of their transcripts showing which courses were accepted into the program.
- To be considered for transfer into the program, a student must have at least a 3.0 overall GPA and a 3.0 in their science courses.
- Transfer students must repeat any science course which was taken longer than five years prior to program admission.
- Once matriculated into the program, Program GPA's of 3.0 must be maintained throughout the program as well as an overall GPA of 3.0
- 30 hours of volunteer/paid patient contact must be completed prior to matriculating.
- Transfer students must complete the course of study (found in this catalog) for the Physician Assistant Program.
- Personal interview is required.
- Upon matriculation, transfer students will receive a program handbook detailing the program's policies and procedures.
- Transfer students with a Bachelor's Degree should refer to Gannon's Graduate Catalog for prerequisite courses needed prior to application to the Post Baccalaureate program. All prerequisite courses are offered at Gannon University.
- Advanced standing is not granted in the graduate phase of the program. No credits are awarded for experiential learning.

COURSE DESCRIPTIONS:

PHAS 100: First-Year Seminar: Applied Concepts in Health Care
This course is a First Year Seminar in the Liberal Studies core curriculum. It is a discussion/experience-based course intended to orient the new student to Gannon University, to introduce the Liberal Studies Core and LIFECORE, to assist in the transition from high school to university life, and to encourage the development of academic, personal and spiritual dimensions of the student's life. This course will also provide an introduction to the field of health care including the principles of integrity that are essential to all health care professions as well as sources of information relating to the field of health care, how to search for these sources, and how to understand sources that are found. The course also investigates health care careers so that the student can plan his/her academic courses in a focused and analytical manner. *2 credits, Fall*

PHAS 121: Medical Terminology
This course provides students with an introductory study of the medical language through prefix, suffix and root word forms. Anatomic and clinical terms pertaining to each body system are covered. Classroom activities emphasize pronunciation, interpretation and application of medical terms.
Prerequisite: PA major *3 credits, Fall/Spring*

PHAS 215: Communication and Resources in the Patient Encounter
This course is designed to introduce the students to communication skills in the patient encounter for the Physician Assistant, including boundaries of the interview, ethical professional behavior and establishing a provider/patient relationship. Emphasis will be placed on the interviewing process and communication techniques. This course will focus on communication skills with patients in various settings and exposure to resources available to assist in health care and special needs of patients to prepare the student for service-learning experiences.
Prerequisite: PA major *1 credit, Spring*

PHAS 300: Leadership Seminar
The Leadership Seminar introduces students to a three-dimensional model of leadership, including a repertoire of leadership skills and means of using those skills responsibly in the various communities to which they belong. In addition, the course helps students explore the relevance of leadership skills in the leadership process. Ethical reasoning and Catholic social justice teaching serve as the basis for students' leadership development as reflected both in this course and in the co-requisite Theology or Philosophy Series III course. *1 credit Fall*

PHAS 312: Community Resources in Healthcare: A Service Learning Experience
The goal of this course is to introduce the student to community service-learning through student/client experience in various health care/social service agencies within the Gannon and Erie community. Collectively each student's experience will provide a model resource of agencies available to communities and how each agency assists in the care of the patient.
Prerequisite: PA major *1 credit, Fall, Spring*

PHAS 363: Research Process
The primary goal of this course is for students to be comfortable with all aspects of clinical research in the Health Science field. All practitioners need to have an understanding of the ethical design of studies and the ethical treatment of human subjects in clinical research. Therefore, part of the class is dedicated to the study of "Good Clinical Practices (GCP)" as defined by the US Food and Drug Administration. All students will be required to obtain NIH certification in this area. In addition, the course focuses on the theoretical and practical aspects of designing research studies. We will survey multiple types of research methodologies including the statistical basis for making rational conclusions based upon the data. Finally, we will focus on medical writing, including how to do a literature search, write an abstract, and write a research paper. Appropriate form and style utilization will be discussed. Students will be required to complete multiple assignments including literature series, bibliographics, editing and the completion of an entire literature review. *3 credits, Fall*

PHAS 408: Behavioral Medicine
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.
Prerequisite: PA major *1 credit, Spring*

PHAS 411: Physical Diagnosis I
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.
Prerequisite: PA major *5 credits, Fall*

PHAS 413: Physical Diagnosis II
Designed to complement the physical diagnosis lectures, this course enables students to develop skills in performing histories and physical examinations on fellow students.
Prerequisite: PA major *1 credit, Fall*

PHAS 414: Medical Lecture Series I
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 Pharmacotherapeutics and Laboratory Diagnosis courses.
Prerequisite: PA major *3 credits, Fall*

PHAS 415: Medical Lecture Series II
A continuation of PHAS 414
Prerequisite: PHAS 414 *6 credits, Spring*

PHAS 416: Physical Diagnosis III
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 presenting medical complaint.
Prerequisites: PHAS 411, 413 *1 credit, Spring*

PHAS 424: Pharmacotherapeutics I
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.
Prerequisite: PA major *3 credits, Fall*

PHAS 425: Pharmacotherapeutics II
A continuation of PHAS 424
Prerequisite: PHAS 424 *2 credits, Spring*

PHAS 431: Clinical Science I
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.
Prerequisite: PA major *3 credits, Fall*

PHAS 432: Clinical Science II
A continuation of PHAS 431 / 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.
Prerequisite: PHAS 431 *2 credits, Spring*

PHAS 438: Pediatrics/Obstetrics/Gynecology Lecture Series
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.
Prerequisite: PHAS 414 *4 credits, Spring*

PHAS 443: Research Proposal
Students distinguish between different types of research and systematically examine research designs and methodologies for the purpose of development of a proposal. Students will develop a research proposal under the direction of a research advisor.
Prerequisite: PA major *1 credit, Spring*

PHAS 445: Problem Based Medicine
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.
Prerequisite: PHAS 414 *2 credits, Spring*

PHAS 490: Special Topics
This is an elective course which will cover topics of special interest. *1-3 credits*

GPHAS 600: Pre-Rotation Lecture and Skills Lab
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.
Prerequisite: PHAS 415 *1 credit, Summer*

GPHAS 601: Pre-Rotation Lecture Series
This capstone course is designed to complement and integrate the Liberal Studies academic experience and didactics of the pre professional 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.
Prerequisite: PHAS 415 *4 credits, Summer*

GPHAS 602: Business Practices and Current Issues for Physician Assistants
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.
Prerequisite: PA major *2 credit, Summer*

GPHAS 614: General Surgery Rotation
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.
Prerequisites: Successful completion of the senior year clinical and didactic courses. *5 credits*

GPHAS 616: Clinical Research
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 develop a power point presentation in order to illustrate their research or project.
Prerequisites: Successful completion of the senior year clinical and didactic courses. *4 credits*

GPHAS 617: Family Medicine Rotation I
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.
Prerequisites: Successful completion of the senior year clinical and didactic courses. *5 credits*

GPHAS 618: Family Medicine Rotation II
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.
Prerequisites: Successful completion of the senior year clinical and didactic courses. *5 credits*

GPHAS 619: Family Medicine Rotation III
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.
Prerequisites: Successful completion of the senior year clinical and didactic courses. *5 credits*

GPHAS 621: Emergency Medicine Rotation
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.
Prerequisites: Successful completion of the senior year clinical and didactic courses. *5 credits*

GPHAS 622: Family Medicine Rotation IV
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.
Prerequisites: Successful completion of the senior year clinical and didactic courses. *5 credits*

GPHAS 623: Elective Rotation I
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.
Prerequisites: Successful completion of the senior year clinical and didactic courses. *5 credits*

GPHAS 624: Elective Rotation II
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.
Prerequisites: Successful completion of the senior year clinical and didactic courses. *5 credits*

GPHAS 631: Research/Project Guidance
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. *2 credits*

GPHAS 634: Clinical & Professional Capstone
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. *2 credits*

Master of Physician Assistant Science Curriculum

Liberal Studies/Core of Discovery Courses

3	LENG 111 College Composition	3	LPHI Philosophy II Series
3	LENG 112 Critical Analysis & Composition	3	LTHE/LPHI Theo/Phil III Series
3	LENG Literature Series	3	LFIN Fine Art Series
3	LTHE 121 Sacred Scriptures	3	LHST 111 Hist of the West & the World
3	LTHE Theology II Series	3	PSYC 111 Intro to Psychology
3	LPHI 131 Intro to Philosophy	3	SOCI 110 Basic Sociology
3	SPCH 111 Speech	1	PHAS 300 Leadership Seminar
2	PHAS 100 First-Year Seminar		

42 Total

Other Courses

3	CIS 170-173 or CIS 150 PC Courses or Business Technology I
3	PSYC 211, SOCI 351 or MATH 213 Statistics
3	Elective
3	Elective

12 Total

Basic Science Courses

3	BIOL 122 Molecular Cellular Biology	1	CHEM 104 Chemistry of Life I Lab
1	BIOL 123 Molecular Cellular Biology Lab	3	CHEM 106 Chemistry of Life II
3	BIOL 124 Animal Form & Function	1	CHEM 107 Chemistry of Life II Lab
1	BIOL 125 Animal Form & Function Lab	3	DIET 202 or SPRT 130 Nutrition or Nutrition for Sports & Exercise
3	CHEM 103 Chemistry of Life I		

19 Total

Physician Assistant Courses

3	PHAS 121 Medical Terminology	1	PHAS 312 Community Resources in Healthcare: A Service Learning Experience
1	PHAS 215 Communication & Resources in the Patient Encounter		

5 Total

PA Program Curricula

3	BIOL 232 Human Genetics	1	BIOL 369 Human Physiology Lab
3	BIOL 365 Human Gross Anatomy	3	BIOL 378 Medical Microbiology
1	BIOL 366 Human Gross Anatomy Lab	1	BIOL 379 Medical Microbiology Lab
3	BIOL 368 Human Physiology	3	PHAS 363 The Research Process

18 Total

FOURTH YEAR

	Fall Semester		*Spring Semester*
5	PHAS 411 Physical Diagnosis I	1	PHAS 408 Behavioral Science
1	PHAS 413 Physical Diagnosis Lab II	6	PHAS 415 Medical Lecture Series II
3	PHAS 414 Medical Lecture Series I	1	PHAS 416 Physical Diagnosis Lab III
3	PHAS 424 Pharmacotherapeutics I	2	PHAS 425 Pharmacotherapeutics II
3	PHAS 431 Clinical Science I	2	PHAS 432 Clinical Science II
3	RADS 441 Intro to Radiology	4	PHAS 438 PEDS/OB/GYN
		2	PHAS 445 Problem-Based Medicine
18		18	

Requirements complete for Bachelor of Science degree with a major in Health Science

FOURTH YEAR (start of Graduate Phase)

	Summer Semester
1	GPHAS 600 Pre-Rotation Lecture Series Lab
4	GPHAS 601 Pre-Rotation Lecture Series
2	GPHAS 602 Business Practice for PAs
5	GPHAS 617 Family Medicine Rotation I
12	

FIFTH YEAR

	Fall Semester		*Spring Semester*
5	GPHAS 618 Family Medicine Rotation II	4	GPHAS 616 Clinical Research
5	GPHAS 619 Family Medicine Rotation III	5	GPHAS 621 Emergency Medical Rotation
5	GPHAS 614 General Surgery Rotation	5	GPHAS 622 Family Medicine Rotation IV
15		14	

FIFTH YEAR

Summer Semester

5	GPHAS 623 Elective Rotation I
5	GPHAS 624 Elective Rotation II
2	GPHAS 631 Research Guidance
2	GPHAS 634 Clinical & Professional Capstone
14	

Requirements complete for Master of Physician Assistant Science

PHYSICS

MICHAEL W. FERRALLI, *Chairperson*

FACULTY: *Assistant Professors:* Nicholas Conklin, Michael Ferralli. *Instructor:* Perry Hilburn.

COURSE DESCRIPTIONS:

PHYS 100: Physics for Respiratory Care
An introductory course for the respiratory care major in the principles of physics in the health sciences. *3 credits*

PHYS 101: Physics for Life Sciences
An introductory course in general physics to train allied health students for a qualitative understanding of the basic laws of physics, and how these laws are applied in the medical sciences.
Prerequisite: High School Trig *3 credits*

PHYS 105: General Physics I
An introduction to mechanics, fluids and waves. Emphasizes quantitative and conceptual understanding without use of calculus.
Prerequisite: MATH 112 or MATH 135 or MATH 140 *3 credits*

PHYS 106: General Physics I Lab
Experimental verification of some topics from PHYS 105. Lab includes computer use in data collection. *1 credit*

PHYS 108: General Physics II
An introduction to electricity and magnetism, heat, and optics. Emphasizes quantitative and conceptual understanding without use of calculus.
Prerequisite: PHYS 105 *3 credits*

PHYS 109: General Physics II Lab
Experimental verification of some topics from PHYS 108. Lab includes computer use in data collection. *1 credit*

PHYS 111: General Physics III
An introduction to mechanics. Topics covered include kinematics, dynamics, energy, momentum and rotation.
Prerequisite: MATH 140 *3 credits*

PHYS 112: General Physics III Lab
Experimental verification of some topics from PHYS 111. Lab includes computer use in data collection. *1 credit*

PHYS 212: General Physics IV
An introduction to fluids, thermodynamics, waves and optics.
Prerequisites: MATH 141, PHYS 111 *3 credits*

PHYS 213: General Physics IV Lab
Experimental verification of some topics from PHYS 212. Lab includes computer use in data collection. *1 credit*

PHYS 214: General Physics V
An introduction to electricity and magnetism.
Prerequisites: MATH 141, PHYS 111 *3 credits*

PHYS 215: General Physics V Lab
Experimental verification of some topics from PHYS 214. Lab includes computer use in data collection. *1 credit*

PHYS 218: Lab for Engineers
A selection of experiments chosen from topics covered in PHYS 111 and PHYS 212. Lab includes computer use in data collection.
Prerequisites: MATH 141, PHYS 111 *1 credit*

PHYS 300: Introduction to Modern Physics
An historical and quantitative presentation of the events and thinking which led to the twentieth century revision of Classical Physics. An introduction to Relativity, Planck Quantum Theory, the Bohr atom, de Broglie's thesis, Schroedinger quantum mechanics, and electronic spin.
Prerequisites: PHYS 111, 212, 214 or equivalent. *3 credits*

PHYS 301: Theoretical Mechanics
Particle dynamics, moving reference systems, central forces, collision theory, dynamics of a system of particles, rigid body motion, Lagrangian and Hamiltonian Theory.
Prerequisites: PHYS 111, 212, 214, MATH 242. *3 credits*

PHYS 304: Mathematical Methods of Physics
Fourier series, Fourier transform, Laplace transform, vector field theory, complex variables, partial differential equations, special functions, probability, numerical analysis, matrices.
Prerequisite: MATH 242 *3 credits*

PHYS 321: Statistical Mechanics
Boltzman, Fermi-Dirac, and Bose-Einstein statistics by the combinatorial methods, entropy and probability, partition functions, classical and quantum mechanical specific heats of gases and solids, Planck radiation law, paramagnetic susceptibilities.
Prerequisites: Chem/CHEM 331, MATH 242 *3 credits, Spring*

PHYS 332: Experimental Physics
Selected experiments from the entire field, designed to develop a facility with laboratory techniques, a critical awareness of the errors of measurements and the consequent limitations on empirical conclusions, and an original initiative toward minimizing these limitations through refinements of techniques and instruments.
Laboratory: Six hours per week. *2 credits*

PHYS 406: Optics
Fermat's principles, thick lens theory, third order aberration theory, interference phenomena, Kirchoff's integral, Fresnel and Farunhoffer diffraction, Fourier transform optics, coherence times and lengths, holography, polarization, absorption, scattering, dispersion.
Prerequisites: PHYS 212, MATH 242 *3 credits*

PHYS 430: Quantum Mechanics I
Schrödinger Quantum Mechanics from an operator standpoint, wells, barriers and the harmonic oscillator, the Hydrogen atom, electric spin, angular momentum, perturbation theory, matrix representations, relativistic corrections, multi-electron atoms, Zeeman and Stark effects, molecular states.
Prerequisites: PHYS 300, 304 *3 credits*

PHYS 431: Quantum Mechanics II
Schrödinger Quantum Mechanics from an operator standpoint, wells, barriers and the harmonic oscillator, the Hydrogen atom, electric spin, angular momentum, perturbation theory, matrix representations, relativistic corrections, multi-electron atoms, Zeeman and Stark effects, molecular states.
Prerequisites: PHYS 300, 304 *3 credits*

PRE-MEDICAL AND RELATED PROGRAMS

SARAH J. EWING, Ph.D., *Director*

The following programs are in this section.

- LECOM 4 + 4 Medical
- LECOM 3 + 4 Medical
- PCOM 3 + 4 Medical
- ROSS 3 + 4 Medical
- ROSS 3 + 4 Veterinary
- Salus University, 3 + 4 Optometry
- 3 + 4 Podiatry
- LECOM 4 + 4 Dental
- Pre-Chiropractic
- Pre-Dental
- Pre-Medical (Allopathic & Osteopathic)
- Pre-Optometry
- Pre-Podiatry
- Pre-Veterinary

LECOM "4 + 4" MEDICAL PROGRAM

This is a conditionally guaranteed Early Acceptance Program presented in cooperation with the Lake Erie College of Osteopathic Medicine (LECOM). This undergraduate professional program of education leads to a degree of Bachelor of Science in Biology or Chemistry, awarded by Gannon University, and the degree of Doctor of Osteopathic Medicine, awarded by LECOM.

Students enrolled in the program are conditionally guaranteed an acceptance to LECOM. A maximum of twenty (20) high school seniors are interviewed by both Gannon and LECOM. This interview process fulfills LECOM's interview requirement for admission to medical school. From this pool of students, a maximum of ten (10) students are accepted to this program in the senior year of high school.

Admissions Requirements for incoming Gannon students:

- Completion of four years of science courses at the high school level.
- Completion of four years of math courses at the high school level.
- Minimum SAT score of 1170 (out of 1600 Math and Critical Reading) or ACT composite score of 26.
- Minimum cumulative high school GPA of 3.5 out of 4.0.
- Class rank in the top 25%.

Students in the program choose either biology or chemistry as a major while at Gannon. Following four years of pre-medical studies at Gannon, up to ten students from this program will matriculate at LECOM if they have fulfilled the following requirements:

1. Cumulative grade point average of a 3.4 or higher in all courses
2. Cumulative grade point average of a 3.2 or higher in science and math courses
3. MCAT scores of at least 7 in each subtest, with a cumulative score of 24 or higher
4. No grade lower than a C in any course required by LECOM
5. Completion of the AACOMAS primary application and the LECOM secondary application to medical school.

6. LECOM does not allow foreign nationals to apply for this conditionally guaranteed program.
7. Attendance and completion, in the freshman, sophomore, junior, and senior years, of a day long clinical experience at LECOM
8. Students in this program who apply to any other medical schools, will forfeit their seat in the program because they have already been accepted into LECOM.

If these requirements are fulfilled, the student will graduate from Gannon in May and then matriculate at LECOM.

