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# Maxwell Becton College of Arts and Sciences

## Majors

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### Allied Health Technologies (B.S.A.H.T.)

Concentration: radiologic technology

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### Biochemistry (B.S.)

Concentration: prepharmacy

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### Biology (B.S.)

Concentrations: anatomy and physiology, cell and molecular biology, ecology and environmental biology, prepharmacy

Minor: biology

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### Chemistry (B.S.)

Minor: chemistry

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### Clinical Laboratory Sciences (B.S.C.L.S.)

Concentration: medical laboratory science (medical technology)

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### Communication Studies (B.A.)

Concentrations: human communication, multimedia journalism, public relations

Minors: advertising, broadcasting, communication, journalism, political communication, public relations

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### Computer Science (B.S.)

Concentrations: cybersecurity, data mining, game development

Minor: computer science

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### Creative Writing (B.A.)

Minor: creative writing

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### Criminology (B.A.)

Minor: criminology

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### English Language and Literature (B.A.)

Concentrations: English and American literature, world literature

Minor: English language and literature

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### Film and Animation (B.A.)

Concentrations: 2D animation, 3D animation, cinematography, directing, editing, film production, video game animation

Minors: animation, cinema studies, film production, screenwriting/dramatic writing, 3D video game animation

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### Fine Arts (B.A.)

Concentration: studio arts

Minors: art history, studio arts

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### Government and Law (B.A.)

Concentrations: global politics, legal studies

Minor: government and law

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### Graphic Design (B.A.)

Concentrations: illustration, print design, web design

Minors: graphic design, web design

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### History (B.A.)

Concentrations: elementary education, elementary education and special education, secondary education

Minor: history

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### Humanities (B.A.)

Minor: humanities

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### Mathematics (B.A.)

Concentrations: actuarial science, computer science, financial mathematics

Minors: mathematical statistics, mathematics, mathematics for cybersecurity, mathematics for the business world

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### Medical Imaging Sciences (B.S.M.I.S.)

Concentrations: diagnostic medical sonography, vascular technology

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### Philosophy (B.A.)

Minor: philosophy

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### Psychology (B.A.)

Concentration: behavioral neuroscience

Minor: psychology

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### Sociology (B.A.)

Minors: anthropology, sociology

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### Theater Arts (B.A.)

Concentrations: acting, design and technical theater, directing, musical theater, playwriting, theater studies

Minors: dance studies, music, musical theater, theater arts

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### Discipline Minors

French language, geography, German language, Italian language, physics, Spanish language

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### Interdisciplinary Minors

Advertising, African-American studies, British studies, children's studies, dramatic literature and performance, economics, entertainment and business management, forensics, gender studies, globalization and society, government and law, Italian studies, Japanese studies, Latin-American studies, personalized, prelaw, screenwriting/dramatic writing

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### Teacher Certification

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# General Curricular • College Core Curriculum

Maxwell Becton College of Arts and Sciences  
Florham Campus

## Florham Campus, Madison, New Jersey Geoffrey S. Weinman, Dean

The mission of the Maxwell Becton College of Arts and Sciences is to develop the intellectual, creative and career potential of our diverse student body by offering a demanding curriculum in a caring and supportive environment. The College is committed to being a superior teaching institution.

Through its curriculum, Becton College aims to develop in students the skills, intellectual orientation and knowledge to achieve their educational, professional and personal goals.

The flexibility of the Becton College General Education curriculum allows each student to develop an individualized program that combines major and minor fields with clusters of related electives. The curricular distribution requirement assures an understanding of the methods used by disciplines in the humanities, social and behavioral sciences, creative arts and laboratory sciences. Students may select courses suited to their level of preparation and, when applicable, apply them to majors, major corequisites, minors or elective clusters. Because the opportunities are so varied, students should work closely with their advisers as they plan their choices.

Total University Core/Becton College general education requirements range between 46 to 48 credits, depending upon the student's program and assuming no waivers. The minimum number assumes that students will select courses that fulfill dual requirements. The maximum assumes that the student will not select any courses that satisfy more than one requirement.

The curriculum culminates in the student's academic major, which is designed to give deeper and more specialized knowledge and abilities in a specific discipline. The major calls for advanced application of the fundamental skills, intellectual orientation and multidisciplinary perspectives acquired in the College general education requirements program.

Many of the majors listed on pages 51–52 also offer special areas of concentration, described in the appropriate section by major. Several accelerated programs are offered as well. They are: Bachelor of Arts in communication studies/Master of Arts in communication (page 214), Bachelor of Arts in psychology/Master of Arts in industrial/organiza-

tional psychology (page 223), Bachelor of Arts/Master of Public Administration (page 207), Bachelor of Arts or Science/Master of Arts in Teaching (page 208), Bachelor of Science in biology, chemistry or biochemistry/Doctor of Pharmacy (pages 244, 257, 266), Bachelor of Science in biochemistry, biology or chemistry/Doctor of Osteopathic Medicine (page 255), Bachelor of Science in biology/Doctor of Dental Medicine (page 251), Bachelor of Science in biology/Doctor of Chiropractic (page 249) Bachelor of Science in biology/Doctor of Podiatric Medicine (page 263), Bachelor of Science in biology/Doctor of Veterinary Medicine (page 264) and Bachelor of Science in biology/Medical Doctor (pages 253–255).

**Seven- and Eight-year Combined Degree Programs:** Students with a strong SAT score and high school grade point average (GPA), with an interest in attending a health professional school, may be eligible to participate in one of the University's combined degree programs. Qualified students initially receive a conditional acceptance into one of the programs and then apply for final acceptance to move on to the professional school in the third year at FDU, once certain GPA, standardized test and course requirements are met. Typically, students in the combined degree programs complete three years at FDU in an accelerated biology or chemistry major, depending on the advanced-degree requirement, and then begin their studies at the partner institution in the fourth year. The first year of professional school counts towards the FDU degree. Consult with a prehealth adviser for a list of current combined degree programs. Past programs have included a combined B.S./D.M.D. with Rutgers School of Dental Medicine, combined degree programs with Ross University Schools of Medicine and Veterinary Medicine, New York College of Podiatric Medicine and various chiropractic colleges including Logan College of Chiropractic.

**Preprofessional Studies in the Health Sciences at FDU:** Students preparing for careers in medicine, dentistry or veterinary medicine can major in any area, but should complete certain courses required for entry into professional school in the health sciences. A list of required courses can be obtained from the Advising Center. The required courses include taking biology and chemistry with

lab in the freshman year. Students should attend an information session held once a semester by the preprofessional adviser on other ways to prepare for professional school including volunteering, summer programs and standardized-test preparation.

In the junior year, students have the option of preparing a portfolio for the Health Preprofessional Committee, consisting of faculty from biology, chemistry and psychology. The committee evaluates the student's academic performance and overall preparedness for professional school, and then composes a letter of recommendation on the student's behalf. The contents of the letter remain confidential, and the student has the option of having the letter sent or not sent on to the professional school to be included in the application. Most students applying for professional school during their time at FDU apply nine to 12 months before graduation, depending on school deadlines.

Students with questions on applying to professional schools in the health sciences can contact Dr. James Salierno at [salierno@fdu.edu](mailto:salierno@fdu.edu) or (973) 443-8776. Qualified students have the opportunity to join the University Honors Program, see page 50.

## General Curricular Requirements

Candidates for the degrees of Bachelor of Arts or Bachelor of Science must complete a minimum of 120 credits of course work, including completion of the College's general education requirements, which requires from 46 to 48 credits, depending on exemptions, distributed as outlined on the next page. Programs leading to the Bachelor of Arts degree require from 30 to 45 credits in an area of concentration. The programs for the Bachelor of Science degree require a greater number of credits. Minors usually consist of 15 credits and are available in most disciplines in the College. The College also offers interdisciplinary minors. In addition to completing the requirements for the College general education requirements and for their majors, students shall complete such additional credits in free electives to meet the minimum requirement of 120 credits.

## College General Education Requirements

Below is the core curriculum (general education requirements) for those stu-

# College Core Curriculum

Maxwell Becton College of Arts and Sciences  
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dents entering Becton College in the fall semester of 2017 and thereafter.

A comprehensive General Education requirement is indispensable to a liberal arts experience.

## **College Writing (6 credits)**

The basic writing skills for all Becton College students are ENGW1001 Composition I: Rhetoric and Inquiry and ENGW1002 Composition II: Research and Argument. ENGW1001 is a prerequisite for ENGW1002. The second course should be completed within the student's first 64 credits.

Based on placement scores, some students may be required to complete ENGW1000 Introduction to Composition to achieve the prerequisite skills needed for enrolling in ENGW1001 Composition I: Rhetoric and Inquiry.

## **Quantitative Analysis (6–7 credits)**

Students must complete 6 to 7 credits of quantitative analysis with one course from the following: MATH1107 Precalculus, MATH1126 Contemporary Mathematics or MATH1128 Mathematical Methods, along with an additional course selected in consultation with an academic adviser in the student's major.

Students majoring in biology, chemistry, computer science or mathematics should register for either MATH1107 Precalculus or MATH1203 Calculus I, as determined by placement examination scores.

Those with placement scores below the standards for the above four courses (MATH1107, MATH1126, MATH1128, MATH1203) must complete courses in prerequisite skills. Students who achieve a satisfactory score on the SAT or placement test may waive 3 credits of the Quantitative Analysis requirement.

## **Public Speaking (3 credits)**

This requirement may be fulfilled through successful completion of COMM2099 Professional Communications or SPCH1107 Fundamentals of Speech.

## **Ethical and Moral Analysis (3 credits)**

Specific courses in ethics meet this requirement.

## **Modern Language (3–4 credits)**

All Becton students must demonstrate proficiency in a foreign language at the 2000 level either by completing that course in their selected language or by demonstrating proficiency at that level on

a placement test. The department of literature, language, writing and philosophy currently offers instruction at the introductory 1002 level for Arabic, Spanish, French, Italian, German, Chinese and Japanese.

## **Humanities (6 credits)**

Courses in disciplines such as art history, cinema, history, literature, music-humanities, philosophy and theater-humanities meet this requirement. One course must be at the 2000-level or above.

## **Social and Behavioral Sciences (6 credits)**

Courses in disciplines such as African-American studies, anthropology, criminology, communication studies, economics, geography, government and law, psychology and sociology meet this requirement. One course must be at the 2000-level or above.

## **Natural Sciences (7 credits)**

Courses from multiple disciplines including biology, chemistry, computer science and physics meet this requirement.

## **Creative and Expressive Arts (3 credits)**

Students select from courses in animation, art, dance, graphic design, film, music and theater to meet this requirement.

## **Global and Comparative Studies (3 credits)**

Students select from a wide range of courses drawn from such disciplines as anthropology, art history, criminology, film, geography, history, literature, languages and theater.

## **University Requirements (8 credits)**

	Credits
UNIV1001	
Transitioning to University Life.....	1
UNIV1002	
Preparing for Professional Life.....	1
UNIV2001	
Cross-cultural Perspectives.....	3
UNIV2002	
Global Issues.....	3

## **The Major**

Each student must select a major, consisting of group-related courses in an area of specialization, before entering the fifth or sixth semester. The courses in a major must total at least 30 credits including

introductory-level courses, but may not total more than 45 in a single discipline for programs leading to the Bachelor of Arts degree. A greater degree of specialization is allowed in programs leading to the Bachelor of Science degree. Details and explanations of the various major programs are set out in the following pages. A 2.33 cumulative grade point ratio in the major and, if applicable, in the second major is required in the Maxwell Becton College of Arts and Sciences in order to graduate.

## **Electives**

Students may wish to take introductory courses in their major field of interest before the fifth or sixth semester. Other electives may be chosen from courses offered in any of the undergraduate colleges if prerequisites can be met. Qualified students may request permission to elect graduate courses in their seventh and eighth semesters.

## **ROTC (Reserve Officers' Training Corps)**

The College of Arts and Sciences will accept 17 credits in military science as electives counting toward the 120-credit minimum required for the bachelor's degree.

## **Becton College Learning Communities**

The Maxwell Becton College of Arts and Sciences offers several opportunities for incoming students to participate in designated Learning Communities (LC) as part of their first-year experience. LCs make use of a cohort system whereby students will take introductory classes in the major (and, in some cases, General Education courses) with other incoming students who either share the major or the area of interest. Students are also placed into an LC-specific section of UNIV1001 Transitioning to University Life. UNIV1001 is the first course in the University Core program, which provides support for the transition to University life.