Biology Curriculum

(Numerals in front of courses indicate credits)

	FRESHMAN		
	First Semester		*Second Semester*
4	Molecular and Cellular Biology/ BIOL 122-123	4	Animal Form & Function/BIOL 124-125
4	General Chemistry I/CHEM 111-112	4	General Chemistry II/CHEM 114-115
3	College Composition/LENG 111	3	Hist of West & World/LHST 111
2	First-Year Seminar	3	Critical Analysis & Composition/ LENG 112
3	Precalculus/MATH 135 *or* Calculus I/MATH 140	3	Sacred Scriptures/LTHE 121
16		17	
	SOPHOMORE		
	First Semester		*Second Semester*
4	Ecosystem Biology & Evolution/ BIOL 126-127	4	Biology Elective
4	Organic Chemistry I/CHEM 221-222	3	Theology II Series/LTHE
3	Introduction to Philosophy/LPHI 131	4	Organic Chemistry II/CHEM 224-225
3	Applied Statistics/MATH 213	3	Literature Series/LENG
3	Speech/SPCH 111	3	Philosophy II Series/LPHI
17		17	
	JUNIOR		
	First Semester		*Second Semester*
4	Animal Physiology/BIOL 368-369	3	Genetics/BIOL 345
4	General Physics I/PHYS 105-106	4	General Physics II/PHYS 108-109
3	Structural Biochemistry/CHEM 366	3	Fine Art Series/LFIN
3	Introduction to Psychology/PSYC 111	4	BIOL Electives
		3	General Electives
14		17	
	SENIOR		
	First Semester		*Second Semester*
2	Biology Topics or Biology Research I or Directed Research/BIOL 490-495, BIOL 487, BIOL 488	6	General Electives
3	General Electives	6-8	Biology Electives*
6-8	Biology Electives*	3	Senior Seminar/LBST 383
3	Theo/Phil III Series/LTHE or LPHI		
1	Leadership Seminar		
15-17		15-17	
128-132	Total credits		

Chemistry Curriculum

(Numerals in front of courses indicate credits)

FRESHMAN

	Fall		*Spring*
2	First-Year Seminar	3	Crit Analysis & Comp/LENG 112
3	College Composition/LENG 111	4	General Chemistry II & Lab/ CHEM 114 & 115
4	Molecular Cellular Biology & Lab/ BIOL 122 & 123	4	Animal Form & Function & Lab/ BIOL 124 & 125
4	General Chemistry I & Lab/ CHEM 111 & 112	3	Sacred Scriptures/LTHE 121
3	Calculus I/MATH 140	3	Calculus II/MATH 141
16		17	

SOPHOMORE

	Fall		*Spring*
4	Organic Chemistry I & Lab/ CHEM 221 & 222	4	Organic Chemistry 2 & Lab/ CHEM 224 & 225
3	Applied Statistics/MATH 213	3	Intro to Psychology/PSYC 111
4	General Physics III & Lab/ PHYS 111 & 112	4	General Physics IV & Lab/ PHYS 212 & 213
3	Introduction to Philosophy/LPHI 131	3	Literature Series/LENG
3	History of the West and World/ LHST 111	4	Animal Physiology & Lab/ BIOL 368 & 369
17		18	

JUNIOR

	Fall		*Spring*
4	Organic Chemistry III & Lab/ CHEM 323 & 324	1	Leadership Seminar
4	Physical Chemistry I & Lab/ CHEM 331 & 332	3	Genetics/BIOL 345
3	Structural Biochemistry/ CHEM 366	5	Intro to Modern Analytical Chemistry & Lab/CHEM 336 & 337
3	Theology II Series/LTHE	4	Physical Chemistry II & Lab/ CHEM 334 & 335
3	Philosophy II Series/LPHI	1	Chemical Literature/CHEM 356
		3	Theology or Philosophy III Series/ LTHE or LPHI
17		17	

SENIOR

	Fall		*Spring*
7	Chemistry Electives	3	Senior Seminar/LBST 383
3	Fine Arts Series/LFIN	3-4	Biology Electives *
3-4	Biology Electives *	7	Chemistry Electives
1	Undergraduate Research/ CHEM 380-383	1	Undergraduate Research/ CHEM 380-383
14-15		14-15	

Total credits: 130-132

* The following courses represent electives that are taken by Biology and Chemistry majors in the program, after completing the MCAT exam. These courses are intended to better prepare students for the first year of medical school. The student must take at least two of these courses (including the accompanying lab, if one is offered):

4 Vertebrate Embryology & Lab/BIOL 307 & 308

4 Histology & Lab/BIOL 320 & 321
4 Microbiology & Lab/BIOL 331 & 332
or
Medical Microbiology & Lab/BIOL 378 & 379
4 Immunology & Lab/BIOL 338 & 339
3 Endocrinology/BIOL 363
4 Human Gross Anatomy & Lab/BIOL 365 & 366
4 Cell Biology & Lab/BIOL 375 & 376
2 Introduction to Pathology/BIOL 490

LECOM ACCELERATED MEDICAL PROGRAM

This is an accelerated program presented in cooperation with the Lake Erie College of Osteopathic Medicine (LECOM). This undergraduate professional program of education leads to the degree of Bachelor of Science in Health Science, awarded by Gannon University, and the degree of Doctor of Osteopathic Medicine, awarded by LECOM. This program is designed for exceptional students who may have already earned college-level credits. Most students are encouraged to apply to the LECOM "4+4" Medical Program described above.

Students enrolled in this program are conditionally guaranteed an acceptance to LECOM. Students that may be eligible for the accelerated medical program are identified by the Director of Pre-Professional Programs in collaboration with LECOM.

Admissions Requirements for incoming Gannon students:

- Completion of four years of science courses at the high school level.
- Completion of four years of math courses at the high school level.
- Minimum SAT score of 1170 (out of 1600 Math and Critical Reading) or ACT composite score of 26.
- Minimum cumulative high school GPA of 3.5 out of 4.0.
- Class rank in the top 25%.

Students in the program will matriculate at LECOM if they have fulfilled the following requirements.

1. Cumulative grade point average of 3.4 or higher in all courses.
2. Cumulative grade point average of 3.2 or higher in science and math courses
3. MCAT scores of 7 or higher, with a cumulative score of 24 or higher (to be taken no later than January of the third year)
4. No grade lower than a C in any course required by LECOM
5. Completion of the AACOMAS primary application and the LECOM secondary application to medical school.
6. LECOM does not allow foreign nationals to apply for this conditionally guaranteed program.
7. Attendance and completion, in the freshman, sophomore and junior years, of a day long clinical experience at LECOM.
8. Students in this program who apply to any other medical schools, will forfeit their seat in the program because they have already been accepted into LECOM.

After successful completion of the first year of medical study at LECOM, the Bachelor of Science degree in Health Science will be awarded by Gannon.

LECOM 3 + 4 Accelerated Curriculum

(Numerals in front of courses indicate credits)

	FIRST YEAR		
	Fall Semester		*Spring Semester*
3	Mol/Cellular Biology/BIOL 122	3	Animal Form & Function/BIOL 124
1	Mol/Cell Biology Lab/BIOL 123	1	Animal Form & Function Lab/BIOL 125
3	General Chemistry I/CHEM 111	3	General Chemistry II/CHEM 114
1	Gen Chemistry I Lab/CHEM 112	1	Gen Chemistry II/CHEM 115
3	College Composition/LENG 111	3	Crit Analysis & Comp/LENG 112
2	First-Year Seminar	3	Sacred Scriptures/LTHE 121
3	Precalculus/MATH 135 *or* Calculus I/MATH 140	3	Hist of West & World/LHST 111
16		17	
	SECOND YEAR		
	Fall Semester		*Spring Semester*
3	Organic Chemistry I/CHEM 221	3	Organic Chemistry II/CHEM 224
1	Organic Chem I Lab/CHEM 222	1	Organic Chem II Lab/CHEM 225
3	Introduction to Philosophy/LPHI 131	3	Theology II Series/LTHE
3	Animal Physiology/BIOL 368	3	Philosophy II Series/LPHI
1	Animal Physiol Lab/BIOL 369	3	General Physics II/PHYS 108
3	General Physics I/PHYS 105	1	Gen Physics II Lab/PHYS 109
1	Gen Physics I Lab/PHYS 106	3-4	Biology Elective
3	Speech/SPCH 111		
18		17-18	
	THIRD YEAR		
	Fall Semester		*Spring Semester*
3	Theo/Phil III Series/LTHE or LPHI	3	Literature Series/LENG
3	Applied Statistics/MATH 213	3	Fine Art Series/LFIN
3	Intro Psychology/PSYC 111	3	Senior Seminar/LBST 383
3	Structural Biochemistry/CHEM 366	3	Genetics/BIOL 345
1	Leadership Seminar	3-4	Biology Electives
13		15-16	
96-98	Total credits		

PCOM 3+4 ACCELERATED MEDICAL

This agreement with Philadelphia College of Osteopathic Medicine (PCOM) allows qualified students to earn a bachelor's degree from Gannon and a D.O. degree from PCOM in a total of seven years. Under the agreement, students complete three years of study at Gannon and then enroll at PCOM. After successfully completing two semesters of coursework at PCOM, students are awarded a bachelor's degree in Health Science from Gannon.

Admissions Requirements for incoming Gannon students:

- Completion of four years of science courses at the high school level.
- Completion of four years of math courses at the high school level.
- Minimum SAT score of 1150 (out of 1600 Math and Critical reading) or ACT total of 25.
- Minimum cumulative high school GPA of 3.4 out of 4.0.
- Class rank in the top 25%.

Eligibility for an interview and possible admission to PCOM requires:

- Successful completion of course requirements as listed in PCOM's catalog.

Note: In addition to the completing PCOM's course requirements, students must complete all coursework in the Core of Discovery and a total of 128 hours (including hours earned at PCOM during the first year of medical school) to receive a B.S. degree from Gannon.

- Minimum cumulative GPA of 3.20 at Gannon.
- Minimum GPA of 3.20 in science courses at Gannon.
- Minimum Medical College Admission Test (MCAT) score of 7 in each of the test's three categories, to be taken no later than January of the junior year at Gannon.
- Submission of an application to PCOM through AACOMAS by mid-January of the junior year at Gannon.

PCOM 3 + 4 Accelerated Medical Curriculum (96-98 credits):

(Numerals in front of courses indicate credits.)

FIRST YEAR

	Semester I		*Semester II*
4	Molecular Cellular Biology & Lab/ BIOL 122,123	4	Animal Form & Function & Lab/ BIOL 124,125
4	General Chemistry I & Lab/ CHEM 111,112	4	General Chemistry II & Lab/ CHEM 114,115
3	College Composition/LENG 111	3	Critical Analysis & Comp/LENG 112
3	Pre-calculus/MATH 135 or Calculus I/MATH 140	3	Hist of West & World/LHST 111
2	First-Year Seminar	3	Sacred Scripture/LTHE 121
16		17	

SECOND YEAR

	Semester III		*Semester IV*
4	Organic Chemistry I & Lab/ CHEM 221,222	4	Organic Chemistry II & Lab/ CHEM 224,225
4	General Physics I & Lab/PHYS 105,106	4	General Physics II & Lab/ PHYS 108,109
3	Intro to Philosophy/LPHI 131		
3	Speech/SPCH 111	3	Philosophy II Series/LPHI
4	Animal Physiology & Lab/ BIOL 368, 369	3	Theology II Series/LTHE
		3-4	Biology Elective
18		17-18	

THIRD YEAR

	Semester V		*Semester VI*
3	Theology or Phil III Series/LTHE or LPHI	3	Senior Seminar/LBST 383
		3	Fine Art Series/LFIN
3	Structural Biochemistry/CHEM 366	3	Genetics/BIOL 345
3	Applied Statistics/MATH 213	3-4	Biology Elective
3	Intro Psychology/PSYC 111	3	Literature Series/LENG
1	Leadership Seminar		
13		15-16	

ROSS 3 + 4 ACCELERATED MEDICAL PROGRAM

This agreement with Ross University School of Medicine allows qualified students to earn a bachelor's degree from Gannon and an M.D. degree from Ross University in a total of seven years. Under the agreement, students complete three years of study at Gannon and then enroll in the Ross University School of Medicine. After completing two semesters of coursework at Ross University, students are awarded a bachelor's degree in Health Science from Gannon.

Ross University's School of Medicine is located on the island of Dominica in the Caribbean. Students spend 4 semesters on the island completing the basic science curriculum before beginning their clinical training in the United States. During Ross's 33-year history, more than 7,700 Ross graduates have entered U.S. residency programs in every specialty in medicine, including programs at all of the major academic medical centers. Ross graduates now typically comprise the largest medical school cohort in the National Residency Match Program.

Admissions Requirements for incoming Gannon students:

- Completion of four years of science courses at the high school level.
- Completion of four years of math courses at the high school level.
- Minimum SAT score of 1150 (out of 1600 Math and Critical reading) or ACT total of 25.
- Minimum cumulative high school GPA of 3.4 out of 4.0.
- Class rank in the top 25%.

Ross University will guarantee admission to Gannon students who meet the following criteria:

- Successfully complete three years at Gannon (at least 90 hours), including the following:
  General Chemistry I and II with laboratories (8 hours)
  Organic Chemistry I and II with laboratories (8 hours)
  Molecular & Cellular Biology and Animal Form & Function with laboratories (8 hours)
  General Physics I and II with laboratories (8 hours)
  College Composition and Critical Analysis & Composition (6 hours)
  One semester of mathematics (preferably to include Calculus or Statistics) (3 hours)
- *Note: In addition to the courses listed above, students must complete all coursework in the Core of Discovery (33 additional hours) to receive a B.S. degree from Gannon.*
- Minimum cumulative GPA of 3.25 at Gannon; no grade lower than a "C"; no repeated courses.
- Minimum GPA of 3.0 in prerequisite courses required by Ross; no grade lower than a "C"; no repeated courses.
- Minimum Medical College Admission Test (MCAT) score of 24.
- A positive recommendation after an in-person interview and submission of two letters of recommendation.

Ross 3 + 4 Accelerated Medical Curriculum (96-98 credits):

(Numerals in front of courses indicate credits.)

	FIRST YEAR		
	Semester I		*Semester II*
4	Molecular Cellular Biology & Lab/ BIOL 122,123	4	Animal Form & Function & Lab/ BIOL 124,125
4	General Chemistry I & Lab/ CHEM 111,112	4	General Chemistry II & Lab/ CHEM 114,115
3	College Composition/LENG 111	3	Critical Analysis & Comp/LENG 112
3	Precalculus/MATH 135 *or* Calculus I/MATH 140	3	Hist of West & World/LHST 111
		3	Sacred Scripture/LTHE 121
2	First-Year Seminar		
16		17	
	SECOND YEAR		
	Semester III		*Semester IV*
4	Organic Chemistry I & Lab/ CHEM 221,222	4	Organic Chemistry II & Lab/ CHEM 224,225
4	General Physics I & Lab/PHYS 105,106	4	General Physics II & Lab/ PHYS 108,109
3	Introduction to Philosophy/LPHI 131		
3	Speech/SPCH 111	3	Philosophy II Series/LPHI
4	Animal Physiology & Lab/ BIOL 368, 369	3	Theology II Series/LTHE
		3-4	Biology Elective
18		17-18	
	THIRD YEAR		
	Semester V		*Semester VI*
3	Theology/Phil III Series/LTHE or LPHI	3	Senior Seminar/LBST 383
3	Structural Biochemistry/CHEM 366	3	Literature Series/LENG
3	Applied Statistics/MATH 213	3	Fine Art Series/LFIN
3	Intro Psychology/PSYC 111	3	Genetics/BIOL 345
1	Leadership Seminar	3-4	Biology Elective
13		15-16	

ROSS 3 + 4 ACCELERATED VETERINARY PROGRAM

This agreement with Ross University School of Veterinary Medicine allows qualified students to earn a bachelor's degree from Gannon and a D.V.M. degree from Ross University in a total of seven years. Under the agreement, students complete three years of study at Gannon and then enroll in the Ross University School of Veterinary Medicine. After completing three semesters of coursework at Ross University, students are awarded a bachelor's degree in Health Science from Gannon.

Ross University's School of Veterinary Medicine is located on the island of St. Kitts in the Caribbean. Students complete 7 semesters of coursework on the island before engaging in one year of clinical training at one of 22 affiliated veterinary schools located in the United States. Since the veterinary school opened in 1982, over 2500 students have graduated and pursued a career in veterinary medicine.

Admissions Requirements for incoming Gannon students:

- Completion of four years of science courses at the high school level.

- Completion of four years of math courses at the high school level.
- Minimum SAT score of 1150 (out of 1600 Math and Critical reading) or ACT total of 25.
- Minimum cumulative high school GPA of 3.4 out of 4.0.
- Class rank in the top 25%.

Ross University will guarantee admission to Gannon students who meet the following criteria:

- Successfully complete three years at Gannon (at least 90 hours), including the following:
  A minimum of 14 credits of Biology coursework
  General Chemistry I and II with laboratories (8 credits)
  Organic Chemistry I and II with laboratories (8 credits)
  Structural Biochemistry (3 credits)
  General Physics I and II with laboratories (8 hours)
  One semester of mathematics (Trigonometry, Calculus, or Statistics) (3 hours)
  College Composition and Critical Analysis & Composition (6 hours)
- *Note: In addition to the courses listed above, students must complete all coursework in the Core of Discovery (33 additional hours) to receive a B.S. degree from Gannon.*
- Minimum cumulative GPA of 3.25 at Gannon; no grade lower than a "C"; no repeated courses.
- Minimum GPA of 3.0 in prerequisite courses required by Ross; no grade lower than a "C"; no repeated courses.
- Score in the 25th percentile or better in each category of the Graduate Record Exam (GRE).
- A positive recommendation after an in-person interview and submission of two letters of recommendation.

Ross 3 + 4 Accelerated Veterinary Curriculum (96-98 credits):

(Numerals in front of courses indicate credits.)

	FIRST YEAR		
	Semester I		*Semester II*
4	Molecular Cellular Biology & Lab/ BIOL 122,123	4	Animal Form & Function & Lab/ BIOL 124,125
4	General Chemistry I & Lab/ CHEM 111,112	4	General Chemistry II & Lab/ CHEM 114,115
3	College Composition/LENG 111	3	Critical Analysis & Comp/LENG 112
3	Precalculus/MATH 135 *or* Calculus I/MATH 140	3	Hist of West & World/LHST 111
2	First-Year Seminar	3	Sacred Scripture/LTHE 121
16		17	

	SECOND YEAR		
	Semester III		*Semester IV*
4	Organic Chemistry I & Lab/ CHEM 221,222	4	Organic Chemistry II & Lab/ CHEM 224,225
4	General Physics I & Lab/PHYS 105,106	4	General Physics II & Lab/ PHYS 108,109
3	Introduction to Philosophy/LPHI 131	3	Philosophy II Series/LPHI
4	Animal Physiology & Lab/ BIOL 368, 369	3	Theology II Series/LTHE
3	Speech/SPCH 111	3-4	Biology Elective
18		17-18	

THIRD YEAR

	Semester V		*Semester VI*
3	Theology/Phil III Series/LTHE or LPHI	3	Senior Seminar/LBST 383
1	Leadership Seminar	3	Fine Art Series/LFIN
3	Structural Biochemistry/CHEM 366	3	Literature Series/LENG
3	Applied Statistics/MATH 213	3-4	Biology Elective
3	Intro Psychology/PSYC 111	3	Genetics/BIOL 345
13		15-16	

SALUS UNIVERSITY 3 + 4 ACCELERATED OPTOMETRY PROGRAM

This is an accelerated program in optometry presented in cooperation with The Pennsylvania College of Optometry of Salus University. The program is designed to assist young men and women who wish to enter the profession of optometry. Students in the program are encouraged to enter the practice of optometry in underserved areas of Pennsylvania. Following three years of pre-optometry studies at Gannon, students in the accelerated program in optometry will be evaluated and will make application to Salus University, PCO and pursue the four years of the optometry curriculum. At the end of the first year of study at Salus University, PCO, upon application to Gannon, students in the program will receive a bachelor's degree in Health Sciences from Gannon University. The degree of Doctor of Optometry will be awarded to students who complete the four year course of study at Salus University, PCO. One quarter of the student's final year of study will be spent in "clerkships" (in institutional settings) and "preceptorships" (in office settings) in Northwestern Pennsylvania.

Admissions Requirements

* Completion of four years of science courses at the high school level.
* No grade lower than a "C" in any high school science course.
* Completion of four years of math courses at the high school level.
* Minimum SAT score of 1050.
* Minimum cumulative high school grade point average of 3.0 out of 4.0.
* Class rank in the top 25%

Eligibility for an interview and possible admission to Salus University, Pennsylvania College of Optometry requires:

1. Satisfactory completion of the following course of study at Gannon.

Salus University 3 + 4 Accelerated Optometry Program (97-98 credits):

(Numerals in front of courses indicate credits)

FRESHMAN

	Fall		*Spring*
2	First Year Seminar	3	Crit Analysis & Comp/LENG 112
3	College Composition/LENG 111	4	General Chemistry II & Lab/ CHEM 114 & 115
4	Molecular Cellular Biology & Lab/ BIOL 122 & 123	4	Animal Form & Function/ BIOL 124 & 125
4	General Chemistry I & Lab/ CHEM 111 & 112	3	Sacred Scriptures/LTHE 121

3	Precalculus or Calculus I/ MATH 135 or 140	3	Calculus I or II/MATH 140 or 141
16		17	
	SOPHOMORE		
	Fall		*Spring*
4	Organic Chemistry I & Lab/ CHEM 221 & 222	4	Organic Chemistry II & Lab/ CHEM 224 & 225
4	General Physics I & Lab/ PHYS 105 & 106	3	Applied Statistics/MATH 213
3	Introduction to Philosophy/LPHI 131	4	General Physics II & Lab/ PHYS 108 & 109
3	History of the West and World/ LHST 111	3	Theology II Series/LTHE
4	Animal Physiology & Lab/ BIOL 368 & 369	3	Philosophy II Series/LPHI
18		17	
	JUNIOR		
	Fall		*Spring*
1	Leadership Seminar	3	Fine Arts Series/LFIN
3	Theology or Philosophy III Series/ LTHE or LPHI	3	Intro to Psychology/PSYC 111
4	Microbiology & Lab/BIOL 331 & 332	3	Literature Series/LENG
3	Speech/SPCH 111	3	Senior Seminar/LBST 383
3	Structural Biochemistry/CHEM 366	3-4	Biology Electives
14		15-16	

2. Nomination by the joint Salus University, Pennsylvania College of Optometry-Gannon University Selection Committee. Student candidates qualified for entrance into the first professional year of optometry shall be presented to Salus University, Pennsylvania College of Optometry for admission.

3 + 4 ACCELERATED PODIATRY PROGRAM

Podiatric Medicine is the branch of medicine which medically and surgically manages the care of the lower extremities. The podiatric physician is a health professional who is involved with the examination, prevention, diagnosis and treatment of foot disorders by physical, medical and surgical means. He/she is trained to detect the signs of general bodily disorder, which may first appear in the lower extremity, such as diabetes or circulatory disorders. When such diagnoses are made, the podiatrist consults with the patient's family doctor concerning continuing treatment. Most podiatric physicians are in general practice; however, some concentrate on subspecialties such as orthopedics, surgery, sports medicine, biomechanics, podopediatrics (children), and podogeriatrics (elderly).

These are accelerated programs presented in cooperation with Temple University School of Podiatric Medicine and the Ohio College of Podiatric Medicine. These are undergraduate professional programs of education leading to the degree of Bachelor of Science in Health Sciences awarded by Gannon University and the degree of Doctor of Podiatric Medicine, awarded by the Temple University School of Podiatric Medicine or the Ohio College of Podiatric Medicine.

Admissions Requirements

* Completion of four years of science courses at the high school level.

* No grade lower than a "C" in any high school science course.
* Completion of four years of math courses at the high school level.
* Minimum SAT score of 1050.
* Minimum cumulative high school grade point average of 3.0 out of 4.0.
* Class rank in the top 25%

Following three years of pre-podiatry studies at Gannon, up to four students from the accelerated program will be admitted to Temple University School of Podiatric Medicine or the Ohio College of Podiatric Medicine if they have fulfilled the following requirements:

1. Satisfactory completion of the following course of study at Gannon.

3 + 4 Accelerated Podiatry Program Curriculum (96-98 credits):

(Numerals in front of courses indicate credits)

	FRESHMAN		
	First Semester		*Second Semester*
2	First-Year Seminar	3	Crit Analysis & Comp/LENG 112
3	College Composition/LENG 111	4	General Chemistry II & Lab/ CHEM 114 & 115
4	Molecular Cellular Biology & Lab/ BIOL 122 & 123	4	Animal Form & Function & Lab/ BIOL 124 & 125
4	General Chemistry I & Lab/ CHEM 111 & 112	3	History of the West and World/ LHST 111
3	Precalculus or Calculus I/ MATH 135 or 140	3	Sacred Scriptures/LTHE 121
16		17	
	SOPHOMORE		
	First Semester		*Second Semester*
4	Organic Chemistry I & Lab/ CHEM 221 & 222	4	Organic Chemistry II & Lab/ CHEM 224 & 225
4	Animal Physiology & Lab/ BIOL 368 & 369	3	Theology II Series/LTHE
		3	Philosophy II Series/LPHI
4	General Physics I & Lab/ PHYS 105 & 106	4	General Physics II & Lab/ PHYS 108 & 109
3	Introduction to Philosophy/LPHI 131	3-4	Biology Electives
3	Speech/SPCH 111		
18		17-18	
	JUNIOR		
	First Semester		*Second Semester*
3	Intro to Psychology/PSYC 111	3	Literature Series/LENG
3	Applied Statistics/MATH 312	3	Senior Seminar/LBST 383
3	Structural Biochemistry & Lab/ CHEM 366	3	Fine Arts Series/LFIN
		3-4	Biology Electives
3	Theology or Philosophy III Series/ LTHE or LPHI	3	Genetics/BIOL 345
1	Leadership Seminar		
13		15-16	

2. Nomination by a selection committee at Gannon University, which will include members of the faculty of the University and a representative of the Podiatric profession in Erie.
3. Selection by the Admission Committee at Temple University School of Podiatric Medicine or the Ohio College of Podiatric Medicine.

LECOM 4+4 DENTAL PROGRAM

This is a conditionally guaranteed Early Acceptance Program presented in cooperation with the Lake Erie College of Osteopathic Medicine (LECOM) School of Dental Medicine. LECOM's School of Dental Medicine is located in Bradenton, Florida. This program is comprised of two phases. In Phase I, the undergraduate professional program of education leads to a degree of Bachelor of Science in Biology (preferred). Alternatively, students who wish to complete an undergraduate degree at Gannon in another major are required to work with the Director of Pre-Professional Programs at Gannon to develop a curriculum to meet the requirements of their chosen major and of the LECOM Dental Program. Completion of Phase II results in the degree of Doctor of Dental Medicine (D.M.D.) awarded by LECOM.

Students enrolled in this program are conditionally guaranteed an acceptance to LECOM. A maximum of twenty (20) high school seniors are interviewed by both Gannon and LECOM. This interview process fulfills LECOM's interview requirement for admission to medical school. From this pool of students, a maximum of ten (10) students are accepted to this program in the senior year of high school. Students are encouraged to complete their application by the January 15th deadline.

Admissions requirements for incoming Gannon students:

- Completion of four years of science and math courses at the high school level.
- Minimum SAT score of 1170 (out of 1600 Math and Critical Reading) or ACT Composite score of 26.
- Minimum cumulative high school GPA of 3.5 out of 4.0
- Class rank in the top 25%

Students in the program are strongly encouraged to major in biology while at Gannon. Following four years of pre-dental studies at Gannon, up to ten students from this program will matriculate to LECOM if they have fulfilled the following requirements:

- Maintain a cumulative overall and science GPA of 3.0 or higher at the end of each semester prior to admission
- At the time of application obtain a cumulative GPA of 3.4 or higher in all courses
- At the time of application obtain a cumulative GPA of 3.2 or higher in all science and math courses
- DAT scores in each category of greater than 16
- Completion of a minimum 100 hours of shadowing in a clinical dental setting
- No grade lower than a C in any course required by LECOM
- Completion of the AADSAS primary application and LECOM secondary application to dental school
- Must be a U.S. citizen or permanent resident
- Students in the program who apply to other dental schools, will forfeit their seat in the program because they have all ready been accepted to LECOM School of Dental Medicine
- Fulfill all additional requirements as outlined through the affiliation contract between Gannon University and LECOM School of Dental Medicine; A copy will be available electronically to all accepted students to the program

If these requirements are fulfilled, the student will graduate from Gannon in May of their senior year and matriculate to LECOM.

Biology Curriculum

(Numerals in front of courses indicate credits)

FRESHMAN

	Semester I		*Semester II*
3	College Composition/LENG 111	3	Critical Analysis & Composition/ LENG 112
2	First Year Seminar	3	Sacred Scriptures/LTHE 121
3	Molecular and Cellular Biology/ BIOL 122	3	Animal Form and Function/ BIOL 124
1	Molecular and Cellular Biology Lab/ BIOL 123	1	Animal Form and Function Lab/ BIOL 125
3	General Chemistry I/CHEM 111	3	General Chemistry II/CHEM 114
1	General Chemistry I Lab/CHEM 112	1	General Chemistry II Lab/ CHEM 115
3	College Algebra/MATH 111	3	History of the West and World/ LHST 111
16		17	

SOPHOMORE

	Semester III		*Semester IV*
3	Introduction to Philosophy/LPHI 131	3	Philosophy II Series/LPHI *
3	Applied Statistics/MATH 213	3	Literature Series/LENG *
3	Fundamentals of Speech/SPCH 111	3	Theology II Series/LTHE *
3	Ecosystem Biology and Evolution/ BIOL 126	3	Organic Chemistry II/CHEM 224
1	Ecosystem Biology and Evolution Lab/ BIOL 127	1	Organic Chemistry II Lab/ CHEM 225
3	Organic Chemistry I/CHEM 221	3-4	Biology Electives **
1	Organic Chemistry I Lab/CHEM 222		
17		16-17	

JUNIOR

	Semester V		*Semester VI*
3	Introduction to Psychology/PSYC 111 OR Basic Sociology/SOCI 110	3	Genetics/BIOL 345
3	Structural Biochemistry/CHEM 366	3	Fine Arts Series/LFIN *
3	Animal Physiology/BIOL 368	3	General Physics II/PHYS 108
1	Animal Physiology Lab/BIOL 369	1	General Physics II Lab/PHYS 109
3	General Physics I/PHYS 105	3-4	Biology Electives **
1	General Physics I Lab/PHYS 106	3	General Electives
14		16-17	

SENIOR

	Semester VII		*Semester VIII*
3	Theology/Philosophy III Series/ LTHE 227 or LPHI 237	3	Senior Seminar/LBST 383
1	Leadership Seminar	6-8	Biology Electives **
2	Biology Topics/BIOL 490-495 OR Biology Research I/BIOL 488	6	General Electives
6-8	Biology Electives **		
3	General Electives		
15-17		15-17	

**Please refer to undergraduate catalog for course options.*

***Choice of Biology Electives restricted; please consult with advisor (options may include: Human Gross Anatomy and Lab (BIOL 365/366), Microbiology and Lab (BIOL 331/332), Cell Biology and Lab (BIOL 375/376), Histology and Lab (BIOL 320/321), or Immunology and Lab (BIOL 338/339)).*

Total Credits: 129-135

PRE-MEDICAL (ALLOPATHIC & OSTEOPATHIC), PRE-DENTAL, PRE-PODIATRY, PRE-OPTOMETRY, PRE-CHIROPRACTIC, PRE-VETERINARY

These programs prepare students for admission to any Medical, Dental, Podiatric, Optometric, Chiropractic, or Veterinary School in the United States. Professional schools ordinarily require at least two semesters of biology with laboratories, four semesters of chemistry with laboratories, and two semesters of physics with laboratories.

Gannon's pre-professional health programs have a tradition of excellence. Over the past five years, 73% of all Gannon students applying to health professional schools were accepted.

Admission Requirements

* Completion of four years of science courses at the high school level. Two of these science courses must be Biology and Chemistry. Physics is highly recommended.
* Completion of four years of math courses at the high school level.
* Minimum SAT score of 1050 or a composite ACT score of 23
* Minimum cumulative high school grade point average of 3.0 out of 4.0.

Curriculum

Most students complete the Biology or Chemistry major curriculum, but other Science majors are viable options for students desiring admission into Health Professional Schools. Non-science majors may also become candidates for admission if they have taken the appropriate science courses required by the school to which they apply. Premedical subjects required by U.S. Medical Schools are listed in the book *Medical School Admission Requirements,* published by the Association of American Medical Colleges. If time permits within a student's major curriculum, the following courses are recommended: Applied Statistics (MATH 213), Organic Chemistry III (CHEM 323), Comparative Vertebrate Anatomy (BIOL 292), Histology (BIOL 320), Animal Physiology (BIOL 368), Genetics (BIOL 345) and Structural Biochemistry (CHEM 366) with corresponding labs if offered.

Freshman Year Curriculum

(Numerals in front of courses indicate credits)

	First Semester		*Second Semester*
4	Molecular Cellular Biology & Lab/ BIOL 122,123	4	Animal Form & Func & Lab/ BIOL 124,125
4	General Chemistry I & Lab/ CHEM 111,112	4	General Chemistry II & Lab/ CHEM 114,115
3	Precalculus or Calculus I/MATH 135 or 140	3	Calculus I, Calculus II, or Applied Statistics/MATH 140, 141 or 213
3	College Comp/LENG 111	3	Crit Analysis & Comp/LENG 112
2	First-Year Seminar	3	Hist of West & World/LHST 111
16		17	

Early Acceptance

A three-year option is available to extraordinary students who have completed three years of study at Gannon University (96 credits, which must include all liberal studies requirements), and have achieved early acceptance to an accredited health professional school. The student must petition the Director of the Pre-professional Programs, who in consultation with the Dean of the Morosky College of Health Professions and Sciences, may be awarded a Bachelor of Science degree in Health Sciences, upon completion of the first year of study at an accredited health professional school. The student must submit an official transcript showing successful completion of the first year of course work to the Gannon University Registrar, who will forward it to the Director for review. Upon the Director's and Dean's approval, a B.S. in Health Sciences will be awarded to the student.

Advising

Upon completion of the freshman year, *all students in these programs should select an academic major* and follow the curriculum for that major with the advice of a pre-professional advisor. Students who plan a career in medicine should report to the Program Director during their second semester of attendance at Gannon University. Recommendations to professional schools are made by the Program Director in collaboration with other faculty evaluators chosen by the student.

PRE-PHARMACY

SARAH J. EWING, Ph.D., *Program Director*

The following programs are in this section.

Pre-Pharmacy
Duquesne “2+4” Pharmacy
LECOM “4+3” Pharmacy
LECOM “3+3” Pharmacy
LECOM “2+3” Pharmacy
University of Charleston “3+4” Pharmacy
University of Charleston “2+4” Pharmacy

PRE-PHARMACY PROGRAM

Students in this major can choose any one of the 100 Pharmacy Schools across the country. There are no conditionally guaranteed seats, but students are free to apply to multiple schools. This is a typical first semester freshman course schedule. After completion of the first semester, students must choose what Pharmacy School(s) to apply to. Once a student chooses a Pharmacy School, an additional curriculum sheet outlining requirements and a typical semester schedule will be developed. A minimum of 60 credits must be achieved within the Pre-Pharmacy Program.

(Numerals in front of courses indicate credits)

FRESHMAN
First Semester

3	Molecular & Cellular Biol/BIOL 122
1	Molecular & Cellular Biol Lab/BIOL 123
3	General Chemistry I /CHEM 111
1	General Chemistry I Lab/CHEM 112
3	Calculus I /MATH 140
3	College Composition/LENG 111
3	Sacred Scripture/LTHE 121
17	

DUQUESNE ACCELERATED "2+4" PRE-PHARMACY PROGRAM

Gannon University in collaboration with Duquesne University Mylan School of Pharmacy offers a competitive six-year doctor of pharmacy degree. The pre-pharmacy early entry program allows academically qualified students to attend Gannon for only two years of pre-pharmacy before transferring to Duquesne's School of Pharmacy for four years, allowing for completion of a doctor of pharmacy degree. The early entry program is open to students who enter the program as freshmen and complete two years of their undergraduate work at Gannon University. Because of this special affiliation with Duquesne University, selected students (4 conditionally guaranteed slots) are given preferential consideration in admission to the professional phase of the Program at Duquesne University.

Undergraduate requirements

- SAT total of 1100 or higher, ACT total of 24 or higher
- Grade point average of 3.0 or higher on a 4.0 scale
- Class rank in top 25%
- Strong background in college-prep courses
- Three letters of recommendation
- Preference will be given to students showing evidence of leadership potential, community service and co-curricular activities
- Essay/personal statement is recommended.

Admissions Process

Students are encouraged to apply for the December 15th yearly deadline. All applicants will be placed into one group, a "pool" from which the four top students are chosen. Once offered acceptance, students will have two weeks to send their enrollment deposit to reserve their space in the program. If the deadline passes without a deposit, their space will be given to another student and they will be placed at the bottom of the applicant wait list.

Pharmacy School Requirements

- Duquesne University will admit up to four Gannon students who meet the criteria listed below. At Duquesne's discretion, more than four students may be admitted.
- Completion of the two year undergraduate curriculum at Gannon University.
- Minimum grade point average of 3.5 or higher in Gannon undergraduate courses. No grade lower than a "C".
- Also, a minimum GPA of 3.0 or higher for science and math courses.
- Recommendation of the Gannon University Pre-Pharmacy Selection Committee.
- Evidence of leadership potential and commitment to the pharmacy profession.
- Personal interview at Duquesne University.
- Take the Pharmacy College Admission Test, receiving a minimum score of 375 by fall of sophomore year.
- Successful completion of Criminal Background check.

(Numerals in front of courses indicate credits)

FRESHMAN

	First Semester		*Second Semester*
3	Molecular & Cellular Biol/BIOL 122	3	Animal Form & Function/BIOL 124
1	Molecular & Cellular Biol Lab/BIOL 123	1	Animal Form & Func Lab/BIOL 125
3	General Chemistry I/CHEM 111	3	General Chemistry II/CHEM 114
1	Gen Chemistry I Lab/CHEM 112	1	Gen Chemistry II Lab/CHEM 115
3	Calculus I/MATH 140	3	History of West & World/LHST 111
3	College Composition/LENG 111	3	Basic Sociology/SOCI 110
3	Sacred Scripture/LTHE 121	3	Critical Analysis & Comp/LENG 112
17		17	

SOPHOMORE

	First Semester		*Second Semester*
3	Organic Chemistry I/CHEM 221	3	Organic Chemistry II/CHEM 224
1	Organic Chemistry I Lab/CHEM 222	1	Organic Chem II Lab/CHEM 225
3	Physics I/PHYS 105	3	Intro to Psychology/PSYC 111
1	Physics I Lab/PHYS 106	3	Applied Statistics/MATH 213
3	Macroeconomics/BCOR 112	3	Fine Art Series /LFIN
3	Introduction to Philosophy/LPHI 131	3	Philosophy of Ethical Responsibility/ LPHI 237
3	Fund of Speech/SPCH 111		
17		16	

LECOM EARLY ACCEPTANCE PRE-PHARMACY PROGRAMS (“4+3”, “3+3”, OR “2+3”)

Gannon University in collaboration with Lake Erie College of Osteopathic Medicine (LECOM) School of Pharmacy now offers three conditionally guaranteed Early Acceptance Programs in Pre-Pharmacy. These programs allow enrolled students to pursue a Doctor of Pharmacy Degree at LECOM School of Pharmacy after successful completion of four, three, or two years in one of the undergraduate LECOM pre-pharmacy programs at Gannon University.

For all three LECOM Pre-Pharmacy programs, students enrolled are conditionally guaranteed acceptance to LECOM School of Pharmacy. Interested students are encouraged to apply to Gannon University by the December 15th deadline. A maximum of twenty (20) high school seniors are interviewed for the LECOM Pre-Pharmacy Programs by both Gannon University and LECOM School of Pharmacy. This interview process fulfills LECOM’s School of Pharmacy interview requirement for admission to pharmacy school. From this pool of students, a maximum of ten (10) students will be accepted to one of the three LECOM pharmacy programs while still in the senior year of high school.

Admission requirements for incoming Gannon University students to the “4+3”, “3+3”, or “2+3” LECOM Pre-Pharmacy Programs:

- Minimum SAT score of 1170 (out of 1600 Math and Critical Reading) or ACT Composite Score of 26 or higher
- Minimum high school GPA of 3.5 out of 4.0
- Additional evidence of scholarly and extracurricular activities
- Letters of Recommendation
- Essay/Personal Statement is recommended.