In addition to completing course work with a group of like-minded students, LCs also engage in activities as a group outside of the classroom. These activities may include field trips or visits from invited guests with expertise in their respective fields, hands-on and project-based research with faculty, as well as engaging with the local community through service projects and events.

# Honors Programs • Double Majors and Minors

Maxwell Becton College of Arts and Sciences  
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Overall, Learning Communities offer a unique opportunity to work — both inside and outside the classroom — with both full-time faculty and fellow students in their major during their first year of study at the Florham Campus. Interested students will have the opportunity to join a Learning Community (topics and disciplines of the Learning Communities rotate from year to year) when preparing their first-year schedule.

## **Independent Study**

Juniors and seniors may take from 1 to 3 credits each semester in individual intensive study under the direction of a specific faculty member, according to the criteria set forth for such independent study by the department concerned. Consent of the instructor, department chairperson and dean is required.

Students may count no more than 12 credits of independent study toward the completion of the minimum requirements of their majors or the minimum requirements for their degrees. Students may elect independent study in any of the discipline offerings of the College.

## **Honors Programs**

### **Discipline-oriented Becton Honors Program**

The honors program at FDU's Maxwell Becton College of Arts and Sciences is the right choice for the student whose goal is excellence. The enhanced honors curriculum provides in-depth study for those striving for proficiency in their major fields of study. In FDU's tradition of excellence, students develop a strong foundation of skills that will benefit them in many future endeavors.

A student may select the Becton Honors Program in most of the College's majors, including:

- Biology
- Chemistry
- Computer Science
- Creative Writing
- English Language and Literature
- Film and Animation
- Fine Arts
- Government and Law
- History
- Mathematics
- Psychology
- Sociology

Students in the Becton College Honors Program enjoy a supportive and challenging academic atmosphere. The demanding and rigorous curriculum is complemented by extensive personalized attention that helps tailor students' studies to their needs. Students work closely with faculty members in honors seminars, in classes and on a special honors project.

Students in the honors program:

- Engage in self-directed scholarly inquiry and research;
- Acquire sophisticated knowledge of and skills in their chosen field;
- Prepare for high levels of achievement in advanced study and professional life;
- Learn to explore new ideas and take intellectual risks;
- Develop an enhanced awareness of their discipline's standards and ethics;
- Cultivate habits of independent thought and creativity; and
- Strive for objectivity in scholarly discourse and analysis.

Honors students also are encouraged to take advantage of a unique cultural, academic and social experience by spending a semester at the University's Wroxton College in England. Housed in a 17th-century Jacobean mansion, Wroxton offers a diverse range of studies, a highly qualified, all-British faculty and the enlightenment of studying abroad. While there, students can venture on exciting cultural and recreational excursions to places such as Oxford, Stratford-upon-Avon, London and mainland Europe.

### **Other Honors Programs**

Students interested in a more broadly based honors experience rather than honors in a major can choose the University Honors Program. It has an interdisciplinary focus building on honors courses in the University Core and has a separate application process. (See page 50.)

The living-learning communities for residential freshman students focus on developing students' interest and knowledge in special studies areas.

### **Double Majors and Minors**

The College of Arts and Sciences offers students the opportunity to increase the flexibility and marketability of their undergraduate curriculum by combining their majors with other disciplines to form double majors and minors. In addition to the

traditional single-major program, the College offers opportunities for:

- double majors, see this page
- discipline minors, see this page
- interdisciplinary minors, see page 58 and
- personalized minors, see page 63.

As recent literature on developments in the workplace suggest, students who have a "portfolio of marketable skills" will be more employable in the future. Combining, for example, a major in government and law with a second major in psychology or with minors in computer science or philosophy positions a student well for employment in fields that require analytical or technical skills and knowledge of human motivation and social structure. Combining a major in the School of the Arts with a minor in communication could position a student for a career in arts management.

The College faculty suggests that students, in consultation with their advisers, give careful thought to strategic combinations of courses and disciplines.

### **Double Majors**

Double majors involve meeting the requirements of two different disciplines. This is often possible if most free-elective credits are used for the second major. Courses used to satisfy the College core requirements may in some cases satisfy second major requirements. Completing a double major is accomplished more easily in the humanities and the social and behavioral sciences in which major credits usually number between 30 and 42.

### **Discipline Minors**

Discipline minors exist in most disciplines and in most departments. Discipline minors usually consist of 15 credits in a specific discipline. Becton College offers minors in the following disciplines: animation, anthropology, art history, biology, chemistry, communication, computer science, creative writing, economics, film, French, geography, German, government and law, graphic design, history, Italian, mathematics, music, philosophy, physics, psychology, sociology, Spanish and theater arts. The description of each minor is usually provided in the section of the major or a concentration. Consult the Index for specific page numbers.

# Double Majors and Minors

Maxwell Becton College of Arts and Sciences  
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## French Language Minor

The 15-credit French language minor is comprised of the sequence of language courses indicated below. This ensures that the student who has completed this minor will be reasonably fluent in the language and capable of reading and appreciating written and oral communication in French while also having a fair grasp of French literature and culture.

Students who are assessed as sufficiently advanced in the language so as to opt out of one or more of the required language courses may choose from the array of French (FREN) courses, with work done in the target language. The student who takes all four language courses is left with one additional course needed to complete the minor; this course can also be selected from the available FREN courses that are offered regularly, with work done in the target language. At most, one course may be taken in English.

### Required Courses (12 credits)

	Credits
FREN1001	
Beginning French I.....	3
and	
FREN1007	
French Practicum I*.....	1
FREN1002	
Beginning French II.....	3
and	
FREN1008	
French Practicum II*.....	1
FREN2003	
French Conversation I.....	3
FREN2004	
French Conversation II.....	3

### Elective Course (3 credits)

Choose one from the following:

FREN2005	
French Film.....	3
FREN2008	
Writing in French.....	3
FREN2203	
Contemporary France.....	3
FREN3010	
Advanced French Grammar.....	3
FREN3051	
Sex and Politics in French Literature.....	3
FREN3551	
Topics in French Literature I.....	3
FREN3552	
Topics in French Literature II.....	3

\*Practica, although required for language classes, do not count toward the minor.

## Geography Minor

The geography minor is designed to offer Becton College students 15 credits of relevant geography classes from 1000-, 2000- and 3000-level course offerings.

### Required Course (3 credits)

	Credits
GEOG1102	
Geography and World Issues.....	3

### Electives\* (12 credits)

Choose four from the following:

GEOG1111	
Economic Geography.....	3
GEOG2500	
Global Development: Geographies of Wealth and Poverty.....	3
GEOG2600	
Urban Geography.....	3
GEOG3030	
Surveillance and Security.....	3
GEOG3040	
Capture and Control: Geographies of Detention and Incarceration.....	3

## German Language Minor

Students must complete 15 credits in German courses. Select courses may be taken at partner institutions to complete the minor. Please contact the department of literature, language, writing and philosophy for details and approval.

## Italian Language Minor

The 15-credit Italian language minor is comprised of the sequence of language courses indicated below. This ensures that the student who has completed this minor will be reasonably fluent in the language and capable of reading and appreciating written and oral communication in Italian while also having a fair grasp of Italian literature and culture.

Students who are assessed as sufficiently advanced in the language so as to opt out of one or more of the required language courses may choose from the array of Italian courses, with work done in the target language. The student who takes all four language courses is left with one additional course needed to complete the minor; this course can also be selected from the available Italian courses that are

\*Additional courses will be added to this list as more course offerings become available.

offered regularly, with work done in the target language. At most, one course may be taken in English.

### Required Courses (12 credits)

	Credits
ITAL1001	
Beginning Italian I.....	3
and	
ITAL1007	
Italian Practicum I*.....	1
ITAL1002	
Beginning Italian II.....	3
and	
ITAL1008	
Italian Practicum II*.....	1
ITAL2003	
Italian Conversation I.....	3
ITAL2004	
Italian Conversation II.....	3

### Elective (3 credits)

Choose one from the following:

ITAL2005	
Italian Cinema.....	3
ITAL3053	
Creating a Nation.....	3
ITAL3055	
The Italian-American Experience.....	3
ITAL3056	
Italy: Land of Migrations.....	3

## Physics Minor

The 18- to 20-credit physics minor is designed for students who enjoy physics and are interested in gaining a broader exposure to physics concepts, experimental techniques and computational paradigms, while at the same time gaining transferable skills and ways of thinking applicable to jobs within their primary field of interest.

### Required Courses (12 credits)

PHYS2003, PHYS2013, PHYS2023	
General Physics with Calculus I.....	4
PHYS2004, PHYS2014, PHYS2024	
General Physics with Calculus II.....	4
PHYS3206, PHYS3216	
Modern Physics (Lecture and Laboratory).....	4

### Electives (6-8 credits)

Select from the following:

PHYS2800	
Sophomore Independent Study.....	1-6
PHYS3210	
Advanced Mechanics.....	3

\*Practica, although required for language classes, do not count toward the minor.

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	Credits
PHYS3220	
Mathematical Methods for	
Physics.....	3
PHYS3240, PHYS3241	
Optics (Lecture and Laboratory).....	4
PHYS3250	
Thermodynamics.....	3
PHYS3277	
Solid State Physics.....	3
PHYS3530	
Electricity and Magnetism I.....	3
PHYS3800	
Junior Independent Study.....	1-6
PHYS4250	
Quantum Mechanics I.....	3
PHYS4401	
Physics Seminar.....	2
PHYS4430	
Selected Studies in Physics.....	1-3
PHYS4800	
Senior Independent Study	
in Physics.....	1-6

## Spanish Language Minor

The 15-credit Spanish language minor is comprised of the sequence of language courses indicated below. This ensures that the student who has completed this minor will be reasonably fluent in the language and capable of reading and appreciating written and oral communication in Spanish while also having a fair grasp of Spanish literature and culture.

Students who are assessed as sufficiently advanced in the language so as to opt out of one or more of the required language courses may choose from the array of Spanish courses, with work done in the target language. The student who takes all four language courses is left with one additional course needed to complete the minor; this course can also be selected from the available Spanish courses that are offered regularly, with work done in the target language. At most, one course may be taken in English.

### Required Courses (12 credits)

SPAN1001	
Beginning Spanish I.....	3
and	
SPAN1007	
Spanish Practicum I*.....	1

\*Practica, although required for language classes, do not count toward the minor.

	Credits
SPAN1002	
Beginning Spanish II.....	3
and	
SPAN1008	
Spanish Practicum II*.....	1
SPAN2003	
Spanish Conversation I.....	3
SPAN2004	
Spanish Conversation II.....	3
<b>Elective (3 credits)</b>	
Choose one from the following:	
SPAN2006	
Music in Spanish: Writing and	
Conversation.....	3
SPAN2007	
Hispanic Current Events: Writing	
and Conversation.....	3
SPAN2008	
Hispanic Film: Writing and	
Conversation.....	3
SPAN3561	
Topics in Latin-American	
Literature I.....	3
SPAN3562	
Topics in Latin-American	
Literature II.....	3

## Interdisciplinary Minors

Interdisciplinary minors incorporate courses and faculty from various disciplines within the college. Becton College currently offers a wide array of interdisciplinary minors listed on this page to page 63, but others are in various stages of proposal and development.

Students are encouraged to work with advisers and to check the University's web pages to keep abreast of new minors that might satisfy their academic interests.

### Advertising Interdisciplinary Minor

The advertising minor is designed for students interested in studying the theoretical, practical and creative elements that go into the creation of compelling and successful advertisements and advertising campaigns. The philosophy behind the minor builds on the recognition that the professional domain of advertising draws from many varied disciplines.

First, students must develop a foundational understanding of the concepts and theories included in the areas of advertising and marketing.

\*Practica, although required for language classes, do not count toward the minor.

Then they must develop and polish their theoretical understanding and professional skills in the areas of computer graphics, desktop publishing and basic video making — they need to understand all the theoretical and creative elements that go into the creation of both print ads and commercials.

Finally, students should be given the opportunity to develop their skills with courses that will enhance their knowledge regarding account management, campaign planning, implementation and evaluation. For information contact the department of communication studies or the School of the Arts.

Note: In order to fulfill the advertising minor, students must select no more than 12 credits in their major discipline. This policy is meant to ensure that students are taking full advantage of the interdisciplinary nature of the minor.