Admission requirements for matriculation to LECOM School of Pharmacy.
A maximum of ten (10) students from the LECOM pre-pharmacy programs will matriculate at LECOM if they have fulfilled the following requirements:

1. Successful completion of the undergraduate professional curriculum at Gannon University
2. Cumulative grade point average of 3.4 or higher in all courses, with no grades lower than a "C"
3. Cumulative grade point average of 3.4 or higher in science and mathematics courses as calculated by the centralized application for Pharmacy Schools (PHARMCAS) and with no grades lower than a "C"
4. Students must maintain a cumulative grade point average of 3.0 or higher every semester while enrolled at Gannon University in order to retain their position in this conditionally guaranteed early acceptance pharmacy program.
5. LECOM will not accept pass/fail for any pre-requisite courses.
6. Advanced Placement (AP) courses cannot be used to complete any of the science or math course requirements of the program
7. Students cannot complete any required courses during the summer without prior approval.
8. Demonstrate leadership potential and commitment to the pharmacy profession
9. Completion of the Pharmacy College Admission Test (PCAT) no later than January of the year the student plans to matriculate at LECOM School of Pharmacy
10. Submit a completed PHARMCAS application to LECOM School of Pharmacy no later than January 1st of the year a student plans to matriculate at LECOM School of Pharmacy
11. Submit official transcript(s) reflecting all college credit received as an undergraduate
12. Submit two letters of recommendation through the PHARMCAS application. One of these letters MUST be from the pre-pharmacy selection committee at Gannon University. The second letter is recommended to be from a licensed pharmacist.
13. Successful completion of a criminal background check
14. Students must meet and agree to LECOM's Health and Technical Standards.
15. LECOM does not allow transfer students into this program.
16. LECOM does not allow foreign nationals to apply for this conditionally guaranteed program.
17. Students in this program who apply to any other pharmacy schools will forfeit their seat in the program because they have all ready been accepted to LECOM School of Pharmacy.

LECOM "4+3" PHARMACY PROGRAM

This is a conditionally guaranteed Early Acceptance Program presented in cooperation with the Lake Erie College of Osteopathic Medicine (LECOM) School of Pharmacy. The "4+3" program is the recommended program for most students. It is completed in two phases. Phase I consists of four years of undergraduate study at Gannon University and results in a degree of Bachelor of Science in Biology or Chemistry. Phase II consists of three years of pharmacy school education at LECOM's School of Pharmacy in Erie, Pennsylvania or four

years of pharmacy school education at LECOM's School of Pharmacy in Bradenton, Florida and their associated clinical sites. Successful completion of Phase II results in earning a Doctor of Pharmacy Degree.

Students in this program choose either biology or chemistry as a major while at Gannon.

LECOM FOUR YEAR ("4+3") UNDERGRADUATE PROGRAM IN PRE-PHARMACY AT GANNON UNIVERSITY

Biology Curriculum

(Numerals in front of courses indicate credits)

FIRST YEAR

	Semester I		*Semester II*
3	College Composition/LENG 111	3	Critical Analysis & Composition/ LENG 112
2	First Year Seminar		
3	Molecular and Cellular Biology/ BIOL 122	3	Sacred Scriptures/LTHE 121
		3	Animal Form and Function/BIOL 124
1	Molecular and Cellular Biology Lab/BIOL 123	1	Animal Form and Function Lab/ BIOL 125
3	General Chemistry I/CHEM 111	3	General Chemistry II/CHEM 114
1	General Chemistry I Lab/CHEM 112	1	General Chemistry II Lab/CHEM 115
3	Calculus/MATH 140	3	History of the West and World/ LHST 111
16		17	

SECOND YEAR

	Semester III		*Semester IV*
3	Introduction to Philosophy/LPHI 131	3	Philosophy II Series/LPHI *
3	Applied Statistics/MATH 213	3	Literature Series/LENG *
3	Fundamentals of Speech/SPCH 111	3	Theology II Series/LTHE *
3	Ecosystem Biology and Evolution/ BIOL 126	3	Organic Chemistry II/CHEM 224
		1	Organic Chemistry II Lab/ CHEM 225
1	Ecosystem Biology and Evolution Lab/BIOL 127	3-4	Biology Electives **
3	Organic Chemistry I/CHEM 221		
1	Organic Chemistry I Lab/CHEM 222		
17		16-17	

THIRD YEAR

	Semester V		*Semester VI*
3	Introduction to Psychology/PSYC 111 OR Basic Sociology/SOCI 110	3	Genetics/BIOL 345
		3	Fine Arts Series/LFIN *
3	Structural Biochemistry/CHEM 366	3	General Physics II/PHYS 108
3	Animal Physiology/BIOL 368	1	General Physics II Lab/PHYS 109
1	Animal Physiology Lab/BIOL 369	3-4	Biology Electives **
3	General Physics I/PHYS 105	3	General Electives
1	General Physics I Lab/PHYS 106		
3	Economics/BCOR 111 or 112		
17		16-17	

FOURTH YEAR

	Semester VII		*Semester VIII*
3	Theology/Philosophy III Series/ LTHE 227 or LPHI 237	3	Senior Seminar/LBST 383
1	Leadership Seminar	6-8	Biology Electives **
2	Biology Topics/BIOL 490-495 OR Biology Research I/BIOL 488	6	General Electives
6-8	Biology Electives **		
3	General Electives		
15-17		15-17	

**Please refer to undergraduate catalog for course options.*
***Choice of Biology Electives restricted; please consult with advisor.*

Total Credits: 129-135

Chemistry Curriculum

(Numerals in front of courses indicate credits)

FIRST YEAR

	Semester I		*Semester II*
3	College Composition/LENG 111	3	Critical Analysis & Composition/ LENG 112
2	First Year Seminar	3	Sacred Scriptures/LTHE 121
3	Molecular and Cellular Biology/ BIOL 122	3	Animal Form and Function/BIOL 124
1	Molecular and Cellular Biology Lab/BIOL 123	1	Animal Form and Function Lab/ BIOL 125
3	General Chemistry I/CHEM 111	3	General Chemistry II/CHEM 114
1	General Chemistry I Lab/CHEM 112	1	General Chemistry II Lab/CHEM 115
3	Calculus I/MATH 140	3	Calculus II/MATH 141
16		17	

SECOND YEAR

	Semester III		*Semester IV*
3	Introduction to Philosophy/LPHI 131	3	Introduction to Psychology/PSYC 111 OR Basic Sociology/SOCI 110
3	Applied Statistics/MATH 213	3	Literature Series/LENG *
3	History of the West and World/ LHST 111	3	Organic Chemistry II/CHEM 224
3	General Physics III/PHYS 111	1	Organic Chemistry II Lab/CHEM 225
1	General Physics III Lab/PHYS 112	3	Animal Physiology/BIOL 368
3	Organic Chemistry I/CHEM 221	1	Animal Physiology Lab/BIOL 369
1	Organic Chemistry I Lab/CHEM 222	3	General Physics IV/PHYS 212
		1	General Physics IV Lab/PHYS 213
17		18	

THIRD YEAR

	Semester V		*Semester VI*
3	Theology II Series/LTHE *	3	Genetics/BIOL 345
3	Philosophy II Series/LPHI *	3	Theology/Philosophy III Series/ LTHE 227 or LPHI 237
3	Structural Biochemistry/CHEM 366	1	Leadership Seminar
3	Organic Chemistry III/CHEM 323	1	Chemical Literature
1	Organic Chemistry III Lab/CHEM 324		

3	Physical Chemistry I/CHEM 331	3	Intro to Modern Analytic Chemistry/ CHEM 336
1	Physical Chemistry I Lab/CHEM 332	2	Intro to Modern Analytic Chemistry Lab/CHEM 337
		3	Physical Chemistry II/CHEM 334
		1	Physical Chemistry II Lab/CHEM 335
17		17	

FOURTH YEAR

Semester VII		*Semester VIII*	
3	Fine Arts Series/LFIN *	3	Senior Seminar/LBST 383
3	Economics/BCOR 111 or 112	1	Undergraduate Research/ CHEM 380-383
1	Undergraduate Research/ CHEM 380-383	3-4	Biology Electives **
7	Chemistry Electives	7	Chemistry Electives
3-4	Biology Electives **		
17-18		14-15	

**Please refer to undergraduate catalog for course options.*
***Choice of Biology Electives restricted; please consult with advisor.*

Total Credits: 133-135

LECOM "3+3" PHARMACY PROGRAM

This is a conditionally guaranteed, accelerated, Early Acceptance Program presented in cooperation with the Lake Erie College of Osteopathic Medicine (LECOM) School of Pharmacy. The "3+3" program is available to all students, but is typically utilized by the highly motivated student who wishes to enter pharmacy school before receiving an undergraduate degree. It is completed in two phases. Phase I consists of three years of undergraduate education at Gannon University. Phase II consists of three years of pharmacy school education at LECOM's School of Pharmacy in Erie, Pennsylvania or four years of pharmacy school education at LECOM's School of Pharmacy in Bradenton, Florida and their associated clinical sites. Successful completion of Phase II results in earning a Doctor of Pharmacy Degree. This program will permit the student to receive a degree of Bachelor of Science in Health Sciences from Gannon University after successful completion of the first year at LECOM (30 or more credits). It is the student's responsibility to submit official transcripts upon completion of their first year of education at LECOM School of Pharmacy and to submit the proper requirements for graduation to the registrar's office at Gannon University to obtain their undergraduate degree.

LECOM THREE YEAR ("3+3") UNDERGRADUATE PROGRAM IN PRE-PHARMACY AT GANNON UNIVERSITY

(Numerals in front of courses indicate credits)

FIRST YEAR

Semester I		*Semester II*	
3	College Composition/LENG 111	3	Critical Analysis & Composition/ LENG 112
2	First Year Seminar	3	Sacred Scriptures/LTHE 121
3	Molecular and Cellular Biology/ BIOL 122	3	Animal Form and Function/BIOL 124
1	Molecular and Cellular Biology Lab/ BIOL 123	1	Animal Form and Function Lab/ BIOL 125

3	General Chemistry I/CHEM 111	3	General Chemistry II/CHEM 114
1	General Chemistry I Lab/CHEM 112	1	General Chemistry II Lab/CHEM 115
3	Calculus I/MATH 140	3	History of the West and World/ LHST 111
16		17	

SECOND YEAR

Semester III		*Semester IV*	
3	Introduction to Philosophy/LPHI 131	3	Philosophy II Series/LPHI *
3	Economic/BCOR 111 or 112	3	Theology II Series/LTHE *
3	Fundamentals of Speech/SPCH 111	3	Organic Chemistry II/CHEM 224
3	General Physics I/PHYS 105	1	Organic Chemistry II Lab/CHEM 225
1	General Physics I Lab/PHYS 106	3	General Physics II/PHYS 108
3	Organic Chemistry I/CHEM 221	1	General Physics II Lab/PHYS 109
1	Organic Chemistry I Lab/CHEM 222	3	Animal Physiology/BIOL 368
		1	Animal Physiology Lab/BIOL 369
17		18	

THIRD YEAR

Semester V		*Semester VI*	
3	Introduction to Psychology/PSYC 111 OR Basic Sociology/SOCI 110	3	Senior Seminar/LBST 383
3	Structural Biochemistry/CHEM 366	3	Genetics/BIOL 345
3	Applied Statistics/MATH 213	3	Fine Arts Series/LFIN *
3	Theology/Philosophy III Series/ LTHE 227 or LPHI 237	3	Literature Series/LENG *
1	Leadership Seminar	3-4	Biology Electives **
3-4	Biology Electives **		
16-17		15-16	

**Please refer to undergraduate catalog for course options.*
***Choice of Biology Electives restricted; please consult with advisor.*

Total Credits: 98-101

LECOM "2+3" PHARMACY PROGRAM

This is a conditionally guaranteed, accelerated, Early Acceptance Program presented in cooperation with the Lake Erie College of Osteopathic Medicine (LECOM) School of Pharmacy. The "2+3" program is available to the exceptional student who has the maturity and intellectual capability to enter a professional school after completing only two years of undergraduate study. Students in the "2+3" program will not earn a Gannon University undergraduate degree. Most students are encouraged to apply to the LECOM "4+3" or "3+3" Pre-Pharmacy Programs described above.

The "2+3" program is completed in two phases. Phase I consists of two years of undergraduate study at Gannon University. Phase II consists of three years of pharmacy school education at LECOM's School of Pharmacy in Erie, Pennsylvania or four years of pharmacy school education at LECOM's School of Pharmacy in Bradenton, Florida and their associated clinical sites. Successful completion of Phase II results in earning a Doctor of Pharmacy Degree.

***TWO YEAR UNDERGRADUATE PROGRAM IN PRE-PHARMACY AT GANNON UNIVERSITY**

(Numerals in front of courses indicate credits)

FIRST YEAR

	Fall Semester		*Spring Semester*
3	Molecular & Cellular Biol/BIOL 122	3	Animal Form & Function/BIOL 124
1	Molecular & Cellular Biol Lab/BIOL 123	1	Animal Form & Func Lab/BIOL 125
3	General Chemistry I/CHEM 111	3	General Chemistry II/CHEM 114
1	General Chemistry I Lab/CHEM 112	1	General Chemistry II Lab/CHEM 115
3	Calculus I/MATH 140	3	History of the West and the World/ LHST111
3	College Composition/LENG 111		
3	Sacred Scripture/LTHE 121	3	Basic Sociology/SOCI 110 or Intro to Psych/PSYC 111
		3	Critical Analysis & Comp/LENG 112
17		17	

SECOND YEAR

	Fall Semester		*Spring Semester*
3	Organic Chemistry I/CHEM 221	3	Organic Chemistry II/CHEM 224
1	Organic Chemistry I Lab/CHEM 222	1	Organic Chemistry Lab II/CHEM 225
3	Statistics/MATH 213	3	Biology Elective *
3	Economics/BCOR 111 or 112	1	Biology Elective Lab *
3	Fundamentals of Speech/SPCH 111	3	Fine Art Series/LFIN
3	Physics I/PHYS 105	3	Intro to Philosophy/LPHI 131
1	Physics I Lab/PHYS 106 (optional)		
16-17		14	

** Microbiology & Lab/BIOL 331 & 332 or Human Anatomy & Physiology I & Lab/BIOL 115 & 116 are strongly recommended.*

UNIVERSITY OF CHARLESTON ACCELERATED "2+4" PRE-PHARMACY PROGRAM

Gannon University in collaboration with the University of Charleston School of Pharmacy offers a competitive 6 - year Doctor of Pharmacy Degree. The Accelerated Program allows academically qualified students to attend Gannon University for only two years of Pre-Pharmacy before transferring to the UC School of Pharmacy for four years, allowing for completion of the Doctor of Pharmacy Degree. The Charleston School of Pharmacy has reserved a minimum of five (5) positions for Accelerated Pre-Pharmacy Gannon students with the understanding that additional positions may be available for qualified students. This is open to students who enter the program as freshmen and complete two years of their undergraduate work at Gannon University.

ADMISSIONS REQUIREMENTS TO GANNON UNIVERSITY

- Minimum SAT score of 1100 or higher (ACT total of 24 or higher)
- High school GPA of 3.0 out of 4.0
- Top 25% of the high school class
- Additional evidence of scholarly and extracurricular activities
- Letters of Recommendation

Admissions Process to Gannon University

Students are encouraged to apply by the December 15th yearly deadline. All applicants will be placed in one group, a “pool” from which the five top students are chosen. Once offered acceptance, students will have two weeks to send their enrollment deposit to reserve their space in the program. If the deadline passes without deposit, their space will be given to another student and they will be placed at the bottom of the applicant wait list.

ADMISSIONS PROCESS TO UC SCHOOL OF PHARMACY

- Successful completion of the Pre-Pharmacy Curriculum in Phase I of the Accelerated Program at Gannon University.
- Minimum GPA of 3.25 in Phase I of the program with no grades lower than a "C".
- Earn a minimum of 3.25 GPA in all science and mathematics courses, with no grade lower than “C”.
- Submit two letters of recommendation. One of these letters MUST be from the Pre-Pharmacy Committee at Gannon University and the other from a licensed pharmacist.
- Demonstrate experience in community/campus activism.
- Submit a completed application for admission to the UC School of Pharmacy.
- Students in this program cannot retake courses in which they have earned a 'D' or 'F' grade and remain in a conditionally guaranteed spot.
- Score above the 65th percentile on the PCAT with an appropriate score on the writing sample
- Successfully interview with the UC School of Pharmacy faculty
- Successfully complete a criminal background check
- Abide by all application guidelines posted on the University of Charleston School of Pharmacy website: pharmacy.ucwv.edu

FIRST YEAR

	Fall Semester		*Spring Semester*
3	Molecular & Cellular Biol/BIOL 122	3	Animal Form & Function/BIOL 124
1	Molecular & Cellular Biol Lab/BIOL 123	1	Animal Form & Func Lab/BIOL 125
3	General Chemistry I/CHEM 111	3	General Chemistry II/CHEM 114
1	General Chemistry I Lab/CHEM 112	1	General Chemistry II Lab/CHEM 115
3	College Algebra/MATH 111	3	History or Politics LHST or POLI 111
3	College Composition/LENG 111	3	Calculus I/MATH 140
3	Sacred Scripture/LTHE 121	3	Critical Analysis & Comp/LENG 112
17		17	

	Summer Semester
3	General Physics I/PHYS 105
1	General Physics I lab/PHYS 106
3	Micro or Macro Economics/BCOR 111 or 112
3	Psychology or Sociology/ PSYC 111 or SOCI 110
10	

SECOND YEAR

	Fall Semester		*Spring Semester*
3	Organic Chemistry I/CHEM 221	3	Organic Chemistry II/CHEM 224
1	Organic Chemistry I Lab/CHEM 222	1	Organic Chemistry Lab II/CHEM 225

3	Human Anatomy & Physiology I/ BIOL 115	3	Applied Statistics/Math 213
1	Human Anatomy & Physiology I lab/ BIOL 116	3	Intro to Philosophy/LPHI 131
3	Fundamentals of Speech/SPCH 111	3	Senior Seminar (Medical Ethics)/ LBST 383
3	Microbiology/BIOL 331	3	Human Anatomy & Physiology II/ BIOL 117
1	Microbiology Lab/BIOL 332	1	Human Anatomy & Physiology II Lab/BIOL 118
15		17	

UNIVERSITY OF CHARLESTON DUAL DEGREE "3+4" PRE-PHARMACY PROGRAM

Gannon University in collaboration with the University of Charleston School of Pharmacy offers a competitive 7 - year Doctor of Pharmacy Degree, leading to a Bachelor of Science degree in Health Sciences from Gannon University and a Doctor of Pharmacy Degree from the University of Charleston School of Pharmacy. This program allows academically qualified students to attend Gannon University for three years of Pre-Pharmacy before transferring to the Charleston School of Pharmacy for four years. At the end of the successful completion of the first year of the professional phase of the Program, students return to Gannon University to receive their undergraduate degree. They receive their Pharm.D. degree from UC following the successful completion of the professional phase of the Program. The Charleston School of Pharmacy has reserved a minimum of five (5) positions for Dual Degree UC Pre-Pharmacy Gannon students with the understanding that additional positions may be available for qualified students.

ADMISSIONS REQUIREMENTS TO GANNON UNIVERSITY

- Minimum SAT score of 1100 or higher (ACT total of 24 or higher)
- High school GPA of 3.0 out of 4.0
- Top 25% of the high school class
- Additional evidence of scholarly and extracurricular activities
- Letters of Recommendation

Admissions Process to Gannon University

Students are encouraged to apply by the December 15th yearly deadline. All applicants will be placed in one group, a "pool" from which the five top students are chosen. Once offered acceptance, students will have two weeks to send their enrollment deposit to reserve their space in the program. If the deadline passes without deposit, their space will be given to another student and they will be placed at the bottom of the applicant wait list.

ADMISSIONS PROCESS TO UC SCHOOL OF PHARMACY

- Successful completion of the Pre-Pharmacy Curriculum at Gannon University.
- Minimum GPA of 3.25 in Pre-Pharmacy Curriculum with no grades lower than a "C".
- Earn a GPA of 3.25 or higher for Science and Mathematics courses with no grades lower than a "C".
- Submit two letters of recommendation. One of these letters MUST be from the Pre-Pharmacy Committee at Gannon University and the other from a pharmacist.
- Demonstrate experience in community/campus activism.

- Submit a completed application for admission to the UC School of Pharmacy.
- Students in this program cannot retake courses in which they have earned a 'D' or 'F' grade and remain in a conditionally guaranteed spot.
- Score above the 65th percentile on the PCAT with an appropriate score on the writing sample
- Successfully interview with the UC School of Pharmacy faculty
- Successfully complete a criminal background check

FIRST YEAR

	Fall Semester		*Spring Semester*
3	Molecular & Cellular Biol/BIOL 122	3	Animal Form & Function/BIOL 124
1	Molecular & Cellular Biol Lab/BIOL 123	1	Animal Form & Func Lab/BIOL 125
3	General Chemistry I/CHEM 111	3	General Chemistry II/CHEM 114
1	General Chemistry I Lab/CHEM 112	1	General Chemistry II Lab/CHEM 115
3	College Algebra/MATH 111	3	History or Politics LHST or POLI 111
3	College Composition/LENG 111	3	Calculus I/MATH 140
3	Sacred Scripture/LTHE 121	3	Critical Analysis & Comp/LENG 112
17		17	

SECOND YEAR

	Fall Semester		*Spring Semester*
3	Organic Chemistry I/CHEM 221	3	Organic Chemistry II/CHEM 224
1	Organic Chemistry I Lab/CHEM 222	1	Organic Chemistry Lab II/CHEM 225
3	Micro or Macro Economics/ BCOR 111 or 112	3	General Physics I/PHYS 105
		1	General Physics I lab/PHYS 106
3	Psychology or Sociology/ PSYC 111 or SOCI 110	3	PC Applications/CIS 170-174
		3	Theology II series/LTHE 223
3	Introduction to Philosophy/LPHI 131	3	Philosophy II series/LPHI 223
3	Fundamentals of Speech/SPCH 111		
16		17	

THIRD YEAR

	Fall Semester		*Spring Semester*
3	Microbiology/BIOL 331	3	Human Anatomy & Physiology II/ BIOL 117
1	Microbiology Lab/BIOL 332		
3	Human Anatomy & Physiology I/ BIOL 115	1	Human Anatomy & Physiology II lab/BIOL 118
1	Human Anatomy & Physiology I lab/ BIOL 116	3	Fine Art Series/LFIN 250
		3	Immunology/BIOL 338
3	Literature Series/LENG 241	3	Senior Seminar (Medical Ethics)/ LBST 383
3	Foreign Language		
3	Philosophy/Theology III Series/ LPHI/LTHE	3	Applied Statistics/MATH 213
17		16	

RADIOLOGIC SCIENCES ASSOCIATE DEGREE

CYNTHIA L. LIOTTA, MS, RT(R), (CT), *Program Director*

FACULTY: Ronald G. Cuzzola, Suzanne Sturdivant.

Practitioners in radiologic sciences are highly skilled professionals qualified by education to provide radiographic images of the human body to aid in the diagnosis of disease or injury. This requires development of cognitive abilities, technological skill, effective communication and interpersonal qualities that will assist the individual in this process.

The Radiologic Sciences Program, fully accredited by the Joint Review Committee on Education in Radiologic Technology, is 24 months in length. The first year is primarily didactic, with emphasis on required academic courses and introductory courses in radiologic sciences, including a clinical rotation. The professional component, which is 15 months in length, combines extensive clinical rotations with professional coursework. Clinical competency is verified through faculty assessment of student's skill level in actual performance of radiologic examinations. Students enrolled in the program must maintain a grade point average of 2.5. All Radiologic Sciences courses (RADS) and all Anatomy and Physiology courses (BIO) must be completed with a C or better to continue to the next sequenced professional course.

The Associate Degree fulfills all the eligibility requirements for the national certification exam administered by the American Registry of Radiologic Technologists. Radiology provides many opportunities for professional growth. The associate degree provides a foundation for continued education and certification in computed tomography, magnetic resonance imaging, ultrasonography, radiation therapy, education and management.

Prospective students should be aware that in order to successfully complete this program they will be required to perform certain physical functions in course work and/or clinical education. The following standards describe the physical abilities necessary to complete the program.

Physical Standards (See Minimum Physical Requirements - Student Handbook:)

1. Help in lifting and/or transferring patients who may be comatose, paralyzed, or otherwise incapacitated.
2. Lift, move and push heavy equipment. Must be able to extend arms overhead (6' from floor) and forward.
3. To insure patient safety, hear faint sounds from a distance of 15 feet, as control panels and exposure switches are located in rooms or paneled areas separate from the x-ray table on which patients are placed.
4. Hear verbal directions/requests from physicians, patients, etc; faint audible signals such as low sounding buzzers and bells to determine and recognize malfunctioning equipment.
5. See requisitions/computer screens for medical information pertaining to radiographic exams, proper equipment manipulation, proper positioning and image evaluation of exams.
6. Communicate orally and in writing instruction and directions to patients and with health care personnel. Obtain health history and other pertinent data from patients.
7. Manual dexterity, good motor skills, eye-hand coordination skills and sensory function to perform skills such as filling a syringe, putting on sterile gloves, assisting with sterile procedures, manipulating equipment, etc.)

Cognitive/Emotional Standards:

8. Cognitive ability to perceive and deal appropriately with environmental threats and stress and continue to function safely and effectively during periods of high stress.
9. Prioritize multiple tasks.
10. Exhibit social skills (appropriate comments & dialogue, respect, politeness, tact, collaboration, teamwork, confidentiality, etc.) necessary to interact effectively with patients, families, supervisors and co-workers of the same or different cultures.
11. Maintain personal hygiene.

COURSE DESCRIPTIONS:

All RADS courses must be taken in the order listed in the curriculum. Clinical education may include clinical sites outside of Erie. Students are responsible for transportation to and from clinical sites.

RADS 101: Introduction to Radiologic Sciences
This course provides an introduction to medical terminology, which will weave throughout the course to provide the student with the basic principles needed to learn medical vocabulary. Topics covered include the history of medicine and medical imaging, pharmacology, and basic positions, projections and body movement as related to health care and particular to radiology. Content will also include communication, cultural diversity, pediatric, geriatric and terminal patients. This course also introduces professional organizations and professional code of ethics.
3 credits, Fall

RADS 117: Clinical Radiography I
This course will introduce the student to a virtual clinical setting through simulated patient care skills and manipulation of standard radiologic equipment. The students will also be introduced to the basic theory and manipulation of the control panel including mA, mAs, back-up mAs, kVp, focal spot, manual technique and automatic exposure control (AEC). Students will learn and apply simple techniques and basic principles in patient care that will include body mechanics, patient transfer techniques, vital signs, oxygen administration, infection control and standard precautions, medical and sterile procedures, isolation techniques, assisting with tubes and catheters, skin and cast care and medical emergencies and how they are specifically related to the Radiology department. *1 credit, Fall*

RADS 118: Radiographic Exposure and Processing
This course provides the student with the knowledge base involving the acquisition of radiographic images as well as the essential qualities of a radiographic image. The problem-solving methods used by the radiographer that may affect radiographic quality are also studied. *3 credits, Summer*

RADS 119: Radiographic Exposure and Processing Lab
An analysis of radiographic image quality will be studied through lab experiments, image critique and critical thinking methodologies. Demonstrating the effect of various exposure principles and techniques are incorporated into the analytical process. *1 credit, Summer*

RADS 120: Clinical Radiography II
Sequential to RADS 117 Clinical Radiography I. Radiation safety, the legal aspects of healthcare including HIPAA and informed consent, and the interaction with patients, including clinical histories, will be covered prior to assigned clinical rotations. During clinical rotations students should observe, assess and perform under, direct observation, the practices of manipulating radiographic equipment, patient communication, infection control, body mechanics, transfer techniques, radiation safety, clinical histories and patient confidentiality.
1 credit, Spring

RADS 204: Radiographic Positioning & Procedures I
This course will require the student to implement previously learned positioning terminology and techniques used in radiography from RADS 101 and RADS 117, for utilization of proper positioning to ensure high quality images. The course will focus on correlated anatomy, positioning and image critique of the upper and lower extremities, abdomen and chest; as well as an introduction to the digestive and urinary systems.
Prerequisites: RADS 101, 117, 120, BIOL 108, 109, 110, 111 *3 credits, Spring*

RADS 205: Radiographic Positioning & Procedures Lab I
This is a "hands on" course for radiographic positioning of the upper and lower extremities, abdomen and chest. Image evaluation and anatomical correlation are integrated into proper positioning procedures and image critique.
Prerequisites: RADS 101, 117, 120, BIOL 108, 109, 110, 111 *1 credit, Spring*

RADS 206: Clinical Radiography 3
This course is sequential to RADS 120 and is designed to develop performance skills necessary for competency exams through directly supervised clinical experience. Orientation to clinical education centers includes policies and procedures and OSHA requirements. The student will start to integrate the principles and theories learned in the classroom into the clinical setting. This will include aspects of the methodology of a radiographic procedure including but not limited to the RIS/HIS system, patient care, control panel set-up (manual/ AEC), room set-up, patient transfer, radiation protection, patient positioning, image evaluation, and patient discharge. *4 credits, Summer*

RADS 214: Radiographic Positioning and Procedures II
Continuation of radiographic studies including urinary system, digestive system, proximal humerus and should girdle, pelvis, hip and femur and vertebral column.
Prerequisites: All previous RADS and Biology courses. *2 credits, Fall*

RADS 215: Radiographic Positioning Lab II
This is a "hands on" course for the radiographic positioning of the body parts and systems covered in RADS 214. Image evaluation and laboratory exposures on the phantom are performed to correlate the anatomy studied. Simulated competencies are also completed. The student will continue to set appropriate control panel settings for specific procedures and projections. The student will make control panel adjustments based on image evaluation.
Prerequisites: All previous RADS and Biology courses *1 credit, Fall*

RADS 216: Clinical Radiography 4
This course is sequential to RADS 206. It consists of 32 hours per week of directly or indirectly supervised clinical experience as appropriate to the student's level of competency. Students prepare for competency in more complex examinations as well as work independently in areas of completed competency. The student will continue to integrate the principles and theories learned in the classroom into the clinical setting. This will include aspects of the methodology of a radiographic procedure including but not limited to the RIS/ HIS system, patient care, control panel set-up (manual/ AEC), room set-up, patient transfer, radiation protection, image evaluation, correctly applying the theories and principles of digital imaging, and patient discharge. *4 credits, Fall*

RADS 218: Advanced Exposure
This course will cover film screen image processing to include the darkroom, the automatic processor. Digital image acquisition and display will include components, principles and operation of digital imaging systems. Principles of quality assurance and maintenance of both film/screen and digital systems will be presented. Evaluation of digital images will be a consistent theme throughout the course. *2 credits, Spring*

RADS 219: Imaging and Equipment
This course covers atomic structure, electricity, xray equipment and circuitry, xray interactions in the tube and in tissue, image intensification and digital image capture.
Prerequisites: All previous RADS and Biology courses. *3 credits, Fall*

RADS 224: Radiographic Positioning and Procedures III
This course offers an in depth study of the skull, facial bones and sinuses. Also included are bony thorax, biliary system, arthrography, reproductive systems, specialty exams, and an introduction to the cardiovascular system, nervous system and sectional anatomy.
Prerequisites: All previous RADS and biology courses. *3 credits, Spring*

RADS 225: Radiographic Positioning and Procedures Lab III
This is a "hands on" course for radiographic positioning of the skull, facial bones, sinuses, bony thorax and biliary system. Radiographic exposures on the phantom are correlated with image evaluation and radiographic anatomy. A component strictly related identification of anatomy of the cardiovascular system and central nervous system anatomy using MRI and CT images is also included.
Prerequisites: All previous RADS and biology courses. *1 credit, Spring*

RADS 226: Clinical Radiography 5
This course is sequential to RADS 216. It consists of direct or indirect supervised clinical experience as appropriate to the student's level of competency for 24 hours per week. Students prepare for competency in more complex examinations as well as work independently in areas of completed competencies. The student will continue to work toward a higher level of proficiency for all areas of methodology of a radiographic procedure including but not limited to the RIS/HIS system, patient care, control panel set-up (manual/AEC), room set-up, patient transfer, radiation protection, image evaluation, correctly applying the theories and principles of digital imaging, and patient discharge. *3 credits, Spring*

RADS 252: Radiation Biology
This course is divided into two parts. The first part deals with the types of ionizing radiation and their effects at the atomic, molecular and cellular levels. Genetic and somatic effects as related to acute and chronic doses of radiation are also discussed. The second part concentrates on medical diagnostic radiation – sources, exposure, dose limits, detection & measurement, design of equipment and rooms for maximum protection and reduction of dose.
Prerequisites: All previous RADS and biology courses. *2 credits, Spring*

RADS 271: Introduction to Radiographic Pathology
A study of the common pathologies seen radiographically. This course integrates the student's previous clinical experience and classwork with specific pathophysiology within the body systems. It is designed to offer the learner basic foundations of disease or injury, including clinical, pathological, and radiographic manifestations.
Prerequisites: All previous RADS and biology courses. *1 credit, Spring*

RADS 285: Professional Seminar
This course will assist the student in the development of an additional knowledge base to broaden the student's understanding of total patient care. Venipuncture will be discussed and performed. Basic electrocardiography will be covered.
Prerequisite: All previous RADS and BIOL courses *1 credit, Summer*

RADS 286: Clinical Radiography 6
This course is sequential to RADS 226. It consists of 32 hours per week of indirectly supervised clinical experience in all areas of completed competency. Students focus on developing efficiency and proficiency in their clinical skills. Electives to CT, MRI, sonography, cardiac and interventional procedures, nuclear imaging or radiation therapy may be arranged.
4 credits, Summer

RADS 441: Introduction to Radiology
This course is designed to introduce the Physician Assistant student to radiologic imaging procedures. The focus of the class will include technical, anatomical and pathologic considerations. *3 credits, Fall*

RADS 495: Special Topics
Special topics courses are developed by faculty around a specific area of interest. Objectives may be defined by faculty or mutually identified by students and faculty.
1-3 credits, Fall or Spring

Associate Degree Curriculum

(Numerals in front of courses indicate credits)

	FALL I		SPRING I
4	Anatomy & Physiology I with Lab/ BIOL 108, 109	4	Anatomy & Physiology II with Lab/ BIOL 110, 111
3	College Composition/LENG 111	3	Sacred Scripture/LTHE 121
3	Intro Radiologic Science/RADS 101	3	Introduction to Philosophy/LPHI 131
1	Clinical Radiography 1/RADS 117	4	Rad Posit/Proc I with Lab/ RADS 204, 205
3	PC Applications/CIS 170-173 **or** CIS 150	3	Intro to Psychology I/PSYC 111
2	First-Year Seminar	1	Clinical Radiography 2/RADS 120
1	Introduction to Speech/SPCH 390		
17		18	

	*SUMMER I		*FALL II
3	Rad Posit/Proc II with Lab/ RADS 214, 215	4	Rad Exposure with Lab/ RADS 118, 119
3	Imaging and Equipment/RADS 219	4	Clinical Radiography 4/RADS 216
4	Clinical Radiography 3/RADS 206		
10		8	

	**SPRING II		**SUMMER II
4	Rad Posit/Proc III with Lab/ RADS 224, 225	1	Special Topics/RADS 285
2	Advanced Exposure/RADS 218	4	Clinical Radiography/RADS 286
2	Radiation Biology/RADS 252		
1	Intro to Rad Pathology/RADS 271		
3	Clinical Radiography 5/RADS 226		
12		5	

Total Credits: 70

This curriculum indicates that students will be required to attend summer sessions as part of the Radiologic Sciences Program.

**Students are advised that the courses taken in the Summer I and Fall II semesters will be combined for the purposes of billing and grading. Students will receive their bill for the Summer I and Fall II semester at the regular Fall billing time. Grades will be sent out at the completion of each of the four semesters. Students are advised that the Summer I and Spring II grade reports will contain "*" grades for the Fall II and Summer II semesters.*

***Students are advised that the courses taken in the Spring II and Summer II semesters will be combined for the purposes of billing and grading. Students will receive their bill for the Spring II and Summer II semesters at the regular Spring billing time. Grades will be sent out at the completion of each of the four semesters. Students are advised that the Summer I and Spring II grade reports will contain "*" grades for the Spring II semesters.*

RESPIRATORY CARE ASSOCIATE/BACCALAUREATE

CHARLES S. CORNFIELD, M.S., R.R.T., *Program Director*

FACULTY: *Assistant Professors:* Charles S. Cornfield, Robert D. Tarkowski.

You can live without food for a few weeks. You can live without water for a few days. But, if you are deprived of air, you will die within minutes. In terms of survival, breathing is your most immediate need.

Respiratory care practitioners are specialists who evaluate treat and care for patients with breathing disorders. Practitioners work under the direction of a physician and assist in the diagnosis, treatment and management of patients with respiratory disorders.

The need for respiratory care practitioners is expected to grow faster than the national average for all job growth. The respiratory care profession has a bright future with a great deal of job security and opportunity for advancement. Once you enter the profession, you may want to specialize in an area such as neonatal care, cardiopulmonary diagnostics, helicopter transport, patient education, management or homecare.

The Respiratory Care Program offers both an Associate and Bachelor degree in Science. Both degrees qualify the student to become a Registered Respiratory Therapist. The two-year degree provides the student with an excellent foundation in Respiratory Care. The four-year degree is designed for those individuals who wish to be leaders in the field. The Bachelor degree curriculum includes additional education in the adult critical care environment and offers specialization in an area of the student choice.

Students enrolled in the program must maintain a grade point average of 2.5 in the sciences and overall in the pre-professional courses. Only those students having the 2.5 grade point average or higher in the pre-professional courses will advance to the professional phase of the program. All courses denoted by the RSPC symbol must be passed with a "C" grade or better to progress in the program. Admission prerequisites may be obtained by contacting the Admission's office.

The program is accredited by the Commission on Accreditation for Respiratory Care (CoARC).

www.coarc.com
1248 Harwood Road
Bedford, TX 76021-4244
814-283-2835

COURSE DESCRIPTIONS:

All RSPC courses must be taken in the order listed in the curriculum. Clinical practicums may include clinical sites outside of Erie. Clinical practicums include some evening rotations.