<b>Required Courses (9 credits)</b>	Credits
CGD1313	
Creative Imagery with Photoshop.....	3
CGD1314	
Illustrator Graphics and Design.....	3
COMM2221	
Advertising Principles.....	3

### Elective Courses (6 credits)

<i>Art</i>	
CGD2370	Print Layout
CGD3363	Interactive Publishing
<i>Communication</i>	
COMM3243	Advanced Advertising and Promotions
COMM4001	Communication Internship I
<i>Film and Animation</i>	
ANIM1750	Motion Graphics with After Effects®
FILM1005	Filmmaking I: Basic Production
<i>Marketing</i>	
MKTG2120	Principles of Marketing
MKTG4272	Consumer Behavior
MKTG4365	Marketing Communications

NOTE: The identification and inclusion of additional suitable elective courses will continue on an ongoing basis.

### African-American Studies Interdisciplinary Minor

The minor in African-American studies exposes students to a program of study concerning African-American culture, life and history in the United States. By expos-

# Double Majors and Minors

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ing students to an interdisciplinary study of African Americans (encompassing history, government and law, sociology, literature, music and anthropology), the minor is intended to educate students on how African Americans helped shape American history and culture and continue to transform it today. The minor also emphasizes the relevance of Africa in understanding the attitudes, circumstances and experiences of African Americans. The core course, AFAM2001 Introduction to African-American Studies, will ground students in the fundamentals of interdisciplinary study. In the electives, the students will learn that the African-American experience is not only an integral part of the United States experience but also integral to understanding the world at large. For information contact the department of literature, language, writing and philosophy.

### Required Course (3 credits)

AFAM2001 Introduction to African-American Studies

### Select Elective Courses (12 credits)

Choose four of the 3-credit courses below to include at least one each from history, literature and sociology.

#### African-American Studies

AFAM3357 Sociology of the African-American Family  
AFAM3358 Sociology of the Black Church  
AFAM3359 Sociology of Race, Rap and Religion

#### History

HIST2350 Colonial and Revolutionary America  
HIST2351 The United States in the Early Republic  
HIST2352 Civil War and Reconstruction

#### Literature

LITS3013 African-American Literature  
LITS3202 American Writers: Race in Black and White

#### Music History

MUSIH1021 Popular Music and Jazz

### Related Elective Courses (3 credits)

Choose any one of the 3-credit courses below:

ANTH2335 African Peoples and Cultures  
COMM2866 Women and Minorities in Media  
HIST2202 Introduction to African History

HIST2402 Atlantic Worlds  
HIST4205 Seminar: Race and Empire  
LITS3071 Contemporary African Literature and Culture

### British Studies Interdisciplinary Minor

The 15-credit British studies minor is designed to offer Becton College students who study for the fall/spring semester at Wroxton College the opportunity to earn a minor that recognizes Wroxton.

#### Wroxton College Courses

Choose any 12 to 15 credits taken during a fall or spring semester to qualify for the minor, but *excluding* UNIV2001 Cross-cultural Perspectives.

#### Becton College/Wroxton College Courses

Choose either 3 or 6 of the following credits, a program offered jointly every odd year with course sessions at Becton College followed by two weeks at Wroxton with site tours in England and France. One can also use an authorized substitute course from another Wroxton summer program.

HIST2424 Western Front in World War I  
HIST2425 Western Front in World War II

#### Becton College Courses

Choose any three of the following credits beyond the 12 to 15 relevant credits taken at Wroxton. One can also use an authorized substitute course.

HIST3350 U.S. as a Continental Power, 1607–1898  
LITS3020 18th-century British Literature  
LITS3021 Victorian Age  
LITS3054 Romanticism  
LITS3073 Irish Literature  
LITS3201 British Writers  
LITS3212 Chaucer  
LITS3213 Shakespeare I  
LITS3214 Shakespeare II  
LITS3230 Jane Austen: Fiction and Film  
LITS3301 The English Language

Note: Students who previously declared an 18-credit minor in this area must complete a "Declaration of Minor" form (available in the Records Office) in order to convert to the revised, 15-credit minor. Students who convert to the revised minor **MUST** complete all requirements affiliated with the 15-credit minor.

### Children's Studies Interdisciplinary Minor

The children's studies minor provides students with a multidisciplinary understanding of the idea of childhood in human society. Using the disciplinary perspectives of literature, psychology, sociology and anthropology, the minor grounds students in an understanding of childhood as preparation for employment in child services and advocacy or advanced study in the fields of education, literature, psychology, sociology and anthropology. Offered jointly by the department of literature, language, writing and philosophy; the department of communication studies; and the department of social sciences and history, the minor requires 15 credits. Students select five 3-credit courses from the list below, making selections from at least three different disciplines.

#### Anthropology

ANTH3102 Anthropology of Children and Childhood

#### Communication

COMM3014 Family Communication

#### Literature

LITS3303 World Folk Literature  
LITS3311 Children's Literature  
LITS3312 Young Adult Literature

#### Psychology

PSYC3001 Human Development (Child)  
PSYC3302 Human Development (Adolescent)

#### Sociology

SOCI2316 Sociology of the Family  
SOCI2317 Children and Society  
SOCI3310 Juvenile Delinquency  
SOCI3344 Schools and Society

### Dramatic Literature and Performance Interdisciplinary Minor

The dramatic literature and performance minor provides grounding in theatrical history, theory and performance practices as a cultural enrichment and as preparation for advanced study or employment in the theater. This minor is offered jointly by the department of literature, language, writing and philosophy and the School of the Arts and consists of 18 credits.

3 credits of *Shakespeare* Credits  
LITS3213 Shakespeare I  
or  
LITS3214 Shakespeare II.....3

# Double Majors and Minors

Maxwell Becton College of Arts and Sciences  
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## 3 credits of Development Theater

	Credits
THEAH1201	
Development of the Theater: Ancient to Elizabethan	
or	
THEAH1202	
Development of the Theater: Restoration to Today.....	3

## Two of the following 3-credit literature courses

LITS3101	Greek and Roman Drama
LITS3102	Studies in Drama
LITS3103	Modern Drama: 1880–1930
LITS3104	Contemporary American Drama
LITS3105	Contemporary European Drama
LITS3106	Contemporary World Drama
LITS3213	Shakespeare I
or	
LITS3214	Shakespeare II (In addition to the 3 credits selected from Shakespeare required above)

## 6 credits from the following 3-credit dance and theater courses

DAN1320	Beginning Dance I
THEA1203	Basic Acting I
THEA2005	Directing I
THEA2339	Musical Theater Workshop
THEA3336	Acting for Film and Television
THEAH1201	Development of the Theater: Ancient to Elizabethan
or	
THEAH1202	Development of the Theater: Restoration to Today (In addition to the 3 credits selected from Development of Theater required above)
THEAH2255	Playwriting and Dramatic Structure

## Economics Interdisciplinary Minor

The economics interdisciplinary minor introduces students to the basic concepts, theories, modeling approaches and methods of economics. The 15-credit minor consists of two required field courses, a required methodology course and a modeling course that can be satisfied by taking one of two courses and an elective from economics or finance.

## Required Courses (12 credits)

	Credits
ECON2001	
Introduction to Microeconomics.....	3
ECON2102	
Introduction to Macroeconomics.....	3
ECON2250	
Economic Methods.....	3
ECON4844	
Game Theory	
or	
ECON4845	
Agents in the Matrix: Creating and Analyzing Agent-based Models.....	3

## Elective (3 credits)

One course to be selected from the 2000- or higher-level offerings in economics (ECON) or finance (FIN).

## Entertainment and Business Management Interdisciplinary Minor

The entertainment and business management interdisciplinary minor allows students to focus on the unique requirement of developing a product for the entertainment and/or communication industries. Aspects of production management and communication are addressed, and the student will learn about the business role of the producer, from acquiring a product, through production and distribution. Skills involved and developed include leadership, communication, marketing and accounting.

## Required Courses (9 credits)

ENTR2700	
Introduction to Entrepreneurship and Innovation.....	3
FILM3426	
Producing Movies.....	3
MKTG2120	
Principles of Marketing.....	3

## Electives (6 credits)

Select from the following:	
BUS11000	
Foundations of Business.....	3
COMM2099	
Professional Communications.....	3
FILM3427	
Distributing Movies and Media.....	3
MKTG3360	
Digital Marketing*.....	3

\*Prerequisite is MKTG2120 Principles of Marketing.

## Forensics Interdisciplinary Minor

The forensics interdisciplinary minor is a 16-credit minor designed for students who are interested in how physical and psychological evidence resolve issues involving criminal behavior, crime scenes and criminal investigations. This highly popular field spans many disciplines, drawing from psychology, sociology, government and law, chemistry, biology, literature and philosophy.

Students are required to take PSYC3360 Forensic Psychology and an introductory science course with a forensics component (4 credits). Students can then select the remaining 9 credits from a broad array of elective courses in multiple disciplines.

In order to fulfill the minor, students are required to take no more than 3 credits of their elective courses in any single discipline.

## Required Courses (7 credits)

	Credits
BIOL1005	
Current Topics in Biology (includes forensic component)	
or	
BIOL1202	
Introduction to Molecules, Cells and Genes (includes DNA analysis information and forensic science laboratory exercise).....	4
PSYC3360	
Forensic Psychology.....	3

## Elective Courses (9 credits)

Select three courses from the following, with no more than 3 credits within a single discipline:

<i>Biology</i>	
BIOL1205	Anatomy and Physiology I
BIOL1206	Anatomy and Physiology II
BIOL2003	Cell Biology
BIOL3009	Microbiology
BIOL3256	Genetics
BIOL3332	Immunology
<i>Chemistry</i>	
CHEM1201	General Chemistry I
CHEM2221	Analytical Chemistry
CHEM3281	Biochemistry I
<i>Criminology</i>	
CMLGY1306	Introduction to Crime and Criminology
CMLGY2300	Wrongful Convictions
CMLGY2307	Deviance and Social Control

# Double Majors and Minors

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CMLGY2333	Criminal Law
CMLGY2360	Victimology
CMLGY2701	Penology
CMLGY3301	Women and Crime
CMLGY3308	Law and Society
CMLGY3309	Policy Analysis
CMLGY3310	Juvenile Delinquency
<i>Philosophy</i>	
PHIL1101	Introduction to Logic
<i>Psychology</i>	
PSYC3005	Abnormal Psychology
PSYC3032	Physiological Psychology
PSYC3302	Human Development (Adolescent)
PSYC3310	Social Psychology
PSYC3334	Psychopharmacology
PSYC4291	History and Systems of Psychology

Note: Students who previously declared an 18-credit minor in this area must complete a Declaration of Minor form (available in the Records Office) in order to convert to the revised, 16-credit minor. Students who convert to the revised minor MUST complete all requirements affiliated with the 16-credit minor. *No course substitutions will be permitted.*

## Gender Studies Interdisciplinary Minor

Gender studies is an interdisciplinary program that places gender at the center of its analysis, research and scholarship. Gender studies draws from a wide range of disciplines, including literature, government and law, anthropology, sociology, criminology and psychology, to investigate how gender operates at every level of society from the individual to the structural, from daily interactions to global processes. Although many aspects of gender studies have been inspired by feminism, a broad variety of theoretical approaches are used to study gender, including women's studies, men's studies and gay and lesbian studies. For information, contact the department of psychology and counseling, the department of social sciences and history or the department of communication studies.

The gender studies minor consists of 15 credits of gender studies-designated courses, such that at least three different disciplines are represented. At least nine credits in the minor must be at the 3000- or 4000-level.

The following is a sample of gender studies-designated courses:

ARTH3423	Women Artists
BIOL1010	Human Sexuality

CMLGY3301	Women and Crime
COMM2866	Women and Minorities in Media
COMM3014	Family Communication
COMM3051	Communication and Gender
GOVT2070	Women and American Politics
GOVT2071	Gender and Public Policy
LITS3221	Medieval and Renaissance Women Writers
SOCI3314	Sociology of Gender
SPAN4005	Latin-American Women Writers

## Globalization and Society Interdisciplinary Minor

The globalization and society minor provides students with an understanding of the complex phenomenon of globalization. By using the disciplinary perspectives of anthropology, communication, economics, literature and sociology, the minor provides students with two things. One, it expands their disciplinary and interdisciplinary knowledge. Second, it makes them better prepared for employment opportunities in an interconnected world. Offered jointly by the department of literature, language, writing and philosophy; the department of communication studies; and the department of social sciences and history, the minor requires 18 credits. Since most theorization of globalization is rooted within the sociological perspective, students are required to take SOCI2248 Globalization, Culture and Identity and five other courses from the following list, making selections from at least two different disciplines.