RSPC 201: Introduction to Respiratory Care
This introductory course will inform the student about the history of medicine and the profession of respiratory care. Additional topics will include communication in health care, medical terminology and an introduction to computers. Students will be given a basic foundation for respiratory care with topics in flow mechanics, and physical properties of gases. *3 credits, Spring*

RSPC 301: Clinical Practicum I
The student will perform respiratory care procedures on patients within the clinical setting. There will be an emphasis on operating and maintaining oxygen delivery devices.
Prerequisites: RSPC 308, 309 *2 credits, Fall*

RSPC 302: Clinical Practicum II
The student will provide respiratory care to patients in the adult intensive care unit setting. There will be an emphasis during this course on mechanical ventilation, and cardiopulmonary diagnostics.
Prerequisites: RSPC 321, 322 *4 credits, Spring*

RSPC 303: Clinical Practicum III
This clinical course involves a neonatal intensive care unit setting, pulmonary rehabilitation, and observation in the operating room. Rotations will also include continued skills in intensive and general respiratory care.
Prerequisites: RSPC 350, 385 *5 credits, Summer*

RSPC 308: Respiratory Care Procedures:
This course includes the study of medical gases from their storage to the devices used to administer them to the patient. The different therapeutic modalities used in respiratory care will be presented. The modalities include: Humidity Therapy, hyperinflation therapy, aerosol/pharmacologic therapy, intermittent positive pressure, chest percussion, bronchial drainage, and airway care.
Prerequisite: RSPC 201
Corequisite: RSPC 309 *4 credits, Summer*

RSPC 309: Respiratory Care Procedures Lab
This laboratory will allow the student to practice and experience topics covered in RSPC 308 and prior to actual clinical practice.
Corequisite: RSPC 308 *1 credit, Summer*

RSPC 314: Cardiopulmonary Pathophysiology
This integrated course will instruct the student in patient diagnostics and assessments. The course will also include an introduction to general pathophysiology with an emphasis on pathophysiology affecting the cardiopulmonary system.
Prerequisite: RSPC 317 *4 credits, Fall*

RSPC 317: Cardiopulmonary and Renal Anatomy/Physiology
This course is an advanced study of the pulmonary, cardiac and renal systems. An emphasis is placed on physiology of these systems. *4 credits, Summer*

RSPC 319: Pharmacology for the Respiratory Care Practitioner
A study to introduce the student to the science of pharmacology, it's terminology and administration. Emphasis will be on those agents primarily having an effect on the cardiopulmonary system. Also, antibiotics, steroids and other pharmacologic agents will be discussed. *2 credits, Fall*

RSPC 321: Mechanical Ventilation and Critical Care
A study of mechanical ventilators, their operation and application in patient care will be presented. The course also includes applied critical care including monitoring techniques.
Prerequisites: RSPC 308, 309, 317
Corequisites: RSPC 317, 322 *4 credits, Fall*

RSPC 322: Mechanical Ventilation and Critical Care Lab
Laboratory practice for topics covered in RSPC 321. *1 credit, Fall*

RSPC 350: Neonatal/Pediatric Respiratory Care
This course will emphasize the diagnosis and care of the neonatal and pediatrics patients in the intensive care setting. Mechanical ventilation of the neonate will be stressed. *3 credits, Spring*

RSPC 385: Homecare/Cardiopulmonary Rehabilitation
This course will include presentations and discussions of objectives, methods and expectations of homecare and cardio/pulmonary rehabilitation. Current issues in pulmonary rehabilitation

will be discussed. The course will present various community agencies that provide and assist with chronic health problems. Included will be issues in patient/family education.
Prerequisite: departmental consent *2 credits, Spring*

RSPC 390: Pulmonary Function Testing
This course explores the use of various tests used to measure lung function with an emphasis on lung volume tests and spirometry evaluation. Some time will be spent in the laboratory and at the bedside utilizing equipment to measure lung mechanics. *1 credit*

RSPC 393: Special Topics in Respiratory Care
This is an elective course. The course is developed by faculty around specific areas of interest. Outcomes may be developed by the faculty or mutually by student and faculty. *3 credits*

RSPC 404: Clinical Practicum IV
This clinical will assist the student in synthesizing the skills learned throughout their course of study in the areas of intensive care unit, management, patient education and homecare.
Prerequisite: RSPC 303 *2-6 credits, Spring*

RSPC 414: Advanced Cardiopulmonary Pathophysiology
This course is a continuation of RSPC 314 with an expansion on chest radiography and hemodynamics.
Prerequisite: RSPC 317 *3 credits, Spring*

RSPC 421: Advanced Cardiopulmonary Assessment
This course will be a continuation of the RSPC 321 course where advanced skills are taught in the area of Critical Care.
Prerequisite: RSPC 321 *3 credits, Spring*

RSPC 426: Non-Invasive Cardiovascular Assessment
The physiological basis of the electrocardiograph will be presented. All the major arrhythmias will be emphasized. At the end of the course the student will be able to perform a basic analysis of the twelve lead EKG. A brief overview of echocardiography will also be included.
Prerequisite: RSPC 317 *2 credits, Fall*

Polysomnography Certificate
The Respiratory Care Program is now offering a certificate in Polysomnography. Students must be admitted to this certificate option. This would include Respiratory Care Bachelor's degree candidates or students holding an Associate of Science degree in Respiratory Care and eligible to take the Certified Respiratory Care practitioner exam (CRT).

RSPC 361: Polysomnography Science I
This course is designed to provide both didactic and laboratory training for entry-level personnel in the basics of Polysomnographic Technology. Students will become familiar with medical terminology, instrumentation setup and calibration, recording and monitoring techniques, documentation, professional issues, and patient-technologist interactions related to Polysomnographic Technology. Laboratory sessions will provide practical experience in the skills required of an entry-level Polysomnographic Technologist.
Corequisite: RSPC 362 *2 credits, Fall*

RSPC 362: Polysomnography Clinical I
This course is designed to provide clinical experience and training for entry-level personnel in the basics of Polysomnographic Technology. Students will become familiar with the sleep lab environment, instrumentation setup and calibration, recording and monitoring techniques, documentation, professional issues, and patient-technologist interactions related to Polysomnographic Technology.
Corequisite: RSPC 361 *2 credits, Fall*

RSPC 363: Polysomnography Science II
This course is designed to provide both didactic and laboratory training that will cover the skills and knowledge needed to obtain high quality sleep recordings and expands upon the topics covered in Polysomnography Science I. Students will become proficient in the in the technical and clinical aspects of Polysomnography, as well as the methodology used in the sleep laboratory. This course includes patient interaction and describes the capture of bio-electric activity, over-night recording techniques, the interpretation of and data presentation for the compilation of the final report.
Prerequisite: RSPC 361, 362
Corequisite: RSPC 364 *2 credits, Spring*

RSPC 364: Polysomnography Clinical II
This course is designed to provide clinical experience and training for advanced aspects of polysomnographic technology. Students will become familiar with practical aspects of therapeutic interventions, sleep scoring, equipment troubleshooting, and artifact recognition.
Prerequisite: RSPC 361, 362
Corequisite: RSPC 363 *2 credits, Spring*

PRE-PROFESSIONAL

BACCALAUREATE DEGREE CURRICULUM

FRESHMAN

	First Semester		*Second Semester*
3	College Composition/LENG 111	3	Crit Analysis & Comp/LENG 112
3	Chem of Life I/CHEM 103	3	Chem of Life II/CHEM 106
1	Chem of Life I Lab/CHEM 104	1	Chem of Life Lab II/CHEM 107
3	College Algebra/MATH 111, 112 or 114	3	Sacred Scripture/LTHE 121
3	Hist of West & World/LHST 111	3	Physics for Resp Care/PHYS 100
1	PC Applications/CIS 170-173	3	Intro Psychology/PSYC 111
2	First-Year Seminar		
16		16	

SOPHOMORE

	First Semester		*Second Semester*
3	Anat & Physio/BIOL 108	3	Literature Series I/LENG
1	Anat & Physio Lab/BIOL 109	3	Anat & Physio/BIOL 110
2	PC Applications/CIS 170-173	1	Anat & Physio Lab/BIOL 111
3	Introduction to Philosophy/LPHI 131	3	Intro to Resp Care/RSPC 201
3	Theology II Series/LTHE	3	Philosophy II Series/LPHI
3	Intro to Micro/BIOL 106	3	Fine Arts Series/LFIN
1	Intro to Micro Lab/BIOL 107	1	Technical Communication/SPCH 110
16		17	

PROFESSIONAL PHASE

(A QPA of 2.5 in the Sciences and a QPA of 2.5 overall is required to continue.)

	Summer Semester
4	Respiratory Care Procedures/RSPC 308
1	Respiratory Care Procedures Lab/RSPC 309
4	Cardiopul/Renal A & P/RSPC 317
9	

JUNIOR

	First Semester		*Second Semester*
2	Clinical I/RSPC 301	3	Neonatal/Peds/RSPC 350

4	Mech Vent & Crit Care/RSPC 321	2	Homecare/Rehab/RSPC 385
1	Mech Vent & Crit Care Lab/RSPC 322	4	Clinical II/RSPC 302
4	Cardiopul Pathophysiology/RSPC 314	3	Theology or Phil III Series/LTHE or LPHI
2	Pharmacology for Resp Care/RSPC 319		
1	Pulmonary Functions/RSPC 390	3	Statistics/SOCI 351 or PSYC 211
		1	Leadership Seminar
14		16	

Summer Semester

5 Clinical III/RSPC 303

SENIOR

	First Semester		*Second Semester*
3	Senior Seminar/LBST 383	3	Advanced Pulmonary Assessment/RSPC 421
3	Advanced Cardio Patho/RSPC 414		
2	Non-Invasive Cardiovascular Assessment/RSPC 426	6	Clinical Practicum IV/RSPC 404
3	Professional Elective		
3	Research Methods/NURS 308		
14		9	

37 Didactic Respiratory Credits
17 Clinical Respiratory Credits
3 Elective Credits

MINIMUM TOTAL CREDITS: 131

OR

Polysomnography Option

SENIOR

	First Semester		*Second Semester*
3	Senior Seminar/LBST 383	3	Advanced Pulmonary Assessment/RSPC 421
3	Advanced Cardio Patho/RSPC 414		
2	Non-Invasive Cardiovascular Assessment/RSPC 426	2	Clinical Practicum IV/RSPC 404
2	Poly Science I/RPSC 361	2	Poly Science II/RSPC 363
2	Poly Science Clinical I/RSPC 362	2	Poly Science Clinical II/RSPC 364
3	Research Methods/NURS 308		
15		9	

40 Didactic Respiratory Credits
18 Clinical Respiratory Credits

MINIMUM TOTAL CREDITS: 132

ASSOCIATE DEGREE CURRICULUM

PRE-PROFESSIONAL PHASE

FIRST YEAR

	First Semester		*Second Semester*
3	Anat & Physio I/BIOL 108	3	College Composition/LENG 111
1	Anat & Physio I Lab/BIOL 109	2	First-Year Seminar
3	Chem of Life I/CHEM 103	3	Anat & Physio II/BIOL 110
1	Chem of Life Lab I/CHEM 104	1	Anat & Physio Lab II/BIOL 111

3	College Algebra/MATH 111, 112 or 114	3	Physics for Resp Care/PHYS 100
3	Microbiology/BIOL 106	3	Intro to Resp Care/RSPC 201
1	Microbiology Lab/BIOL 107	1	Intro to Speech/SPCH 101
15		16	

PROFESSIONAL PHASE

(A QPA of 2.5 in the Sciences and a QPA of 2.5 overall is required to continue.)

Summer Semester

4	Respiratory Care Procedures/RSPC 308
1	Respiratory Care Procedures Lab/RSPC 309
4	Cardiopul/Renal A & P/RSPC 317
9	

SECOND YEAR

First Semester		*Second Semester*	
2	Clinical I/RSPC 301	3	Intro Psychology/PSYC 111
4	Mech Vent & Crit Care/RSPC 321	3	Neonatal/Pediatrics/RSPC 350
1	Mech Vent & Crit Care Lab/RSPC 322	2	Homecare/Rehab/RSPC 385
4	Cardiopul Pathophysiology/RSPC 314	4	Clinical II/RSPC 302
2	Pharmacology for Resp/RSPC 319	3	Intro to Philosophy/LPHI 131
3	Sacred Scripture/LTHE 121		
1	Pulmonary Functions/RSPC 390		
17		15	

Summer Semester

5	Clinical III/RSPC 303
28	Didactic Respiratory Care Credits
11	Clinical Respiratory Care Credits

SCIENCE

STEVEN J. ROPSKI, Ph.D., *Program Director*

The Science curriculum is designed for those students who wish to get a broad background in the sciences. Students may choose a concentration from the fields of Biology, Chemistry, Environmental Science, Mathematics, or Physics. The curriculum may also serve the needs of students whose career objectives are not yet definite or for the student whose career objectives are defined but are not completely satisfied by the suggested departmental programs. Students cannot declare science as a major after attaining 100 credits in a previous major without director's permission.

The curriculum in Science allows for the completion of the Core of Discovery, 60 credit hours of studies in the sciences and mathematics, and twenty-nine credit hours of electives to devote toward the student's educational goal. The student must however earn a minimum of twenty-four credits in some one field of the sciences or mathematics and have a minimum of 8 credits in Biology, Chemistry, Physics, and six credits in Earth Science/ Environmental Science and Math.

Suggested Science Curriculum

(Numerals in front of courses indicate credits)

FRESHMAN

	First Semester		*Second Semester*
3	Hist of West & World/LHST 111	3	Crit Analysis & Comp/LENG 112
3	College Comp/LENG 111	3	Sacred Scripture/LTHE 121
2	First-Year Seminar	8	Science Sequence
8	Science Sequence	3	Social Science
16		17	

SOPHOMORE

	First Semester		*Second Semester*
3	Introduction to Philosophy/LPHI 131	3	Theology or Phil III Series/ LTHE or LPHI
3	Literature Series/LENG	8	Science Sequence
3	Theology II Series/LTHE	3	Elective
8	Science Sequence	1	Leadership Seminar
17		15	

JUNIOR

	First Semester		*Second Semester*
3	Philosophy II Series/LPHI	3	LS elective
3	Fine Art Series/LFIN	3	Speech/SPCH 111
6-8	Science Sequence	6	Science Sequence
3	Elective	6	Elective
15-17		18	

SENIOR

	First Semester		*Second Semester*
3	Senior Seminar/LBST 383	6-8	Science Sequence
6-8	Science Sequence	9	Elective
6	Elective		
15-17		15-17	

THE NEXT STEP

Baccalaureate Degree Program for Graduates of Two Year Colleges

Science

(Numerals in front of courses indicate credits)

	Pre-Senior Year		*Senior Year*
24	Science Sequence	27	Science Sequence
3	Introduction to Philosophy/LPHI 131	3	Senior Seminar/LBST 383
3	Sacred Scriptures/LTHE 121	3	Theology or Phil Series III/ LTHE or LPHI
3	Literature Series/LENG		
3	Fine Art Series/LFIN	1	Leadership Seminar
36		34	

Students will be permitted to take other courses in substitution for any course listed above which they have satisfactorily completed prior to admission into the Next Step program. Students are required to complete 7-19 credits in the Core of Discovery. Students may transfer courses equivalent to Sacred Scripture, Introduction to Philosophy, the Literature Series and/or the Fine Arts Series. Students must take the Leadership Seminar, the Theology/ Philosophy III Series, and the Senior Seminar or approved capstone at Gannon.

The Science sequence must include a total of 60 credits of course work, of which at least 24 credits must be earned in one of the following fields:

Biology, Chemistry, Environmental Science, Mathematics, or Technical area.

Six credits of this total may be earned prior to admission to this program.

A minimum of eight credits must be taken in each of the science or math fields (excluding math and Environmental Science).

The *Gannon University – Duquesne School of Law, 3+3 Early Admissions Program* has been designed for qualified students to earn an undergraduate and a law degree in six years rather than seven. Under the early admissions program students may receive a *Bachelors Degree in specific majors after three years of undergraduate work and the successful completion of the first year of full time study at the Duquesne School of Law.* The student would then receive their Law Degree after successful completion of the second year at Duquesne School of Law. Qualified students may wish to pursue this option.

SPORT AND EXERCISE SCIENCE

Department Chair: JASON P. WILLOW, Ph. D.

FACULTY: *Associate Professor:* Dawna T. Mughal; *Assistant Professors:* Kory Stauffer, Jason P. Willow, Ms. Abbey Bower, Ms. Tania Flink; *Instructor:* Ms. Suzanne Kitts.

The Sport and Exercise Science Department offers a Bachelor of Science degree through the Morosky College of Health Professions and Sciences. The program is designed to prepare students for employment and/or graduate training in many areas including, but not limited to, exercise physiology, physical and occupational therapy, nutrition, health and wellness program administration, medicine and allied health professions, kinesiology, and exercise science. Students can use their skills in a variety of health and fitness positions, including becoming a research assistant, a health/fitness technician, a personal trainer, or a fitness specialist. Additional employment opportunities may include becoming a strength and conditioning professional, an athletic coach, a physical activity project coordinator, entry level positions in pharmaceutical sales, or positions in corporate fitness. The department also prepares the student for possible certification by national governing bodies such as the American College of Sports Medicine and the National Strength and Conditioning Association, among others.

In general, students in the department take courses in the basic sciences (biology, chemistry and physics) during the first two years of the program, in addition to the humanities and social sciences (to satisfy the University's liberal arts requirements). During the final two years of study, majors take advanced sequences of courses in human anatomy, physiology, kinesiology, nutrition, exercise physiology, sociology and psychology of sport and exercise, motor development, learning and performance, and athletic injury care and prevention.

Admission into the Undergraduate program:

Recommended standards for high school students for consideration for acceptance to the undergraduate Sport and Exercise Science Department include:

1. Overall high school GPA of 3.0 or higher.
2. SAT score of 1000 or higher or ACT score of 21 or higher.
3. Completion of college prep biology and chemistry with labs and three years of college prep mathematics.

SPORT AND EXERCISE SCIENCE COURSE DESCRIPTIONS

SPRT 100: Sports First Aid
Course content includes preventing, preparing for, and caring for sports-related emergencies. Coaches will learn how to prevent and care for muscle and bone and joint injuries, how to treat heat- and cold-related illnesses, and many other emergency situations they may encounter.
Lecture/Lab: One hour per week. *1 credit, Spring*

SPRT 105: Introduction to Yoga
Introduces students to the performance of yoga as a lifelong wellness activity that maintains and enhances physical health and psychological well being. This general overview will examine classical yoga postures and how students relate to posture, balance, flexibility, strength, skeletal and muscular integrity, health benefits, relieving tension and the restoration qualities of yoga. A list of common contraindications will also be given. *2 credits, Fall, Spring*

SPRT 110: First Aid and Cardiopulmonary Resuscitation
Theory and practice of basic first aid, cardiopulmonary resuscitation, and the acute care of athletic injuries. Successful completion of course requirements prepares student for certification in first aid and CPR by the American Red Cross.
Lecture/Lab: Two hours per week. *2 credits, Fall*

SPRT 120: Foundations of Sport and Exercise Science
This course will provide undergraduates with an introduction to the scientific disciplines of kinesiology, biomechanics, exercise physiology, sport psychology, nutrition and others. Course topics may include an introduction to various biomechanical aspects of physical activity and sport, functional human anatomy, and biomechanical principles that underlie performance of various sports and exercise-related activities, as well as a basic knowledge of exercise physiology as it relates to physical activity.
Lecture/Lab: Three hours per week. *3 credits, Fall*

SPRT 130: Nutrition for Sport and Exercise
This course is designed to introduce the concepts of proper nutrition with specific concentration given to the promotion and maintenance of optimal physical performance both at the elite as well as recreational levels. The course will discuss such topics as the role of carbohydrates, protein and fat in exercise and sport; vitamin and mineral intake and exercise; the role of fluid intake and electrolytes in physical activity; nutrition and fitness assessment; ergogenic substances in sport and exercise and the myths of the fad diet craze.
Lecture: Three hours per week. *3 credits, Spring*

SPRT 144: Racquetball/Handball
Course covers rules and strategy of both racquetball and handball.
Lecture/Activity: Two hours per week. *2 credits, Fall, Spring*

SPRT 152: Alpine Skiing/Snowboarding
A course that meets for the first 7 weeks of the spring semester. Students are bused to local ski resorts where they take lessons at all skill levels from nationally recognized instructors. Course has a fee of $200 which covers cost of busing, lift passes and rentals. Additional fees for those who must rent equipment from the resort.
Activity: Five hours per week. *2 credits, Spring*
Course meets until Spring Break

SPRT 160: Aerobic Training
The purpose of this course is to provide the student with the opportunity to develop their own cardiovascular fitness through a variety of aerobic activities. Physiological principles and effects of aerobic training are presented. The course content includes activities that promote

cardiovascular endurance and efficiency, including fitness evaluation, stretching, aerobic exercise, jogging, running, swimming, cycling, and circuit training.
Lecture/Activity: Two hours per week. *2 credits, Both Terms*

SPRT 161: Weight Training
This course is designed to teach the basic techniques and knowledge of Nautilus, Universal, and free weight systems. Physiological principles of fitness and their relationships to weight training are stresses. Emphasizes the development of individual muscular strength and endurance programs following instruction in the principles and techniques of weight training.
Lecture/Activity: Two hours per week. *2 credits, Both Terms*

SPRT 162: General Fitness & Weight Control
Content includes activities that promote cardiovascular endurance, muscular strength and endurance, and flexibility. The course includes fitness evaluation, stretching, weight training, aerobic exercise, and circuit training. Individual exercise programs are developed. The role of cardiovascular conditioning, strength training, and nutrition in controlling body weight are emphasized.
Lecture/Activity: Two hours per week. *2 credits, Both Terms*

SPRT 240: Sport Psychology: Theory and Application
A comprehensive introduction to the psychological factors that relate to sports involvement and performance. Issues include psychological aspects of elite athlete's motivation and performance, intervention and performance enhancement, anxiety and skill performance.
Lecture: Three hours per week. *3 credits, Fall*

SPRT 250: Psychosocial Aspects of Exercise and Physical Activity
The primary objective of the class is to provide the student with a general overview of the reciprocal relationship between psychological parameters and exercise and health. Course topics include, but will not be limited to, exercise adherence, exercise promotion, the relationship between physical activity and depression, anxiety, positive well being, self-efficacy, cognitive functioning, distress, sleep disorders, mood, self-esteem, stress, and behavioral interventions for health promotion.
Lecture: Three hours per week. *3 credits, Spring, Odd Years*

SPRT 310: Research Methods in Exercise Science
An introduction to the research process to familiarize the student with basic statistical techniques in Exercise Science research both qualitative and quantitative in nature; to provide extensive writing experiences for students; to prepare students to complete the SPRT450 (Independent Study in Exercise Science) Senior Research Proposal/Project; to provide prerequisite coursework for entrance into graduate programs in school of the student's choosing.
Lecture: Three hours per week. *3 credits, Fall*

SPRT 318: Sport in Society Part I
Examination of social and ethical issues in sport. Part one exclusively discusses Socialization to sport: who plays and why, racism, sexism and classism in sport. Course makes extensive use of mainstream media materials including popular magazines and movies.
Lecture: Three hours per week. *3 credits, Fall*

SPRT 319: Sport in Society Part II
A continuation of Sport in Society Part I (that can be taken independently) in which other sociological and cultural issues are highlighted including, but not limited to, deviance in sport, violence in sport, children in sport, sport and the economy, sports and the media, sports and politics, sports and religion, sports in high school and college, and others.
Lecture: Three hours per week. *3 credits, Spring*

SPRT 324: Physical Activity and Children
This class will address a wide variety of topics unique to participation in sport and physical

activity for the youth sport participant. Topics may include growth and maturation, critical periods of growth, parental and coach behavior influences on the youth sport experience, enhancement of the developmental model of sport and others.
Lecture: Three hours per week *3 credits, Spring, Even Years*

SPRT 325: Physical Activity and Aging
This class will address a wide variety of topics unique to special populations in exercise and physical activity. Topics may include, but are not limited to, exercise and the elderly, exercise in diagnosed populations, exercise for persons of special needs and others,
Lecture: Three hours per week. *3 credits, Spring, Odd Years*

SPRT 326: Physical Activity and Women
This class will address a wide variety of topics unique to women in sport and physical activity. Topics may include the female athlete TRIAD, exercise and eating disorders, exercise and osteoporosis, and others.
Lecture: Three hours per week. *3 credits, Spring, Even Years*

SPRT 360: Kinesiology
Analysis of sport and human movement using both anatomical and biomechanical approaches. Application of the basic principles and laws of physics as applied to sport and physical activity will be presented. Recommended junior year.
Prerequisites: Take One Group (BIOL108/109 and BIOL110/111 or BIOL122/123 and BIOL 124/125)
Lecture: Three hours per week. *3 credits, Fall, Spring, Summer*

SPRT 361: Kinesiology Lab
This course complements and enhances the Kinesiology lecture course.
Prerequisite: Concurrent enrollment in SPRT360 is recommended.
Lab: Three hours per week. *1 credit, Fall, Spring, Summer*

SPRT 390: Physiology of Exercise and Sport
An examination of the physiological functions of man as they relate to stresses created by various sports and other physical activities. Acute and chronic effects of various training programs are examined for their contribution to the improvement of performance in sport and physical activity.
Prerequisites: Take One Group (BIOL108/109, BIOL110/111 or BIOL122/123, BIOL124/125)
Lecture: Three hours per week. *3 credits, Fall, Spring*

SPRT 391: Physiology of Exercise and Sport Lab
The application of physiological principles to sport and physical activity, including adaptation responses to exercise. Both immediate and long-term adaptations are studied.
Prerequisite: Concurrent enrollment in SPRT 390 recommended.
Lab: Three hours per week. *1 credit, Fall, Spring*

SPRT 400: Fitness Assessment and Exercise Prescription
The assessment and promotion of physical fitness including concepts and techniques of fitness testing, principles of weight training, aerobic exercise, nutrition, and stress management as applied to health and fitness settings. Emphasis on methods and protocols for screening, evaluating, and prescribing exercise.
Prerequisites: SPRT390/391
Lecture: Three hours per week. *3 credits, Fall*

SPRT 401: Fitness Assessment Lab
This class will complement and enhance the Fitness Assessment and Exercise Prescription lecture course. The class will focus on the practical application of the assessment and promotion of physical fitness including concepts and techniques of flexibility and body composition assessment, strength and cardiovascular testing, principles of weight training,

and aerobic exercise as applied to health and fitness settings.
Corequisite: Concurrent enrollment in SPRT400 required
Lab: Three hours per week. *1 credit, Fall*

SPRT 402: Psychomotor Principles in Athletic Coaching
This course is a comprehensive, practitioner oriented experience aimed at providing current, relevant and skill-oriented instruction to current or potential sports coaches. The objective of the course is to introduce the principles of sport psychology and mental skills training, and also motor learning and performance to current and future coaches.
Prerequisite: None
Lecture: Internet offering *3 credits, offering varies*

SPRT 403: Physiological and Nutritional Principles in Athletic Coaching
This course is a comprehensive, practitioner oriented experience aimed at providing current, relevant and skill-oriented instruction to current or potential sports coaches. The objective of the course is to introduce the principles of exercise physiology and sports nutrition to current and future coaches with a focus on hands-on material to be employed in a practical setting.
Prerequisite: None
Lecture: Internet offering *3 credits, offering varies*

SPRT 404: Movement Analysis and Biomechanics in Athletic Coaching
This course is a comprehensive, practitioner oriented experience aimed at providing current, relevant and skill-oriented instruction to current or potential sports coaches. The objective of the course is to introduce the principles of biomechanics and movement skill analysis to current and potential coaches.
Prerequisite: None
Lecture: Internet offering *3 credits, offering varies*

SPRT 414: Motor Development Across the Lifespan
This class will address a wide variety of topics within the field of motor development. Specifically, the course will discuss motor development from conception through adulthood. The class will incorporate dynamic systems theory with the hourglass model of the stages of motor development in explaining the process of human growth and associated skill proficiency development.
Lecture: Three hours per week. *3 credits, Fall*

SPRT 415: Principles of Motor Learning and Performance
This course examines the many aspects of learning and executing motor skills. Teaching methodology, learning theories, neurophysiological phenomena, maturational and psychosocial factors are investigated as they relate to movement patterns in sport and physical activity.
Lecture: Three hours per week. *3 credits, Spring*

SPRT 416: Human Motor Control
This course will be directed at studying the nature of movement and how that movement is controlled. Sample topics include such issues as the role of the central nervous system in the organization of movement, the role of sensory information and how the body uses this information to select and control movement, the best ways to study movement and the identification and measurement of those with movement disorders. *3 credits, Spring*

SPRT 420: Prevention and Care of Athletic Injuries
General foundations and specific concepts related to injury prevention, evaluation, management, and rehabilitation of athletic injuries are presented. This course is designed to introduce the student to the basic knowledge and skills necessary to recognize, evaluate, and treat athletic injuries of the head and face, spine and torso, and extremities.
Prerequisite: SPRT360/361 required
Lecture/Lab: Three hours per week. *3 credits, Spring*

SPRT 424: Biomechanics
The purpose of this course is to apply the knowledge gained in previous courses to human movement contexts. Specifically, the student will apply the principles of physics to sport and exercise settings.
Prerequisite: SPRT360/361 required
Lecture/Lab: Three hours per week. *3 credits, Spring*

SPRT 425: Clinical Exercise Physiology
This course will provide classroom and informal laboratory experiences that take full advantage of current knowledge and trends in rehabilitation of populations with cardiac, pulmonary and metabolic disorders through assessment and specific exercise programming. The course will also expose the student to the interpretation of electrocardiograms both at rest and during submaximal and maximal exercise bouts.
Prerequisites: SPRT390/391 and SPRT400/401 required
Lecture: Three hours per week. *3 credits, Spring*

SPRT 430: Practicum in Sports and Exercise Science
This course is designed to provide clinical learning experiences that allow the Sport and Exercise Science student to synthesize knowledge and Sport/Exercise Science concepts in a variety of practice settings. Provides majors with clinically-based learning experiences to expand their understanding of sport and exercise science in an area of choice.
Prerequisite: Permission from instructor or program director required.
3 credits, Fall, Spring, Summer

SPRT 432: Athletic Coaching Internship
This course is designed to provide hands-on coaching experiences for those who want to continue on in this field. The internship can be at a local high school of at the collegiate level. The course is designed to introduce the student to budgeting, recruiting, inventory, purchasing equipment, NCAA rules, and athletic promoting. Students must complete a minimum of 150 hours with an assigned coach.
Prerequisite: Permission from instructor or program director required. *6 credits, Fall, Spring*

SPRT 450: Independent Study in Sport and Exercise Science
The student explores an area of topical or special interest pertinent to the study of Sport and Exercise Science. The experience allows the student to explore, in depth, a subject area through a research project, advanced clinical experience, prophylactic care plan development, or other area as approved by project advisor.
Prerequisite: Permission from instructor or program director required.
3 credits, Fall, Spring, Summer

SPRT 460: Sport Ethics
The objective of this course is to explore broad issues in the philosophy of sport by examining the ethical presuppositions of competitive athletics and their connections to moral and ethical theory. The discussion of each topic deals with examples from the world of sport and illuminates them in light of philosophical work on such values as fairness, justice, integrity, and respect for rights. Course meets requirements of Liberal Studies Senior Seminar Requirement.
Prerequisite: Senior standing, final semester of academic preparation.
Lecture: Three hours per week *3 credits, Fall, Spring*

SPRT 470: Advanced Strength Training and Conditioning
The objective of this course is to provide majors with theoretical and practical knowledge of the physiological, biomechanical, administrative aspects of designing and supervising strength and conditioning programs for various populations, and understanding the legal aspects of starting your own strength training facility.
Prerequisites: SPRT360/361 and SPRT390/391 required.
Lecture: Three hours per week *3 credits, variable*

SPRT 480: Advanced Health and Fitness Assessment and Instruction
An in-depth analysis of exercise stress testing for cardiacs, symptomatics, and asymptomatics will also be presented. Traditional, as well as more recently developed stress-testing procedures will also be discussed. This class will provide structured experiences in the classroom, laboratory, and gymnasium to improve knowledge and understanding of graded exercise testing, exercise prescription, and physical activities as used in prevention and rehabilitative programs as outlined in the American College of Sports Medicine (ACSM) Guidelines.
Prerequisites: SPRT360/361, SPRT390/391 and SPRT400/401 required.
Lecture: Three hours per week *3 credits, variable*

SPRT 490: Special Topics in Sport and Exercise Science
This course provides the opportunity to present topics of interest that are not regularly offered in the curriculum.
Prerequisites: To Be Determined
Lecture: 3 hours per week *3 credits, variable*

NUTRITION AND HUMAN PERFORMANCE COURSE DESCRIPTIONS

DIET 101: Nutrition Today: Contemporary Issues and Insights
This course is designed for students who are not health science majors and focuses on consumer issues related to foods and nutrition. In discussing the role of nutrients in health promotion and disease prevention, it includes critical information which will help consumers sort out nutrition advice; concepts, principles, and strategies which will enable consumers to personalize their food choices; and questions that people often ask; i.e., vegetarianism, diets for athletes, "good" foods and "bad" foods, safety of food supply, and fad diets. *3 credits, Spring*

DIET 202: Nutrition
A study of the basic principles of human nutrition; the digestion, absorption, metabolism and utilization, functions, interrelationships, food sources, recommended allowances, and deficiency diseases of the nutrients; nutritional needs during various stages of life cycle, and the problems in the improvement of nutrition of different ethnic and cultural groups, and some community programs providing food and nutrition assistance to eligible recipients. An introduction to clinical nutrition (dietary modifications for certain diseases) is included.
Prerequisites: Take one group: (CHEM 106, BIOL 115) or (CHEM 111, BIOL 368) or (CHEM 105, BIOL 115) or (CHEM 106, BIOL 117) or (CHEM 106, BIOL 365) *3 credits, Spring*

DIET 203: Fundamentals of Food Science, Preparation and Safety
A study of the fundamental principles of food selection and preparation with emphasis on factors which affect the chemical composition, nutritive value, economy and palatability of the finished product.
Prerequisite: CHEM103/104 or consent of instructor
Lecture: 3 hours per week *3 credits, Fall*

DIET 303: Advanced Nutrition
This course includes an in-depth study of the science of human nutrition. Integrating chemistry, physiology, foods, and nutrition, it examines the digestion, absorption, metabolism, and excretion of the nutrients at the cellular and systemic levels and the application of scientific principles to nutritional needs in health and disease. The course also includes nutrition assessment, introduction to research in nutrition and dietetics, observations in selected clinical laboratories and specialized health care units, and evaluation of special nutritional/dietary products. Group research project begins in this course and is carried through four semesters.
Prerequisites: DIET 202 and CHEM 366 *4 credits, Fall*

DIET 390: Food, Language and Culture
This course is designed to enhance one's understanding and appreciation of the influence of cultural factors on food habits, the diverse meaning of foods, and the role of culturally based food habits on health and diet. Topics will include food and religion, and foods of various ethnic groups.
Prerequisite: NHP250 or consent of instructor
Lecture: 3 hours per week *3 credits, Spring*

NHP 250: Nutrition and Health
This course deals with the basic principles of human nutrition, including the nutrients, food sources and their utilization in the body for growth and health throughout life.
Prerequisite: CHEM103/104, BIOL108/109 or consent of instructor
Lecture: 3 hours per week *3 credits, Spring*

NHP 300: Nutrition in Life Cycle
This course deals with the changing nutritional needs of individuals throughout the lifespan. Physiological, societal and economic factors and the availability of nutrition services are considered in meeting the nutritional needs of men, women, and children from gestation through adulthood.
Prerequisite: NHP250 or consent of instructor
Lecture: 3 hours per week *3 credits, Fall*

NHP 350: Advanced Sport Nutrition
This course provides an in-depth study of the nutrients as they relate to sports and fitness and of health-related issues related to human performance. These issues include eating disorders, dietary supplements, and various dietary manipulations.
Prerequisite: NHP250 or consent of instructor
Lecture: 3 hours per week *3 credits, Spring*

NHP 400: Nutritional Assessment
This course emphasizes the systematic process of comprehensive assessment of the individual's nutritional status in health and disease. Anthropometric measurements, laboratory and clinical parameters, family, personal and medical histories, dietary intake, psychosocial factors, and many other factors are examined to draw conclusions for nutritional and other forms of intervention.
Prerequisite: NHP250 or consent of instructor
Lecture: 3 hours per week *3 credits, Fall*

NHP 410: Nutrition and Disease
This course studies the pathogenesis of diseases and their dietary or nutritional management. Diseases that are studied include; Cardiovascular diseases, diabetes, obesity and metabolic syndrome, selected gastrointestinal disorders, and renal disorders.
Prerequisite: NHP250 or consent of instructor
Lecture: 3 hours per week *3 credits, Spring*

MAJOR FIELDS OF STUDY

Physical Therapy 3+3 Track

The Sport and Exercise Science Department offers an early entry program in conjunction with the Physical Therapy Graduate Program here at Gannon. Under the provisions of this program, students will matriculate at Gannon University for a minimum of a hundred and two (102) semester hours leading toward the Bachelor of Science degree with a major in Sport and Exercise Science/Pre Physical Therapy track. A guaranteed position in our 3+3 Doctor of Physical Therapy Program will be reserved for freshmen if the following criteria are met:

- SAT total of 1100 or higher.

- Grade point average of 3.4 or higher on a 4.0 scale.
- Must maintain a grade point average of 3.4 or higher in Gannon undergraduate courses.
- Must maintain a grade point average of 3.4 or higher in the prerequisite courses (with no repeat courses).
- GPA will be reviewed at the end of each academic year.

For a detailed academic schedule of the Sport and Exercise Science/Pre-PT 3+3 option, please refer to the Physical Therapy section in this publication.

Nutrition and Human Performance

DAWNA T. MUGHAL, Ph. D., RD, LDN, FADA; SUZANNE KITTS, M.Ed., ATC: *Program Advisors*

Students who choose to pursue a Bachelor of Science degree with a major in Nutrition and Human Performance can expect to have significant hands on opportunities for both exercise testing and prescription as well as nutritional assessment and dietary programming. Suggested curriculum schedule is offered below.

FRESHMAN (30 credits)

	Fall		*Spring*
3	Foundations of Exercise Science/ SPRT 120	3	Sacred Scriptures/LTHE 121
3	College Composition/LENG 111	3	History of the West & World/ LHST 111
3	Speech/SPCH 111	3	Critical Analysis & Composition/ LENG 112
4	Chemistry of Life I Lab/CHEM 103/104	3	College Algebra/MATH 111
2	First-Year Seminar	3	Sport Nutrition/SPRT 130
15		15	

SOPHOMORE (32 credits)

	Fall		*Spring*
3	Fund of Food Science, Prep, & Safety/ DIET 203	3	Statistics/PSCY 211 or MATH 213
3	Introduction to Philosophy/LPHI 131	3	Philosophy II Series/LPHI
3	Sports Psychology/SPRT 240	3	Theology II Series/LTHE
4	Ess of Anat and Phys I w Lab/ BIOL 108/109	3	Nutrition and Health/NHP 250
3	Introduction to Psychology/PSYC 111	4	Ess of Anat and Phys II w Lab/ BIOL 110/111
16		16	

JUNIOR (33 credits)

	Fall		*Spring*
3	Research Methods/SPRT 310	3	Population Series/SPRT 324, 325, or 326
3	Philosophy/Theology III Series/ LPHI/LTHE	3	Food, Language and Culture/DIET 390
4	Kinesiology w Lab/SPRT 360/361	4	Exercise Physiology w Lab/ SPRT 390/391
3	Nutrition in the Lifecycle/NHP 300	3	Advanced Sport Nutrition/NHP 350
3	Sport in Society I/SPRT 318	3	Fine Arts/LFIN
1	Leadership Seminar		
17		16	

SENIOR (33 credits)

	Fall		*Spring*
4	Exercise Test & Prescription w Lab/ SPRT 400/401	3	Sport Ethics/SPRT 460
3	Motor Development/SPRT 414	3	Motor Learning and Performance/ SPRT 415
3	Nutritional Assessment/NHP 400	3	Sport & Exercise Science Practicum/ SPRT 430
3	Literature Series/LENG	3	Nutrition in Disease/NHP 410
3	Independent Study in Exercise Science/ SPRT 450	5	Approved Electives
16		17	

Sport and Exercise Science Curriculum

Students who choose to pursue a Bachelor of Science degree with a major in Sport and Exercise Science may follow one of a number of different tracks highlighted below.