### Anthropology

ANTH2335	African Peoples and Cultures
ANTH2338	Israeli Society and Culture
ANTH3102	Anthropology of Children and Childhood

### Communication

COMM3019	Global Communication
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### Economics

ECON3310	Current Economic Problems
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### History

HIST1150	World History I
HIST1151	World History II
HIST3322	The Roman Empire
HIST3347	History of Modern China

### Literature

LITS3061	Contemporary World Literature
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LITS3302	Myth and Sacred Texts
LITS3303	World Folk Literature
LITS3311	Children's Literature
LITS3313	Nobel Literature
LITS3351	Literary Perspectives on the Environment

### Philosophy

PHIL2205	Social and Political Philosophy
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## Government and Law Interdisciplinary Minor

The 15-credit government and law interdisciplinary minor is for students not majoring in government and law. Students who want to earn a minor in government and law must take five courses in government and law (GOVT).

## Italian Studies Interdisciplinary Minor

The Italian studies minor is designed to offer Becton College students who study for the fall/spring semester or summer session at Bergamo University in Italy the opportunity to earn a minor that recognizes Bergamo's unique Italian-centered curriculum. Students take select courses at Becton College and Bergamo in order to fulfill the required 15 credit hours for the minor.

Choose up to 15 credits, but it must include 9 credits in language and literature as well as 6 credits in history and social sciences.

Students must take Italian language through the intermediate level but may earn credit for advanced-language courses at Bergamo University or Becton College.

### Required Courses (3-6 credits)

	Credits
ITAL1002	
Beginning Italian II.....	3
ITAL2003	
Italian Conversation I	
or	
ITAL2004	
Italian Conversation II.....	3

### Language and Literature Electives (3-6 credits)

ITAL2005	
Italian Cinema.....	3
ITAL3390	
Italian Mafia in Literature and Film.....	3
ITAL4800	
Independent Study in Italian.....	1-6

# Double Majors and Minors

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## History and Social Science Electives (6 credits)

	Credits
HIST2223	
Renaissance and Reformation.....	3
HIST3321	
The Roman Republic	
or	
HIST3322	
The Roman Empire.....	3

## Bergamo Courses

Students will receive credit for relevant courses approved by the department in Italian-centered curriculum.

## Japanese Studies Interdisciplinary Minor

Students must complete 15 credits combining language courses, up to the intermediate level, and courses related to the nation(s) where the language is spoken. Select courses may be taken at partner institutions to complete the minor. Please contact the department of literature, language, writing and philosophy for details and approval.

## Latin-American Studies Interdisciplinary Minor

The Latin-American studies minor is a 15-credit cultural studies program designed to offer Becton College students an interdisciplinary minor that incorporates Latin American-centered curriculum to include Spanish language as well as literature and history. Students can also earn credit through courses linked to short-term study abroad in Latin America regularly offered at Becton College, while they can also earn credit from a full-semester, study-abroad program in Latin America.

## Requirements

From the 15 credits available:

- Students need a minimum of 6 credits in language and literature and 6 credits in history.
- The students can take the remaining 3 credits in either language and literature or history

## Language and Literature Courses

### Required Language and Literature Courses

Pick 1 or 2 courses:

	Credits
SPAN1002	
Beginning Spanish II.....	3
SPAN2003	
Spanish Conversation I*.....	3
SPAN2004	
Spanish Conversation II*.....	3
SPAN2009	
Spanish for Professions.....	3
SPAN3411	
Latin-American Culture and Civilization (Spanish).....	3

### Elective Language and Literature Courses

Pick 0 to 2 courses:

SPAN2006	
Music in Spanish: Writing and Conversation.....	3
SPAN2007	
Hispanic Current Events: Writing and Conversation.....	3
SPAN2008	
Hispanic Film: Writing and Conversation.....	3
SPAN2507	
Latin-American Culture and Civilization (English).....	3
SPAN2530	
Latin-American Film.....	3
SPAN3310	
Latin-American Women Writers.....	3
SPAN3431	
Latin-American Short Stories.....	3
SPAN3441	
Latin-American Theater.....	3
SPAN3463	
The Hispanic Essay.....	3
SPAN4440	
The Hispanic Novel: From Cervantes to García Márquez.....	3
SPAN4477	
Honors Research and Thesis.....	3
SPAN4498	
Internship.....	3
SPAN4800	
Senior Independent Study – Spanish....	3

## History Courses

### Available History Courses

Pick 2 or 3 courses:

HIST2501	
Colonial Latin America.....	3
HIST2502	
Modern Latin America.....	3

\*SPAN2003 Spanish Conversation I and SPAN2004 Spanish Conversation II may be taken in any order.

Credits

HIST2503	
Indigenous Peoples of Latin America...	3
HIST2504	
Gender and Race in Latin America.....	3
HIST2506	
Pre-Columbian Americans.....	3
HIST3251	
Crime and Punishment in Latin America.....	3

## Or in Conjunction with

**Study Abroad** (Short term of 3–6 credits or full-semester study abroad of up to 15 credits is highly recommended. Students will receive credit for relevant courses approved by the department of social sciences and history for Latin-American and/or Spanish-centered curriculum.

## Prelaw Interdisciplinary Minor

The 15-credit prelaw minor provides students with the substantive background and specific skills for success in law school as well as basic exposure to legal systems and concepts. The prelaw minor targets these areas for development.

1. Clear, concise, organized writing;
2. Logic and reasoning skills;
3. Oral argument and advocacy;
4. Effective argument construction and assessment; and
5. Exposure to legal thinking and terminology.

## Required Course (3 credits)

GOVT1200	
Introduction to Law*	
or	
GOVT3240	
Law and Society.....	3

## Electives (12 credits)

Select from the following:

AFAM2100	
The New Jim Crow.....	3
ANTH2431	
Anthropology of Crime.....	3
ANTH3349	
War and Crime.....	3
CMLGY1306	
Introduction to Crime and Criminology.....	3
CMLGY2317	
Probation and Parole: Theory and Practice.....	3

\*This course should be taken before the other classes in the prelaw minor sequence.

# Teacher Certification

Maxwell Becton College of Arts and Sciences  
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	Credits
CMLGY2503	
Crime and Media.....	3
CMLGY2701	
Penology.....	3
GOVT1200	
Introduction to Law.....	3
GOVT2030	
The Supreme Court.....	3
GOVT2071	
Gender and Public Policy.....	3
GOVT2230	
Judicial Process.....	3
GOVT3210	
Civil Liberties and Civil Rights*.....	3
GOVT3220	
Criminal Law.....	3
GOVT3230	
International Criminal Law.....	3
GOVT3240	
Law and Society.....	3
GOVT4220	
Advanced Criminal Law.....	3
HIST3250	
Crime and Punishment in South Africa.....	3
HIST3251	
Crime and Punishment in Latin America.....	3
PHIL2432	
Philosophy of Law.....	3

## Screenwriting/Dramatic Writing Interdisciplinary Minor

The screenwriting/dramatic writing minor is designed for students interested in studying the art and craft of writing for the screen and/or stage. The rationale for the proposed required courses for this minor is that knowledge of all forms of creative and dramatic writing contribute to each other and is necessary for a student to become a well-rounded writer no matter what the format. The most talented, acclaimed and successful screenwriters and playwrights often cross genres. For information contact the School of the Arts.

<b>Required Courses (9 credits)</b>	Credits
CREW2255	
Playwriting and Dramatic Structure.....	3
FILM2250	
Screenwriting I.....	3
FILM2251	
Screenwriting II.....	3

\*This course will include a significant legal writing emphasis.

## Electives (6 credits)

Select two of the following courses:

	Credits
COMM2005	
Narrative Communication in Media and Everyday Life.....	3
CREW2002	
Creative Writing: Fiction.....	3
FILM3303	
Advanced Screenwriting I.....	3
FILM3304	
Advanced Screenwriting II.....	3
THEA3255	
Advanced Playwriting.....	3

## Personalized Minor

In consultation with a faculty mentor, a student may design a personalized minor to meet specific needs or interests. The student must then submit to the Becton College Dean's Office a written rationale for the minor, a title for the minor and a list of the needed courses, demonstrating that they will be offered in time for graduation. The minor is then subject to the approval of the faculty mentor and the associate dean of academic affairs. A Declaration of Minors form must then be completed with the signature of the mentor and a copy given to the Office of Enrollment Services. The faculty mentor must then oversee the minor. Upon graduation, enrollment services will contact the mentor to ensure that the minor will appear on a student's transcript. The minor should be declared no later than the first semester of the student's junior year; it must consist of a minimum of 18 credits and it must rely primarily on courses already offered in the College. A student may take up to one Independent Study in order to complete the minor.

## Teacher Certification Requirements

At times, the New Jersey State Department of Education regulations change. Students are advised to check the New Jersey State Department of Education website <<http://www.state.nj.us/education/>> for current requirements.

In New Jersey, the State Department of Education grants approval for teacher certification based upon the following:

- a bachelor's degree from an accredited institution which includes 60 credits in liberal arts and science courses for elementary education, including at least 3 credits in physiology, biology or health;

- for middle-school candidates, a course in adolescent development and 15 or more credits in the content area for their certification (e.g., mathematics, English, etc.);
- for secondary candidates, a major in the subject area to be taught or 30 credits of a coherent sequence of courses in the subject area (e.g., mathematics, biology, etc.) where half of the courses are at an upper level (3000 and above);
- completion of appropriate education courses, field experiences and student teaching;
- full matriculation into the QUEST program as described above;
- a minimum cumulative grade point ratio (CGPR) of 3.00; and
- a passing score on the state-required Praxis II Test appropriate for the area of certification.

*Students must major in liberal arts or a science. In New Jersey, a student cannot major in education.* Individuals preparing for subject-area certification to teach at the secondary level (e.g., science, foreign languages, etc.) must major in the field they are planning to teach. Students interested in early childhood or elementary education may major in select liberal arts/science fields of interest or major in the humanities with a prescribed concentration of courses in a specific content area. Professional or "technical" majors (e.g., marketing, journalism, accounting, etc.) do not satisfy the state requirement for a B.A. or B.S. in a liberal arts/science specialization. Those individuals must present a transcript including 60 credits in the liberal arts or pure sciences in order to qualify for elementary certification.

Students seeking certification must complete the required courses of their liberal arts/science major, courses in "general education" and specific courses in the behavioral sciences (sociology, anthropology or psychology) that are related to teaching and learning. Together these areas must total a minimum of 60 course credits. The total of 60 "general education" credits must be distributed among the following areas: mathematics, science, American and English literature, American history and American studies, non-Western studies, Western history, art history or music, philosophy, technology, foreign language and psychology.

Students majoring in psychology are required to take 15 or more credits in a content area (English, history, mathematics or science).

# Course Numbering System • Allied Health Sciences

Maxwell Becton College of Arts and Sciences  
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Those individuals desiring to teach on the middle-school level (5\*, 6\*, 7, 8) must qualify for elementary school certification with subject-matter specialization endorsement. In order to do so, the following requirements must be met, according to N.J.A.C. 6A:9–8.1:

1. Hold a Certificate of Eligibility (CE), Certificate of Eligibility with Advanced Standing (CEAS) or standard certificate;

2. Complete study in the characteristics of children and young adolescents (adolescent psychology or developmental psychology);

3. Pass the appropriate state test in content-area specialization for middle school;

4. Complete a prescribed coherent sequence of courses in, but not limited to, one of the following specializations: 15 credits in a single CCCS subject field (mathematics, English, history, etc.);

Prospective teachers in the QUEST (B.A. or B.S./M.A.T.) program follow the *traditional route* to teacher certification, which requires the candidate: to hold a bachelor's degree from an accredited college or university; to have completed at least 30 credit hours in courses appropriate to the instructional field of certification; and to pass the state-required Praxis II Test. In the traditional route, the professional development requirement is met by completing an approved teacher-education program (which includes course work in education and three levels of practical [field-based] experience — initial exposure in the classroom followed by a more intensive field experience and culminating with a supervised student teaching experience). All candidates starting clinical practice (student teaching) in academic year 2018–2019 or thereafter must complete at least 50 hours of clinical experience (field experience) in a preschool, elementary, middle and/or secondary school setting prior to clinical practice. Clinical practice will occur over a two-semester period within a single school with at least 175 hours prior to the final, full-time semester of student teaching. If students have met all of the requirements *and* have completed an approved student-teaching experience, they may be recommended for a “Certificate of Eligibility with Advanced Standing,” which qualifies them to be hired as first-year teachers with a provisional certificate to satisfy the state’s

“Induction Year” requirement for standard certification. The hiring school district is required: 1) to provide the new teacher with a mentor and special on-the-job support and 2) to evaluate the new teacher’s performance and make a recommendation on the issuance (or nonissuance) of a standard certificate at the end of the year.

Regarding teacher certification in other states, New Jersey has “reciprocity” with a number of other states and the District of Columbia. Persons seeking employment in another state should write to that state’s office of teacher certification for information.

## Course Numbering System

0000 — Developmental Level: remedial or developmental courses intended to prepare students for entry into curriculum or to remove a deficiency, no degree credit.

1000 — Freshman Level: a lower-division course having no formal prerequisites beyond admission into the curricula or intended for freshmen or lower-division students.

2000 — Sophomore Level: a lower-division course having a 1000-level prerequisite or intended for sophomores.

3000 — Junior Level: an upper-division course having a 2000-level prerequisite or intended for juniors or upper-division students.

4000 — Senior Level: an upper-division course or thesis having a 3000-level prerequisite or intended for seniors.

5000–9000 — Graduate Level: a graduate course.

## Allied Health Sciences Majors

### Department of Biological and Allied Health Sciences

Detailed information on specific majors is included in the alphabetical listing of majors.

#### Allied Health Technologies (B.S.A.H.T.)

See page 65.

*Concentration: radiologic technology*

#### Clinical Laboratory Sciences (B.S.C.L.S.)

See page 71.

*Concentration: medical laboratory science (medical technology)*

#### Medical Imaging Sciences (B.S.M.I.S.)

See page 95.

*Concentrations: diagnostic medical sonography, vascular technology*

## Allied Health Sciences Programs

The programs in the allied health sciences at the Florham Campus are designed to provide the broad, intensive, academic and clinical experiences that undergraduate students need to assume their chosen professions. The core curriculum is designed to meet the professional essentials for state licensing and/or National Registry Examination. The allied health programs may be subject to change to ensure that they are continuously in accordance with professional essentials. Information is available in the Allied Health Office about academic and clinical courses approved after publication of this bulletin.

The programs in allied health articulate with the B.S. degree in biology as well as many other disciplines, permitting flexibility in preparation for an advanced professional degree.

The curriculum provides a special environment in which students can integrate their academic and professional applied learning with the clinical practicum. It emphasizes the need for sound preparation in the natural and physical sciences, familiarity with the disciplines represented by courses in the liberal arts and use of the

\*This requirement does not apply to those who teach in a self-contained classroom.

latest technological innovations in patient care. The medical directors and clinical and academic faculties supervise this integration using excellent physical facilities and human resources of the primary teaching hospitals. Selected secondary teaching centers in health care hospitals and community services are utilized for required practicum experiential training and also are affiliated by contractual agreement.

All allied health majors must complete 96 credits at FDU in their concentration in addition to the clinical courses required by the affiliate institution.

Should a student desire to attend a clinical institution with which FDU does not have a current affiliation, the director of allied health will try to arrange for the student to attend that institution, provided that the institution is nationally accredited in the student's particular concentration. Reasonable time constraints must be considered to enable both schools to facilitate such an arrangement.

Students attending Rutgers School of Health Professions (Rutgers SHP) will be awarded a joint (FDU/Rutgers SHP) bachelor of science degree after successfully completing their concentration at that institution. Students attending other institutions will be awarded a bachelor of science degree from FDU in their appropriate concentration.

### **Undergraduate Admission**

Students considering a degree in allied health should have a strong interest and proficiency in science and mathematics. The selection of an allied health career requires a great deal of introspection on the part of the student. A strong sensitivity to patient care, willingness to work with the sick and injured, as well as academic ability are necessary. Candidates must be in good health.

### **Transfer Students**

Transfer students or students who are certified or registry approved may receive transfer credits toward their B.S. degrees. Transfer students must make up areas of deficiency. The admissions department will evaluate transcripts and determine which credits may be accepted toward the allied health program. Permission to enter the allied health program resides with the allied health adviser.

Students with earned associate degrees from accredited institutions may apply for programs leading to a baccalaureate degree in the sciences, humanities, education or business administration. The credits earned in the associate degree program will be evaluated according to University policy, as stated in an earlier section of this bulletin.

### **Faculty**

The academic and clinical faculties, together, have developed innovative and relevant courses critical to the basic principles in all the health fields. The courses are designed to introduce students to professional choices during the initial stages of their formal study. Programs are designed to meet national professional essentials. In order for the program to reflect the needs of consumer education and health care services, consultants in each professional field, together with consumer representatives, provide discussion and feedback on the philosophy and curriculum of the program.

### **Advising**

Allied health majors are assigned to the allied health adviser for advisement. In-depth academic and professional counseling is provided throughout the college experience.

### **Career Opportunities**

The health care delivery system needs humane, competent health professionals to provide primary and preventive health care, as well as to assume professional positions in industry and research.

Students interested in upward mobility must think in terms of a baccalaureate degree and/or a double major. The objectives to be considered are sufficient academic and clinical training that would permit students to sit for registry, licensure and/or certification examinations monitored by the national professional societies.

The health delivery system represented by hospitals, clinics, institutions, agencies and medical-group practices requires the services of health professionals for extended care. Advanced specialization, teaching credentials, positions in research, industrial sales or marketing provide opportunities for advancement and geographical mobility.

## **Allied Health Technologies Major (B.S.A.H.T.)**

### **Department of Biological and Allied Health Sciences**

Completion of this program will result in a Bachelor of Science in Allied Health Technologies with a concentration in radiologic technology awarded jointly by Fairleigh Dickinson University and the partner institution. Students will complete 96 credits during their first three years at FDU. They then must apply for acceptance to the professional component at the partner institution for their senior year. Professional courses are taken at the partner institution. A joint degree is awarded upon completion of the professional component.

Admission to the clinical courses at the partner institution requires a separate application, usually in the junior year. Consult the program adviser for application details and time lines. Admissions decisions for the clinical program are made in accordance with criteria, policies and procedures established by a joint Committee on Admissions and Academic Status for the degree program and cannot be guaranteed by FDU.

For more information regarding these degrees, contact the allied health adviser, Florham Campus.

### **Radiologic Technology Concentration**

Radiologic technologists perform a variety of diagnostic and therapeutic services within the health care industry and may find employment in hospitals, clinics and imaging centers. The program prepares students to perform traditional X-rays, bone densitometry and inject contrast media. Additional training is required for more advanced imaging technologies such as magnetic resonance imaging (MRI) or computed tomography (CT) scans. Specific requirements of the radiologic technology concentration are listed as follows.

# Biochemistry

Maxwell Becton College of Arts and Sciences  
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## Requirements for the Bachelor of Science in Allied Health Technologies Degree

### Biology Requirements

	Credits
BIOL1110	
Medical and Pathological Terminology.....	2
BIOL1201, BIOL1203	
Biological Diversity (Lecture and Laboratory).....	4
BIOL1202, BIOL1204	
Introduction to Molecules, Cells and Genes (Lecture and Laboratory).....	4
BIOL1205, BIOL1207	
Anatomy and Physiology I (Lecture and Laboratory).....	4
BIOL1206, BIOL1208	
Anatomy and Physiology II (Lecture and Laboratory).....	4
BIOL2003, BIOL2004	
Cell Biology (Lecture and Laboratory).....	4
Biology Elective (Lecture and Laboratory).....	4

### Chemistry Requirements

CHEM1201, CHEM1203	
General Chemistry I (Lecture and Laboratory).....	4
CHEM1202, CHEM1204	
General Chemistry II (Lecture and Laboratory).....	4

### Physics Requirements

PHYS1001, PHYS1011	
General Physics I (Lecture and Laboratory).....	4
PHYS1002, PHYS1012	
General Physics II (Lecture and Laboratory).....	4

### Other Requirement

PSYC1201	
General Psychology.....	3

After completion of three years of study (a minimum of 96 credits) at FDU, the program is completed in any JR-CERT Radiologic Technology training program (generally two years). With the successful completion of the clinical training program at the partner institution, the student will earn the Bachelor of Science in Allied Health Technologies.

## Biochemistry Major (B.S.)

### Department of Chemistry and Biochemistry

The bachelor of science with a major in biochemistry program is designed for students focused on preprofessional study, preparing them for admission to a school of pharmacy, medicine, veterinary medicine or dentistry with a series of core courses in chemistry and biology. The curriculum offers lecture and laboratory course work in topics that will effectively prepare students for future plans in these areas and will also provide students with extensive preparation for graduate school in chemistry, biochemistry and molecular biology or career plans within the areas of chemistry, biochemistry or related areas of biotechnology. Note: The B.S. in biochemistry is American Chemical Society (ACS)-certified.

### Required Courses

	Credits
BIOL1201	
Biological Diversity.....	4
BIOL1202	
Introduction to Molecules, Cells and Genes.....	4
BIOL2003, BIOL2004	
Cell Biology (Lecture and Laboratory)....	4
CHEM1201, CHEM1202	
General Chemistry I, II.....	6
CHEM1203, CHEM1204	
General Chemistry Laboratory I, II.....	2
CHEM2211, CHEM2213	
Inorganic Chemistry (Lecture and Laboratory).....	4
CHEM2221, CHEM2223	
Analytical Chemistry (Lecture and Laboratory).....	4
CHEM2261, CHEM2262	
Organic Chemistry I, II.....	6
CHEM2263, CHEM2264	
Organic Chemistry Laboratory I, II.....	2
CHEM3241	
Physical Chemistry I.....	3
CHEM3242	
Physical Chemistry II.....	3
CHEM3243	
Physical Chemistry Laboratory I.....	2
CHEM3244	
Physical Chemistry Laboratory II.....	2
CHEM3281, CHEM3282	
Biochemistry I, II.....	6
CHEM3389	
Biochemistry Laboratory.....	1

CHEM4233	
Instrumental Analysis.....	3
CHEM4234	
Instrumental Analysis Laboratory.....	2
CHEM4501	
Capstone Research Assessment.....	1
ENGW1001	
Composition I: Rhetoric and Inquiry.....	3
ENGW1002	
Composition II: Research and Argument.....	3
MATH1133	
Applied Statistics.....	3
MATH1203, MATH2202	
Calculus I, II.....	8
PHYS2003, PHYS2013	
PHYS2004, PHYS2014	
General Physics with Calculus I, II.....	8

### Electives (1–6 credits)

Students may select from the following list of courses.

BIOL3009, BIOL3019	
Microbiology (Lecture and Laboratory).....	4
BIOL3221, BIOL3231	
Microbiology — Medical Focus (Lecture and Laboratory).....	4
BIOL3256, BIOL3257	
Genetics (Lecture and Laboratory).....	4
BIOL3332, BIOL3333	
Immunology (Lecture and Laboratory).....	4
BIOL3360, BIOL3361	
Introduction to Molecular Biology (Lecture and Laboratory).....	4
BIOL3408, BIOL3409	
Forensic Science (Lecture and Laboratory).....	4
BIOL4444	
Selected Studies in Cell and Molecular Biology.....	4
BIOL4470, BIOL4471	
Introduction to Neuroscience (Lecture and Laboratory).....	4
CHEM4215	
Advanced Inorganic Chemistry.....	3
CHEM4263	
Introduction to Medicinal Chemistry.....	3
CHEM4351	
Chemical Kinetics.....	3
CHEM4373	
Polymer Chemistry.....	3
CHEM4430	
Selected Topics in Chemistry.....	1–3
CHEM4436, CHEM4437	
Sophomore Mentored Research in Chemistry.....	0–3

	Credits
CHEM4438, CHEM4439 Junior Mentored Research in Chemistry.....	0-3
CHEM4440, CHEM4441 Senior Mentored Research in Chemistry.....	0-3
Another course with approval from the department chair.	

## Prepharmacy Concentration

Fairleigh Dickinson University offers the prerequisite courses for admission to most pharmacy schools. FDU students who complete the prepharmacy program must apply for admission to and meet the entrance requirements of the pharmacy school of their choice.