Exercise Science Track

KORY STAUFFER, Ph. D., ATC, HFI; ABBEY BOWER, Ph.D.: *Program Advisors*

FRESHMAN (32 credits)

	Fall		*Spring*
3	Foundations of Exercise Science/ SPRT 120	3	History of the West & World/LHST 111
3	College Composition/LENG 111	3	Sacred Scriptures/LTHE 121
3	Speech/SPCH 111	3	Sport Nutrition/SPRT 130
3	Introduction to Philosophy/LPHI 131	3	Critical Analysis & Composition/ LENG 112
3	Introduction to Psychology/PSYC 111	3	Theology II Series/LTHE 223
2	First-Year Seminar		
17		15	

SOPHOMORE (32 credits)

	Fall		*Spring*
3	Sport Psychology/SPRT 240	4	Physics I w Lab/PHYS 105/106
4	Ess of Anat and Phys I w Lab/ BIOL 108/109	3	Statistics/PSYC 211 or MATH 213
4	Chemistry of Life I & Lab/ CHEM 103/104	4	Ess of Anat and Phys II w Lab/ BIOL 110/ 111
3	Precalculus/MATH 135	3	Philosophy II Series/LPHI 233
3	Sport in Society I/SPRT 318	1	Sports First Aid/SPRT 100
17		15	

JUNIOR (33 credits)

	Fall		*Spring*
3	Philosophy/Theology III Series/ LPHI/LTHE	3	Population Course/SPRT 324, 325 *or* 326
4	Kinesiology w Lab/SPRT 360/361	4	Exercise Physiology w Lab/ SPRT 390/391
3	Research Methods/SPRT 310	3	Motor Learning & Performance/ SPRT 415
3	Literature III Series/LENG	3	Biomechanics/SPRT 424
3	Motor Development/SPRT 414	3	Approved Electives
1	Leadership Seminar		
17		16	

SENIOR (31 credits)

	Fall		*Spring*
4	Exercise Test & Prescription w Lab/ SPRT 400/401	3	Human Motor Control/SPRT 416
3	Fine Arts Series/LFIN	3	Care and Prevention of Sports Injuries/SPRT 420
3	Approved Elective	3	Practicum in Exercise Science/ SPRT 430
3	Independent Study/SPRT 450	3	Clinical Exercise Physiology/SPRT 425
3	Advanced Strength Training/SPRT 470 *or* Advanced Health Assessment/SPRT 480	3	Sports Ethics/SPRT 460
16		15	

Physical Therapy Track

SUZANNE KITTS, M.Ed., ATC; TANIA FLINK, Ph.D.; CAROLYN GALLEHER, PT, M.H.S: *Program Advisors*

FRESHMAN (35 Credits)

	Fall		*Spring*
3	Introduction to Psychology/PSYC 111	3	Sacred Scriptures/LTHE 121
3	Foundations of Exercise Science/ SPRT 120	3	Sport Nutrition/SPRT 130
3	College Composition/LENG 111	3	Critical Analysis & Composition/ LENG 112
3	Precalculus/MATH 135	3	Introduction to Philosophy/LPHI 131
2	First-Year Seminar	3	History of the West & World/LHST 111
3	Speech/SPCH 111	3	Statistics/PSYC 211 or MATH 213
17		18	

SOPHOMORE (31 credits)

	Fall		*Spring*
4	Molecular & Cellular Biology w Lab/ BIOL 122/123	4	General Chemistry II w Lab/ BIOL 114/115
4	Physics I w Lab/PHYS 105/106	4	Animal Form and Function w Lab/ BIOL 124/125
4	General Chemistry I w Lab/ CHEM 111/112	4	Physics II w/Lab/PHYS 108/109
3	Theology II Series/LTHE	3	Philosophy II Series/LPHI
		1	PT Seminar 1/PT 110 (recommended)
15		16	

JUNIOR (33 credits)

	Fall		*Spring*
4	Kinesiology w Lab/SPRT 360/ 361	4	Human Physiology w Lab/ BIOL 368/369
4	Human Gross Anatomy w Lab/ BIOL 365/366	4	Exercise Physiology w Lab/ SPRT 390/391
3	Philosophy/Theology III Series/LTHE	3	Motor Learning & Performance/ SPRT 415
3	Research Methods/SPRT 310	3	Literature Series/LENG
1	Leadership Seminar	3	Psychopathology/PSYC 232
		1	PT Seminar 2/PT 210 (recommended)
15		18	

SENIOR (31 credits)

	Fall		*Spring*
4	Exercise Testing w Lab/SPRT 400/401	3	Care & Prevention of Sports Injuries/ SPRT 420
3	Motor Development/SPRT 414	3	Biomechanics/SPRT 424
3	Independent Study in Exer Science/ SPRT 450	3	Sport & Exercise Science Practicum/ SPRT 430
3	Sports Ethics/SPRT 460	3	Human Motor Control/SPRT 416
3	Fine Arts/LFIN	3	Clinical Exercise Physiology/ SPRT 425
16		15	

Pre-Medical Track

JASON P. WILLOW, Ph. D; SARAH EWING, Ph.D.: *Program Advisors*

FRESHMAN (33 credits)

	Fall		*Spring*
4	Molecular & Cellular Biology w Lab/ BIOL 122/123	4	Animal Form and Function w Lab/ BIOL 124/125
4	General Chemistry I w Lab/ CHEM 111/112	4	General Chemistry II w Lab/ CHEM 114/115
3	College Composition/LENG 111	3	Sacred Scriptures/LTHE 121
2	First-Year Seminar	3	Critical Analysis & Composition/ LENG 112
3	Speech/SPCH 111	3	Trigonometry/MATH 112
16		17	

SOPHOMORE (35 credits)

	Fall		*Spring*
3	Introduction to Philosophy/LPHI 131	3	Introduction to Psychology/PSYC 111
3	History of the West & World/LHST 111	4	Human Physiology w Lab/ BIOL 368/369
3	Theology II Series/LTHE	4	Organic Chemistry II w Lab/ CHEM 224/225
4	Organic Chemistry w Lab/ CHEM 221/222	4	Physics II w Lab/PHYS 108/109
4	Physics I w Lab/PHYS 105/106	3	College Calculus/MATH 140
17		18	

JUNIOR (31 credits)

	Fall		*Spring*
4	Structural Biochemistry w Lab/ CHEM 366/367	3	Psychological Statistics/PSYC 211
3	Genetics/BIOL 345	4	Comparative Vert Anatomy w Lab/ BIOL 292/293
3	Philosophy/Theology III Series/LTHE		*Or*
4	Kinesiology w Lab/SPRT 360/361	4	Human Gross Anatomy w Lab/ BIOL 365/366
1	Leadership Seminar	4	Exercise Physiology w Lab/ SPRT 390/391
		3	Philosophy II Series/LPHI
15		14	

SENIOR (31 credits)

	Fall		*Spring*
3	Research Methods/SPRT 310	3	Independent Study in Exer Science/ SPRT 450
4	Exercise Testing w Lab/SPRT 400/401	3	Literature Series/LENG
3	Motor Development/SPRT 414	3	Clinical Exercise Physiology/SPRT 425
3	Fine Arts/LFIN	3	Motor Learning & Performance/ SPRT 415
3	Sport & Exercise Science Practicum/ SPRT 430	3	Sport Ethics/SPRT 460
16		15	

AFFILIATED PROGRAMS

Sports Management and Marketing

The Sport and Exercise Science Department, in conjunction with the Dahlkemper School of Business, is offering a Bachelor of Science degree with a major in Sports Management and Marketing. This program is presented in detail in the Dahlkemper School of Business section of this publication.

Minors in Sport and Exercise Science

Department Chair: JASON P. WILLOW, Ph. D.

Athletic Coaching Minor

KORY STAUFFER, Ph. D., ATC, HFI: *Minor Advisor*

Program Description: A minor in Athletic Coaching provides students with the didactic and practical experiences to enable them to coach athletics at the elementary, high school, and collegiate levels. The minor requires completion of 19 credits.

SPRT 100:	Sports First Aid (can be waived)	(1)
SPRT 402:	Psychomotor Principles in Athletic Coaching	(3)
SPRT 403:	Physiological and Nutritional Principles in Athletic Coaching	(3)
SPRT 404:	Movement Analysis and Biomechanics in Athletic Coaching	(3)
SPRT 460:	Sport Ethics	(3)
SPRT 432:	Internship in Athletic Coaching	(6)

Exercise Science Minor

KORY STAUFFER, Ph.D., ATC, HFI: *Minor Advisor*

Program Description: The minor consists of 20 credits of upper level Sport and Exercise Science culminating in an independent study at the end of all coursework. The independent study will be coordinated with the student's academic major in an effort to merge their major program of study with the focus of the Exercise Science minor curriculum. All prerequisites are in effect.

SPRT 360	Kinesiology	(3)
SPRT 361	Kinesiology Lab	(1)
SPRT 390	Exercise Physiology	(3)
SPRT 391	Exercise Physiology Lab	(1)
SPRT 414	Motor Development	(3)
SPRT 415	Motor Learning and Performance	(3)
SPRT 420	Care and Prevention of Sports Injuries	(3)
SPRT 450	Independent Study	(3)

Sport Behavior Minor

SUZANNE KITTS, M. Ed., ATC: *Minor Advisor*

Program Description: The minor consists of 20 credits of behavioral focused Sport and Exercise Science courses culminating in an Independent Study at the end of all coursework. The independent study will be coordinated with the student's academic major in an effort to merge their major program of study with the focus of the Sport Behavior minor curriculum. All prerequisites are in effect.

Take One	SPRT 160	Aerobic Training	(2)
	SPRT 161	Strength Training	(2)
	SPRT 162	General Fitness and Weight Control	(2)
SPRT 240	Sport Psychology		(3)
SPRT 250	Exercise Psychology		(3)
Take One	SPRT 318	Sports in Society I	(3)
	SPRT 319	Sports in Society II	(3)
Take One	SPRT 324	Physical Activity and Children	(3)
	SPRT 325	Physical Activity and Aging	(3)
	SPRT 326	Physical Activity and Women	(3)
SPRT 450	Independent Study		(3)
SPRT 460	Sport Ethics		(3)

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Judy McGuire
Trumbull Memorial Hospital
Warren, Ohio
Rockland Milne
WCA Hospital
Jamestown, New York
Alan Mortellaro
IHS of Erie at Bayside
Erie, Pennsylvania
Denise Mott
St. Vincent Health Center
Erie, Pennsylvania
Janice Mowery
Hamot Medical Center
Erie, Pennsylvania
Michael Ocilka
Ashtabula County Medical Center
Ashtabula, Ohio
Dean Pahr, DO
Ashtabula County Medical Center
Ashtabula, Ohio
Vito Palumbo, DO
Family Care Physicians
Williamsville, New York
Marge Peterson, M.N, MBA
Hamot Medical Center
Erie, PA
K. Possai, MD
New Castle, Pennsylvania
George Poutous, MD
Monroeville, Pennsylvania

Cindy Priester
Gertrude Barber Center
Erie, Pennsylvania
Elaine Puzar
Gertrude Barber Center
Erie, Pennsylvania
Terri Rankin
The Medical Center % Hopewell Clinic
Aliquippa, Pennsylvania
Maureen Riggle
Sharon Regional Health System
Hermitage, Pennsylvania
Brian Roach
Select Speciality of Erie
Erie, Pennsylvania
Kathy Rudd
Hamot Medical Center
Erie, Pennsylvania
Anthony Ruffa, DO
Lakeshore Family Practice
Erie, Pennsylvania
Anne Saturnino
NW IU #5
Edinboro, Pennsylvania
Peter Schmidt
Pediatrics Place/CM HealthCare Resources
Deerfield, Illinois
John Scullin, MD
Greenville Orthopedic Center
Greenville, Pennsylvania
Thomas Skelly, CRNP
Northshore Clinical Association
Erie, Pennsylvania
David Snyder, MD
New Brighton, Pennsylvania
William Sonnenberg, MD
Titusville Area Hospital
Titusville, PA
Lori Spencer
Springs Manor Care Center
Cambridge Springs, Pennsylvania
Linda Spronatti
Hamot Medical Center
Erie, Pennsylvania
Stan Spurgeon, MD
Buffalo General Hospital
Buffalo, New York
Sean Su, MD
Hamot Institute for Behavioral Health
Diagnostic and Evaluation Center
Erie, PA
Pam Talley
Meadville, Pennsylvania
Fred Taylor, MD
Family Medicine of Warren
Warren, Pennsylvania
Joe Thompson
Hamot Medical Center
Erie, Pennsylvania
Lisa Treusch
Elk Valley Medical Center
Girard, Pennsylvania
Susan Van Doornik
Shadyside Hospital
Pittsburgh, Pennsylvania
Julie Weiland
Warren General Hospital
Warren, Pennsylvania
Colleen White
UPMC Health Systems (CORE)
Pittsburgh, Pennsylvania
Jeanne Wiebenga, MD
Jamestown, New York
Natalie Woznicki
VA Medical Center
Erie, Pennsylvania

PAST PRESIDENTS, GANNON UNIVERSITY

Rev. Msgr. Joseph Wehrle, 1933-1956
Rev. Msgr. Wilfrid J. Nash, 1956-1977
Joseph P. Scottino, Ph.D., 1977-1987
M. Daniel Henry, Ph.D., 1987-1991
Rev. Msgr. David A. Rubino, Ph.D., 1991-2000
Thomas S. Ostrowski, Ph.D., (Acting President) 2000-2001
Antoine M. Garibaldi, Ph.D., 2001-2010

SUBJECT CODES

ACCT	Accounting
ADVC	Advertising Comm
ARCH	Archaeology & Cultural Studies
BCOR	Business Core
BINF	Bioinformatics
BIOL	Biology
BME	Biomedical Engineering
CHE	Health Science
CHEM	Chemistry
CHIN	Chinese
CIS	Computer & Info Sci
COMM	Communication Arts
CRBH	Criminal Justice Behavioral Specialist
CRFO	Criminal Justice Forensic Investigation
CRJS	Criminal Justice
DIET	Dietetics
ECE	Elect Engineering
ECED	Early Childhood Education
ECON	Economics
EDCR	Education Core
EDFL	Field Education
EDUC	Education Electives
ELED	Elementary Education
ENG	Engineering
ENGL	English
ENV	Environmental Science
FINA	Fine Arts
FINC	Finance
FREN	French
FRSH	Freshmen Studies
GEOG	Geography
GERO	Gerontology
GREK	Greek
GRMN	German
HEBR	Hebrew
HIST	History
HNRS	Honors
IBUS	International Busn
INTS	International Study
LATN	Latin
LBST	Liberal Studies
LEAD	Leadership
LEGL	Legal Studies
LENG	LS English
LFIN	LS Fine Arts
LHST	Liberal Studies
LIBR	Library
LPHI	LS Philosophy
LTHE	LS Theology
MATH	Mathematics
MDTC	Medical Technology
ME	Mech Engineering
MGMT	Management
MKTG	Marketing
MLTD	Multidisciplinary
MLTS	Military Science
MORT	Mortuary Science
MUSC	Music
NHP	Nutrition & Human Performance
NURS	Nursing
OCCT	Occupational Therapy
PHAS	Physician Assistant
PHIL	Philosophy
PHYS	Physics
PLAW	Pre-Law
POLI	Political Science
PSLD	Program/Students with Learning Disabilities
PSYC	Psychology
RADS	Radiologic Sciences
RISK	Risk Management
RSPC	Respiratory Care
SCWK	Social Work
SEECS	Engineering & Computer Science
SMGT	Sport Management & Marketing
SOCI	Sociology
SPAN	Spanish
SPCH	Speech
SPED	Special Education
SPRT	Sport & Exercise Science
THEA	Theatre
THEO	Theology
WMST	Women's Studies

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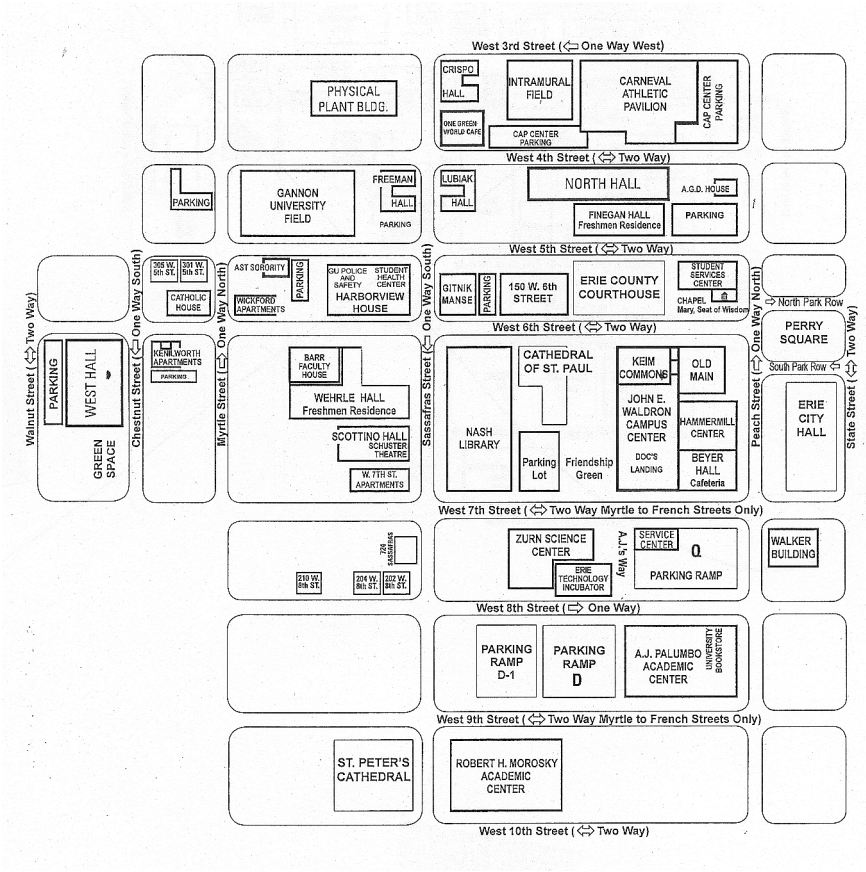
West 3rd Street (⇦ One Way West)
PHYSICAL PLANT BLDG.
CRISPO HALL
ONE GREEN WORLD CAFE
INTRAMURAL FIELD
CAP CENTER PARKING
CARNEVAL ATHLETIC PAVILION
CAP CENTER PARKING
West 4th Street (⇔ Two Way)
PARKING
GANNON UNIVERSITY FIELD
FREEMAN HALL
PARKING
LUBIAK HALL
NORTH HALL
A.G.D. HOUSE
FINEGAN HALL Freshmen Residence
PARKING
West 5th Street (⇔ Two Way)
Walnut Street (⇔ Two Way)
PARKING
WEST HALL
GREEN SPACE
Chestnut Street (⇦ One Way South)
308 W. 5th ST.
301 W. 6th ST.
CATHOLIC HOUSE
KENILWORTH APARTMENTS
PARKING
Myrtle Street (⇨ One Way North)
AST SORORITY
PARKING
WICKFORD APARTMENTS
GU POLICE AND SAFETY
STUDENT HEALTH CENTER
HARBORVIEW HOUSE
BARR FACULTY HOUSE
WEHRLE HALL Freshmen Residence
SCOTTINO HALL SCHUSTER THEATRE
W. 7TH ST. APARTMENTS
Sassafras Street (⇦ One Way South)
GITNIK MANSE
PARKING
150 W. 6th STREET
ERIE COUNTY COURTHOUSE
STUDENT SERVICES CENTER
CHAPEL Mary, Seat of Wisdom
North Park Row
PERRY SQUARE
South Park Row
West 6th Street (⇔ Two Way)
NASH LIBRARY
CATHEDRAL OF ST. PAUL
Parking Lot
Friendship Green
KEIM COMMONS
OLD MAIN
JOHN E. WALDRON CAMPUS CENTER
DOC'S LANDING
HAMMERMILL CENTER
BEYER HALL Cafeteria
Peach Street (⇨ One Way North)
ERIE CITY HALL
State Street (⇔ Two Way)
West 7th Street (⇔ Two Way Myrtle to French Streets Only)
724 SASSAFRAS
210 W. 8th ST.
204 W. 8th ST.
202 W. 8th ST.
ZURN SCIENCE CENTER
ERIE TECHNOLOGY INCUBATOR
A.J.'s Way
SERVICE CENTER
PARKING RAMP
WALKER BUILDING
West 8th Street (⇨ One Way)
PARKING RAMP D-1
PARKING RAMP D
A.J. PALUMBO ACADEMIC CENTER
UNIVERSITY BOOKSTORE
West 9th Street (⇔ Two Way Myrtle to French Streets Only)
ST. PETER'S CATHEDRAL
ROBERT H. MOROSKY ACADEMIC CENTER
West 10th Street (⇔ Two Way)

NOTES