In addition to other General Education requirements, students must complete 95 credits as follows:

BIOL1201, BIOL1203 Biological Diversity (Lecture and Laboratory).....	4
BIOL1202, BIOL1204 Introduction to Molecules, Cells and Genes (Lecture and Laboratory).....	4
BIOL1205, BIOL1207 Anatomy and Physiology I (Lecture and Laboratory).....	4
BIOL1206, BIOL1208 Anatomy and Physiology II (Lecture and Laboratory).....	4
CHEM1201, CHEM1202 General Chemistry I, II.....	6
CHEM1203, CHEM1204 General Chemistry Laboratory I, II.....	2
CHEM2211, CHEM2213 Inorganic Chemistry.....	4
CHEM2221, CHEM2223 Analytical Chemistry.....	4
CHEM2261, CHEM2262 Organic Chemistry I, II.....	6
CHEM2263, CHEM2264 Organic Chemistry Laboratory I, II.....	2
CHEM3242, CHEM3244 Physical Chemistry II (Lecture and Laboratory).....	5
CHEM3281 Biochemistry I.....	3
CHEM3389 Biochemistry Laboratory.....	1
CHEM4233 Instrumental Analysis.....	3
CHEM4234 Instrumental Analysis Laboratory.....	2
CHEM4253 Pharmacokinetics.....	3

	Credits
CHEM4263 Introduction to Medicinal Chemistry.....	3
CHEM4285 Pharmacology.....	3
CHEM4401 Chemistry Seminar.....	1
COMM2099 Professional Communications.....	3
ECON2001 Introduction to Microeconomics.....	3
ENGW1001 Composition I: Rhetoric and Inquiry.....	3
ENGW1002 Composition II: Research and Argument.....	3
MATH1133 Applied Statistics.....	3
MATH1203, MATH2202 Calculus I, II.....	8
PHYS2003, PHYS2013 General Physics with Calculus I.....	4
PHYS2004, PHYS2014 General Physics with Calculus II.....	4

## Electives (3-4 credits)

Students may select from the following list of courses.

BIOL3009, BIOL3019 Microbiology (Lecture and Laboratory).....	4
BIOL3221, BIOL3231 Microbiology — Medical Focus (Lecture and Laboratory).....	4
BIOL3256, BIOL3257 Genetics (Lecture and Laboratory).....	4
BIOL3332, BIOL3333 Immunology (Lecture and Laboratory).....	4
BIOL3360, BIOL3361 Introduction to Molecular Biology (Lecture and Laboratory).....	4
BIOL3408, BIOL3409 Forensic Science (Lecture and Laboratory).....	4
BIOL4444 Selected Studies in Cell and Molecular Biology.....	4
BIOL4470, BIOL4471 Introduction to Neuroscience (Lecture and Laboratory).....	4
CHEM3241, CHEM3245 Physical Chemistry I (Lecture and Recitation).....	3
CHEM3243 Physical Chemistry Laboratory I.....	2
CHEM3282 Biochemistry II.....	3

CHEM4215 Advanced Inorganic Chemistry.....	3
CHEM4235 Pharmaceutical Analysis.....	3
CHEM4373 Polymer Chemistry.....	3
CHEM4430 Selected Topics in Chemistry.....	1-3

The curriculum outlined above satisfies most of the first two years' requirements for majors in chemistry and biology and also provides a convenient entry to other degree programs in the University. This means that prepharmacy students will have built-in lateral mobility if their interests change. It also provides premedical students with entry to an alternative health care profession.

## B.S. in Biochemistry/Pharm.D. Seven-year Program

Students admitted into this program will spend six semesters on undergraduate biochemistry requirements and eight semesters in the FDU School of Pharmacy and Health Sciences. High school applicants wishing to enter this program must have an SAT score of 1,150 or higher (on the 1,600 scale) and a 3.50 grade point average. To remain in the program, students must maintain a 3.30 grade point ratio in the first six semesters and must also have a grade of B- or better in all prerequisite college courses. See Combined Degree Program section of this publication, page 244.

# Biology

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## Biology Major (B.S.)

### Department of Biological and Allied Health Sciences

This curriculum is designed for students who plan to attend graduate school and for preprofessional students who wish to prepare for admission to a school of chiropractic, dentistry, medicine, osteopathy, pharmacy, podiatry or veterinary medicine. Students should consult the catalog of the school they plan to attend in order to include in their undergraduate program any special prerequisites not included in the biology curriculum.

**Dental Schools:** Three or four years of college are required for admission to schools of dental medicine. The minimum preadmission requirements are set forth by the American Dental Association. These include completion of a minimum of two years of work in an accredited college of liberal arts and sciences. It should be noted, however, that the majority of the students accepted have completed four years of undergraduate work. The college study must include, as a minimum, at least two semesters' credit in each of the following: English, biology, physics, inorganic chemistry and organic chemistry. Lectures and laboratory work are required in the science courses. The remaining work may be in the liberal arts electives such as history, philosophy, psychology, economics, English, foreign languages, mathematics and sociology. For students entering the Rutgers School of Dental Medicine, a combined seven-year program leading to a Bachelor of Science degree and a Doctor of Dental Medicine (D.M.D.) is offered on the conditions described in this bulletin, see page 252. Students should check "Pre dental Degree Option" in the index.

The admission course requirements for typical dental schools are 6 credits of English and 8 credits including laboratory of each of the following: biology, inorganic chemistry, organic chemistry and physics. Applicants must take the Dental Admissions Test.

**Medical Schools:** Entrance credits vary, but most schools require three or four years of college to include a general course in biology, two semesters of general physics, inorganic and organic chemistry and two or four semesters of English. A few require a reading knowledge of a modern foreign language. Mathematics through

calculus is recommended. The Medical College Admission Test of American Medical Colleges is required. Students should check the admission requirements for the medical school they plan to attend.

### Requirements for the Bachelor of Science Degree

Prerequisites: elementary algebra, plane geometry, one year of science. Up to pre-calculus level of mathematics preferred as well as high school biology and chemistry.

Students should see College requirements on pages 54–55 for details of the college general education requirements.

A student concentrating in biology must, in addition, fulfill the following requirements:

<b>Biology Core</b>	Credits
BIOL1201, BIOL1203	
Biological Diversity (Lecture and Laboratory)*.....	4
BIOL1202, BIOL1204	
Introduction to Molecules, Cells and Genes (Lecture and Laboratory)*.....	4
BIOL2003, BIOL2004	
Cell Biology (Lecture and Laboratory).....	4
BIOL2049, BIOL2050	
Ecology (Lecture and Laboratory).....	4
BIOL3256, BIOL3257	
Genetics (Lecture and Laboratory).....	4
BIOL4401	
Biology Seminar.....	2
One course must be selected from each of the three major area courses:	
Area I Ecology and Environmental Biology.....	4
Area II Cell and Molecular Biology.....	4
Area III Anatomy and Physiology.....	4

### Biology Electives (8 Credits)

Select two 4-credit laboratory courses from major course Areas I, II or III (see above). If two biology elective courses are selected from the same major area, a concentration in that area may be declared.

### Mathematics

MATH1107 Precalculus, MATH1153 Applied Statistics and MATH1205 Calculus I.

### Physics

PHYS1001, PHYS1011;  
PHYS1002, PHYS1012  
General Physics I, II —  
(Lecture and Laboratory)  
4 credits each semester.....8

\*Normally taken freshman year.

<b>Chemistry</b>	Credits
CHEM1201, CHEM1202	
General Chemistry I, II — 3 credits each semester.....	6
CHEM1203, CHEM1204	
General Chemistry Laboratory I, II.....	2
CHEM2261, CHEM2262	
Organic Chemistry I, II.....	6
CHEM2263, CHEM2264	
Organic Chemistry Laboratory I, II.....	2

### Anatomy and Physiology Concentration

An anatomy and physiology concentration is offered. Students take upper-level electives in areas such as BIOL3253, BIOL3254 Comparative Anatomy and BIOL3337, BIOL3327 General Physiology. For additional information contact the biological and allied health sciences department.

### Cell and Molecular Biology Concentration

A cell and molecular biology concentration is offered. Students take upper-level electives in areas such as BIOL3360, BIOL3361 Introduction to Molecular Biology, BIOL4500, BIOL4501 Cell Biology Cancer and BIOL6880 Neurobiology. For additional information contact the biological and allied health sciences department.

### Ecology and Environmental Biology Concentration

An ecology and environmental biology concentration is offered. Students take upper-level electives in areas such as BIOL4100, BIOL4110 Marine Ecology, BIOL4460, BIOL4461 Ecotoxicology and BIOL4480, BIOL4481 Insect-transmitted Diseases. For additional information contact the biological and allied health sciences department.

### Prepharmacy Concentration

Students in the prepharmacy concentration focus on course work that prepare them for admission to a pharmacy school focusing on prerequisites for pharmacy school such as anatomy, physiology and biochemistry. This particular concentration does not involve an affiliation with any pharmacy school.

## Biology Minor

The biology minor is for students *not* majoring in biology.

Students minoring in biology must take 20 credits distributed as follows:

### Required

	Credits
BIOL1201, BIOL1203 Biological Diversity (Lecture and Laboratory).....	4
BIOL1202, BIOL1204 Introduction to Molecules, Cells and Genes (Lecture and Laboratory).....	4
BIOL2003, BIOL2004 Cell Biology (Lecture and Laboratory)...	4

### And

#### Option 1

BIOL2049, BIOL2050 Ecology (Lecture and Laboratory).....	4
BIOL3256, BIOL3257 Genetics (Lecture and Laboratory).....	4
or	

#### Option 2

BIOL1205, BIOL1206 BIOL1207, BIOL1208 Anatomy and Physiology I, II (Lecture and Laboratory).....	8
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## Accelerated Programs with Professional Schools

Maxwell Becton College of Arts and Sciences has combined degree programs with professional schools for its exceptional students. In these programs, students earn both their B.S. degree and professional degree in one year less time than the two degrees normally would require separately. These programs include:

- B.S./D.M.D. (Doctor of Dental Medicine) with the Rutgers School of Dental Medicine, Newark.
- B.S./M.D. with Ross University School of Medicine, Portsmouth, Commonwealth of Dominica, West Indies.
- B.S./D.C. (Doctor of Chiropractic) with Life Chiropractic College West, San Lorenzo, Calif.
- B.S./D.C. with Logan University, Chesterfield, Mo.
- B.S./D.C. with Palmer College of Chiropractic, Davenport, Iowa.
- B.S./D.C. with University of Western States, Portland, Ore.
- B.S./D.O. (Doctor of Osteopathic Medicine) with Lake Erie College of Osteopathic Medicine, Erie, Pa.

- B.S./D.P.M. (Doctor of Podiatric Medicine) with New York College of Podiatric Medicine, New York.
- B.S./D.V.M. (Doctor of Veterinary Medicine) with Ross University School of Medicine, Basseterre, St. Kitts, West Indies.

Contact the health preprofessional adviser in the biological and allied health sciences department for more information about these programs.

## Chemistry Major (B.S.)

### Department of Chemistry and Biochemistry

### Requirements for the Bachelor of Science Degree

The Bachelor of Science with a major in chemistry program is designed for students who plan to enter graduate school or the chemical industry. The curriculum is particularly suited for graduate programs in chemical engineering, computational chemistry, nuclear science, environmental science and the pharmaceutical and energy industry. The curriculum is certified by the American Chemical Society.

The program is also well suited to pre-medical students. Entrance requirements for most medical schools require an undergraduate program to include a general course in biology, general physics, English composition, a modern language and some calculus, in addition to a strong chemistry background. Premedical students should add to the Bachelor of Science with a major in chemistry program two semesters of general biology (botany and zoology) and, perhaps, one advanced biology course as electives. Preprofessional counseling for science and health careers is available on campus. Note: The B.S. in chemistry is American Chemical Society (ACS)-certified.

### Required Courses

	Credits
CHEM1201, CHEM1202 General Chemistry I, II.....	6
CHEM1203, CHEM1204 General Chemistry Laboratory I, II.....	2
CHEM2211, CHEM2213 Inorganic Chemistry.....	4
CHEM2221, CHEM2223 Analytical Chemistry.....	4
CHEM2261, CHEM2262 Organic Chemistry I, II.....	6
CHEM2263, CHEM2264 Organic Chemistry Laboratory I, II.....	2
CHEM3241, CHEM3242 Physical Chemistry I, II.....	6
CHEM3243, CHEM3244 Physical Chemistry Laboratory I, II.....	4
CHEM3281 Biochemistry I.....	3
CHEM3389 Biochemistry Laboratory.....	1

# Chemistry

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	Credits
CHEM4215 Advanced Inorganic Chemistry.....	3
CHEM4233 Instrumental Analysis.....	3
CHEM4234 Instrumental Analysis Laboratory.....	2
CHEM4401 Chemistry Seminar.....	1
ENGW1001 Composition I: Rhetoric and Inquiry.....	3
ENGW1002 Composition II: Research and Argument.....	3
MATH1133 Applied Statistics.....	3
MATH1203, MATH2202 Calculus I, II.....	8
PHYS2003, PHYS2015; PHYS2004, PHYS2014 General Physics with Calculus I, II.....	8
Students continuing a language from high school are advised to satisfy the language requirement in their first year. In addition, MATH2203 Calculus III, MATH3318 Differential Equations, CSCI1205 Introduction to Computer Programming, CSCI2232 Data Structures and CSCI2255 Discrete Structures are recommended.	

## Electives (1–6 credits)

Students may select from the following list of courses:

CHEM3282 Biochemistry II.....	3
CHEM4215 Advanced Inorganic Chemistry.....	3
CHEM4263 Introduction to Medicinal Chemistry.....	3
CHEM4351 Chemical Kinetics.....	3
CHEM4373 Polymer Chemistry.....	3
CHEM4430 Selected Topics in Chemistry.....	3
CHEM4436, CHEM4437 Sophomore Mentored Research in Chemistry.....	0–3
CHEM4438, CHEM4439 Junior Mentored Research in Chemistry.....	0–3
CHEM4440, CHEM4441 Senior Mentored Research in Chemistry.....	0–3
Another course with approval from the department chairperson	

Students may take graduate courses as electives in the seventh and eighth semesters with the approval of the chairperson. See the *Graduate Studies Bulletin* for a list of courses and descriptions.

Students should see pages 54–55 for the College requirements for details of the college general education requirements.

Students planning to enter pharmacy or medical school should take BIOL1201, BIOL1203 Biological Diversity; BIOL1202, BIOL1204 Introduction to Molecules, Cells and Genes; BIOL1205, BIOL1207 Anatomy and Physiology I; BIOL1206, BIOL1208 Anatomy and Physiology II; and additional advanced biology courses as advised. Students considering graduate work in biological chemistry should take as electives BIOL1202, BIOL1204 Introduction to Molecules, Cells and Genes; BIOL2003, BIOL2004 Cell Biology; and BIOL3009, BIOL3019 Microbiology. They also might consider BIOL3337 General Physiology and/or courses from the graduate offerings: BIOL6703 Cell Physiology, BIOL6711 Virology and a course in molecular biology.

## Chemistry Minor

The chemistry minor is for students *not* majoring in chemistry.

The chemistry minor consists of 19–20 credits distributed as follows:

	Credits
CHEM1201, CHEM1202 General Chemistry I, II.....	6
CHEM1203, CHEM1204 General Chemistry Laboratory I, II.....	2
CHEM2261, CHEM2262 Organic Chemistry I, II.....	6
CHEM2263, CHEM2264 Organic Chemistry Laboratory I, II.....	2
Plus one 2000- or 3000-level chemistry course.....	
	3–4

## Combined B.S./M.S. in Chemistry with a Concentration in Pharmaceutical Chemistry

A qualified chemistry major in the fifth semester, with departmental approval, may plan a program to complete the requirements for a Master of Science degree in one additional year beyond the program. See Combined Degree Program section of this publication, page 235.

## Combined B.S. in Chemistry/Pharm.D. Seven-year Program

Students admitted into this program will spend six semesters on undergraduate biochemistry or chemistry requirements and eight semesters in the FDU School of Pharmacy and Health Sciences. High school applicants wishing to enter this program must have an SAT score of 1,150 or higher (on the 1,600 scale) and a 3.50 grade point average. To remain in the program, students must maintain a 3.30 grade point ratio in the first six semesters and must also have a grade of B- or better in all prerequisite college courses. See Combined Degree Program section of this publication, page 266.

## Clinical Laboratory Sciences Major (B.S.C.L.S.)

### Department of Biological and Allied Health Sciences

Completion of this program will result in a B.S. in Clinical Laboratory Sciences with a concentration in medical laboratory science (medical technology) awarded jointly by Fairleigh Dickinson University and the Rutgers School of Health Professions (Rutgers SHP). Students will complete 96 credits during their first three years at Fairleigh Dickinson University. They then must apply for acceptance to the professional component at Rutgers SHP.

Admission to the clinical courses at Rutgers SHP requires a separate application, usually in the junior year. Consult the allied health adviser for application details and time lines. Admissions decisions for the clinical program are made in accordance with criteria, policies and procedures established by a joint Committee on Admissions and Academic Status for the degree program and cannot be guaranteed by FDU. Students admitted to the clinical program must maintain a minimum grade point ratio of 3.00 and a "C" or better in their prerequisite courses at FDU subsequent to admission.

Also see "Allied Health Sciences Majors," page 64.

### Requirements for the Bachelor of Science in Clinical Laboratory Sciences

#### Medical Laboratory Science (Medical Technology) Concentration

Medical laboratory scientists use sophisticated instruments and biochemical, microscopic, molecular and immunological techniques to analyze medical specimens. They provide essential information to physicians about the presence, extent or absence of disease, as well as the effectiveness of treatment. They also apply their biomedical expertise in many areas such as cancer research, stem cell and organ transplantation and infections and genetic-disease testing.

<i>Biology Requirements</i>	Credits
BIOL1110 Medical and Pathological Terminology.....	2
BIOL1201, BIOL1203 Biological Diversity (Lecture and Laboratory).....	4
BIOL1202, BIOL1204 Introduction to Molecules, Cells and Genes (Lecture and Laboratory).....	4
BIOL1205, BIOL1207 Anatomy and Physiology I (Lecture and Laboratory).....	4
BIOL1206, BIOL1208 Anatomy and Physiology II (Lecture and Laboratory).....	4
BIOL2003, BIOL2004 Cell Biology (Lecture and Laboratory).....	4
BIOL3009, BIOL3019 Microbiology (Lecture and Laboratory).....	4
BIOL3332, BIOL3333 Immunology (Lecture and Laboratory).....	4

#### Chemistry Requirements

CHEM1201, CHEM1205 General Chemistry I (Lecture and Laboratory).....	4
CHEM1202, CHEM1204 General Chemistry II (Lecture and Laboratory).....	4
CHEM2261, CHEM2263 Organic Chemistry I (Lecture and Laboratory).....	4
CHEM2262, CHEM2264 Organic Chemistry II (Lecture and Laboratory).....	4
CHEM3281, CHEM3389 Biochemistry I (Lecture and Laboratory).....	4

## Communication Studies Major (B.A.)

### Department of Communication Studies

The B.A. in communication studies is a general liberal arts major providing undergraduate students with a grounding in theory and practice in communication in preparation for professional careers or further study. The major emphasizes connections between disciplines dealing with the role of communication in contemporary culture and lays the foundations for excellence in creative and critical thinking, interpersonal skills, writing and speaking.

#### Requirements for the Bachelor of Arts Degree

Students majoring in communication studies must complete 18 credits of required courses and 27 credits of communication electives.

#### Required Courses (18 credits)

	Credits
COMM2001 Perspectives on Communication Studies.....	3
COMM3018 Mass Communication.....	3
COMM3019 Global Communication.....	3
COMM3022 Communication Research.....	3
COMM4001 Communication Internship I.....	3
COMM4005 Literary and Communication Theory.....	3

#### Communication Electives (27 credits)

Students select at least nine COMM-prefixed 3-credit courses.

or

Students have the option of choosing a concentration: human communication, multimedia journalism or public relations (see this page and next page).

#### Human Communication Concentration

This concentration is for students who wish to gain a thorough understanding of human communication and the theories

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that describe and explain it. It is recommended for students with an interest in all aspects of human interaction or for students considering an advanced course of study.

*Fundamentals (take both courses)*

- COMM2002 Small Group Communication
- COMM2003 Interpersonal Communication

*Principles (take two courses)*

- COMM2005 Narrative Communication in Media and Everyday Life
- COMM2006 Nonverbal Communication
- COMM3004 Organizational Communication
- COMM3014 Family Communication

*Exploration (take two courses)*

- COMM2210 Popular Culture and the Media
- COMM3005 Social Media, Communication and Community
- COMM3023 Film and Culture
- COMM3051 Communication and Gender
- COMM3437 Talk at Work

*Plus*  
3 COMM Electives

## Multimedia Journalism Concentration

This concentration is for students interested in pursuing a career in the ever-changing world of journalism. Although journalism still involves the basics of researching and gathering information, today's journalists have more tools at their disposal for delivering that information to the public: photography, blogs, podcasts, webcasts and more. Potential positions include reporter, editor, newscaster, photojournalist and more.

*Fundamentals (take both courses)*

- COMM2011 Introduction to Journalism
- COMM4444 Multimedia Journalism

*Principles (take two courses)*

- COMM2005 Narrative Communication in Media and Everyday Life

- COMM2214 Introduction to Broadcasting
  - COMM3012 Newswriting
  - COMM3016 News Editing
- Exploration (take two courses)*
- COMM2866 Women and Minorities in Media
  - COMM3013 Feature Writing
  - COMM3051 Communication and Gender
  - COMM3060 Television News
  - COMM3248 Writing for Broadcast and Podcast
  - COMM3341 Radio Management
  - COMM3349 Introduction to Television
  - COMM3432 Sports Journalism
  - COMM3838 Media Ethics

*Plus*  
3 COMM Electives

## Public Relations Concentration

This concentration is for students interested in pursuing a career in the public relations field. The field of public relations has continued to grow and change over the last 10 years and now, more than ever, students need to enhance their knowledge and be well versed in the role that issues of globalization, ethics and responsibility now play in the field. Potential positions include publicity manager, events planner, press agent, lobbyist, strategic communication manager and more.

*Fundamentals (take both courses)*

- COMM2004 Public Relations Principles
- COMM3035 Public Relations Writing

*Principles (take two courses)*

- COMM3004 Organizational Communication
- COMM3030 Events Planning
- COMM3244 Public Relations Campaigns
- COMM3248 Writing for Broadcast and Podcast

*Exploration (take two courses)*

- COMM2002 Small Group Communication
- COMM2003 Interpersonal Communication
- COMM2005 Narrative Communication in Media and Everyday Life

- COMM2006 Nonverbal Communication
- COMM2099 Professional Communications
- COMM3005 Social Media, Communication and Community
- COMM4480 Crisis Communication in a Public Relations Context

*Plus*  
3 COMM Electives

## Advertising Minor

The 15-credit advertising minor is designed for students interested in studying the theoretical, practical and creative elements that go into the creation of compelling and successful advertisements and advertising campaigns. The philosophy behind the minor builds on the recognition that the professional domain of advertising draws from many varied disciplines. First, students must develop a foundational understanding of the concepts and theories included in the areas of advertising and marketing. Then they must develop and polish their theoretical understanding and professional skills in the areas of computer graphics, desktop publishing and basic video making — they need to understand all of the theoretical and creative elements that go into the creation of both print ads and commercials. Finally, students should be given the opportunity to develop their skills with courses that will enhance their knowledge regarding account management, campaign planning, implementation and evaluation.

Note: In order to fulfill the advertising minor, students must select *no more than 9 credits* in their major discipline. This policy is meant to ensure that students are taking full advantage of the interdisciplinary nature of the minor.

## Required Courses (9 credits)

	Credits
CGD1313 Creative Imagery with Photoshop.....	3
CGD1314 Illustrator Graphics and Design.....	3
COMM2221 Advertising Principles.....	3

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## Elective Courses (6 credits)

	Credits
<i>Communication</i>	
COMM4001	
Communication Internship I*.....	3
<i>Computer Graphic Design</i>	
CGD2370	
Print Layout.....	3
CGD3363	
Interactive Publishing.....	3
<i>Film</i>	
FILM1005	
Filmmaking I: Basic Production.....	3
<i>Marketing</i>	
MKTG2120	
Principles of Marketing.....	3
MKTG4272	
Consumer Behavior.....	3
MKTG4365	
Marketing Communications.....	3

## Broadcasting Minor

The broadcasting minor is designed for students interested in studying the theoretical, practical and creative elements within the radio and television industries. The philosophy behind the minor builds on the recognition that the professional domain of broadcasting draws from many varied disciplines. First, students must develop a foundational understanding of the concepts and theories included in the areas of radio and television. Then students can choose to further develop their skills in one or more of the areas through their selection of elective courses. Students are encouraged to take at least one approved broadcasting internship in the field of their choice, as prospective employers look for practical field experience from students.

Note: In order to fulfill the broadcasting minor, students must select *no more than 9 credits* in their major discipline.

This policy is meant to ensure that students are taking full advantage of the interdisciplinary nature of the minor.

## Required Courses (9 credits)

COMM2214	
Introduction to Broadcasting.....	3
COMM3349	
Introduction to Television.....	3
FILM1005	
Filmmaking I: Basic Production.....	3

\*Internship must be in radio or television.

## Elective Courses (6 credits)

	Credits
<i>Cinema Studies</i>	
CINE1501	
Cinematic Storytelling.....	3
<i>Communication</i>	
COMM3060	
Television News.....	3
COMM3248	
Writing for Broadcast and Podcast.....	3
COMM3341	
Radio Management.....	3
COMM4001	
Communication Internship I*.....	3
COMM4002	
Communication Internship II*.....	3
<i>Film</i>	
FILM2208	
Filmmaking II: The Professional Crew...3	
FILM2210	
Postproduction I.....	3
FILM2255	
TV News and Magazine Production.....	3
FILM4461	
Documentary Filmmaking.....	3
<i>Theater</i>	
THEA2005	
Directing I.....	3
THEA2203	
TV Writing and Screenwriting I.....	3
THEA3336	
Acting for Film and Television.....	3
<i>Writing and Creative Writing</i>	
CREW1002	
Introduction to Fiction Writing.....	3
CREW2250	
Screenwriting I.....	3

## Communication Minor

The communication minor is for students interested in the communication discipline who are *not* majoring in communication studies.

## Required Courses (9 credits)

COMM2001	
Perspectives on Communication	
Studies.....	3
COMM3019	
Global Communication.....	3
COMM3050	
Communication Theory	
or	
COMM4005	
Literary and Communication	
Theory.....	3

\*Internship must be in radio or television.

## Elective Courses (6 credits)

	Credits
Choose <i>one</i> of the following:	
COMM2002	
Small Group Communication	
or	
COMM2003	
Interpersonal Communication	
or	
COMM3014	
Family Communication.....	3
Choose <i>one</i> of the following:	
COMM2005	
Narrative Communication in	
Media and Everyday Life	
or	
COMM2210	
Popular Culture and the Media	
or	
COMM2866	
Women and Minorities in Media	
or	
COMM3018	
Mass Communication.....	3

## Journalism Minor

The journalism minor is intended for students who seek to develop a richer understanding of print, online and broadcast media. The purpose of the minor in journalism is to offer students the opportunity to build a skill-set suitable for the professional field of news media. Students can choose from a variety of courses such as newswriting, news editing and article writing. They can also gain newsroom experience through general work with the school newspaper, *The Pillar*, or the completion of a *department-approved* internship.

## Required Courses (9 credits)

COMM2011	
Introduction to Journalism.....	3
COMM3012	
Newswriting.....	3
COMM3016	
News Editing.....	3

## Elective Courses (6 credits)

COMM2851	
Visual Journalism.....	3
COMM3013	
Feature Writing.....	3
COMM3015	
Political Reporting: Journalism in	
an Election Year.....	3
COMM3018	
Mass Communication.....	3

# Communication Studies

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	Credits
COMM3223	
Mass Communication Law.....	3
COMM3248	
Writing for Broadcast and Podcast.....	3
COMM3432	
Sports Journalism.....	3
COMM3858	
Media Ethics.....	3
COMM4001	
Communication Internship I*.....	3
COMM4444	
Multimedia Journalism.....	3

## Political Communication Minor

The political communication minor exposes students to an array of academic skills, substantive knowledge and political experiences that will help them analyze, understand and deploy political discourse in a variety of forms including campaign materials, media coverage, rhetoric, advertisements, constituent communications, persuasive writing and more technical communication and correspondence. The minor addresses issues such as public-opinion formation, strategic communication, press-state relations, communication between publics, political participation and international relations.

### Required Courses (6 credits)

COMM2001	
Perspectives on Communication	
Studies.....	3
GOVT2045	
Public Opinion.....	3

### Elective Courses (9 credits)

Two courses each from communication studies and political science from the list below:

	Credits
COMM2011	
Introduction to Journalism.....	3
COMM2866	
Women and Minorities in Media.....	3
COMM3012	
Newswriting.....	3
COMM3018	
Mass Communication.....	3
GOVT1000	
American Government and Politics.....	3
GOVT2520	
Qualitative Research Methods.....	3
GOVT2526	
Polls and Surveys.....	3
GOVT4498	
Internship in Government and Law*.....	3

### Rotating Topical Courses

COMM3004	
Organizational Communication.....	3
COMM3015	
Political Reporting: Journalism in	
an Election Year.....	3
COMM3051	
Communication and Gender.....	3
GOVT2015	
Campaigns and Elections.....	3
GOVT2526	
Polls and Surveys.....	3
GOVT3040	
Politics and the Media.....	3
GOVT3060	
Political Behavior.....	3

### Public Relations Minor

The public relations minor is designed for students interested in studying the theoretical and practical elements associated with the ethical and responsible practice of public relations and corporate communications. The field of public relations has continued to grow and change over the last 10 years and now, more than ever, students need to enhance their knowledge and be well versed in the role that issues of globalization, ethics and responsibility now play in the field.

### Required Courses (6 credits)

	Credits
COMM2004	
Public Relations Principles.....	3
COMM3035	
Public Relations Writing.....	3

### Elective Courses (9 credits)

Three courses from the following:

COMM2099	
Professional Communications.....	3
COMM3004	
Organizational Communication.....	3
COMM3030	
Events Planning.....	3
COMM3244	
Public Relations Campaigns.....	3
COMM4001	
Communication Internship I*.....	3
PSYC1201	
General Psychology.....	3
PSYC3310	
Social Psychology.....	3
PSYC3318	
Psychology of Everyday	
Persuasion**.....	3

### Accelerated Combined Degree Program — B.A. in Communication Studies/ M.A. in Communication

The department also offers an accelerated B.A. in communication studies/M.A. in communication program. For more information, see page 214.

\*Internship must be at a newspaper.

\*Approval of instructor required.

\*Internship must be in the area of public relations.  
\*\*Offered at Wroxton College.

## Computer Science Major (B.S.)

Department of Mathematics, Computer Science and Physics

### Requirements for the Bachelor of Science Degree

The Bachelor of Science program is designed to give students broad knowledge in the theoretical as well as practical aspects of computer science.

Students must complete 30 credits of required course work in the area of computer science as well as 12 credits of elective course work. In addition, students will complete 14 credits in mathematics and 8 credits in physics to be distributed as follows:

#### Computer Science

##### Required Courses (30–31 credits)

	Credits
CSCI1205	
Introduction to Computer Programming.....	3
CSCI2215	
Introduction to Computer Science.....	3
CSCI2216	
Introduction to Computer Science II.....	3
CSCI2233	
Data Structures and Algorithms.....	3
CSCI2255	
Discrete Structures.....	3
CSCI3278	
Operating Systems.....	3
CSCI3304	
Computer Organization.....	3
CSCI3315	
Software Design.....	3
CSCI3371	
Modeling and Simulation	
or	
MATH3303	
Probability.....	3
CSCI14391	
Senior Project I.....	1
and	
CSCI14391	
Senior Project II.....	2
or	
CSCI4498	
Co-op in Computer Science.....	3

#### Electives (12–17 credits)

Four additional courses to be selected from the 3000- or higher-level offerings in computer science (CSCI designation).

#### Mathematics

##### Required Courses (11 credits)

	Credits
MATH1203	
Calculus I.....	4
MATH2202	
Calculus II.....	4
MATH3318	
Differential Equations	
or	
MATH3220	
Linear Algebra.....	3

#### Electives (3 credits)

One additional course to be selected from the mathematics offerings (MATH designation) above the level of MATH2255 Discrete Structures.

#### Physics

##### Required Courses (8 credits)

PHYS2003, PHYS2013, PHYS2023	
General Physics with Calculus I.....	4
PHYS2004, PHYS2014, PHYS2024	
General Physics with Calculus II.....	4

#### Cybersecurity Concentration

Students planning to major in computer science with a concentration in cybersecurity will take specialized courses in computer science and mathematics such as cryptography and network and data security. There is a provision for internships that will provide practical experience in the field. Courses in this concentration will cover a range of topics from an overview of computer security, foundations — access control matrix, policy — security policies, confidentiality policies, integrity policies and hybrid policies to implementation — information-hiding techniques — steganography, digital watermarking, cryptography, fingerprinting, key management, cipher techniques, authentication, access control mechanisms, confinement problem, user and system security, data security, copyright, digital certificates and digital rights management.

The National Security Agency (NSA) and the Department of Homeland Security (DHS) have designated Fairleigh Dickinson University as a National Center of

Academic Excellence in Information Assurance Education (CAE/IAE) for the academic years 2012 through 2015. It has been renewed for the period 2015 through 2020.

#### Required Courses (24 credits)

	Credits
CSCI1205	
Introduction to Computer Programming.....	3
CSCI2215	
Introduction to Computer Science.....	3
CSCI2216	
Introduction to Computer Science II.....	3
CSCI2233	
Data Structures and Algorithms.....	3
CSCI2255	
Discrete Structures.....	3
CSCI3278	
Operating Systems.....	3
CSCI3304	
Computer Organization.....	3
CSCI3315	
Software Design.....	3
CSCI3371	
Modeling and Simulation.....	3
CSCI4499	
Co-op Computer Science.....	3

#### Computer Science Electives (18 credits)

Students opting for the cybersecurity concentration will include the following in their choice of electives:

CSCI3157	
Cyber Security.....	3
CSCI3355	
Introduction to Cryptography.....	3
CSCI3666	
Data Communications and Computer Networks.....	3
CSCI3869	
Network Security.....	3

In addition to 6 credits of electives in computer science.

#### Recommended Electives

CSCI3268	
Database Systems.....	3
CSCI3333	
Computer Algorithms.....	3

# Computer Science

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## Cognate Courses

	Credits
MATH1203	
Calculus I.....	4
MATH2202	
Calculus II.....	4
MATH3318	
Differential Equations	
or	
MATH3220	
Linear Algebra.....	3
PHYS2003, PHYS2013, PHYS2023	
General Physics with	
Calculus I.....	4
PHYS2004, PHYS2014, PHYS2024	
General Physics with	
Calculus II.....	4
As part of the humanities and social science requirements, students will opt to take PHIL1103 Ethics and SOCI2306 Crime and Criminology.	
<b>Data Mining Concentration</b>	
Students planning to major in computer science with a concentration in data mining will take courses in computer science and mathematics. The concentration was designed based on guidelines provided by the ACM SIGKDD (Association for Computing Machinery's Special Interest Group on Knowledge Discovery and Data Mining) Curriculum Committee.	
<b>Required Courses (31 credits)</b>	
CSCI1205	
Introduction to Computer Programming.....	3
CSCI2215	
Introduction to Computer Science.....	3
CSCI2216	
Introduction to Computer Science II.....	3
CSCI2233	
Data Structures and Algorithms.....	3
CSCI2255	
Discrete Structures.....	3
CSCI3278	
Operating Systems.....	3
CSCI3304	
Computer Organization.....	3
CSCI3315	
Software Design.....	3
CSCI4391	
Senior Project I.....	1
and	
CSCI4392	
Senior Project II.....	2
or	
CSCI4498	
Co-op in Computer Science.....	3

	Credits
MATH3303	
Probability.....	3

## Elective Courses (18 credits)

CSCI3268	
Database Systems.....	3
CSCI3269	
Introduction to Data Mining.....	3
CSCI3270	
Introduction to Machine Learning.....	3
CSCI3333	
Computer Algorithms.....	3
CSCI3998	
Artificial Intelligence.....	3
Any 3000- or 4000-level CSCI course.....	3

## Additional Cognate Requirements

MATH1203	
Calculus I.....	4
MATH2202	
Calculus II.....	3
MATH3220	
Linear Algebra.....	3
PHYS2003, PHYS2013, PHYS2023	
General Physics with	
Calculus I.....	4
PHYS2004, PHYS2014, PHYS2024	
General Physics with	
Calculus II.....	4

## Game Development Concentration

Students planning to major in computer science with a concentration in game development will take courses in computer science, mathematics and animation. The concentration prepares students for a career in gaming as well as in computer science. Students will take special courses that have been designed for this concentration as well as courses in animation and game design.

## Required Courses (27 credits)

CSCI1205	
Introduction to Computer Programming.....	3
CSCI2215	
Introduction to Computer Science.....	3
CSCI2216	
Introduction to Computer Science II.....	3
CSCI2233	
Data Structures and Algorithms.....	3
CSCI2255	
Discrete Structures.....	3
CSCI3278	
Operating Systems.....	3

	Credits
CSCI3315	
Software Design.....	3
CSCI3371	
Modeling and Simulation.....	3
CSCI4391	
Senior Project I.....	1
CSCI4392	
Senior Project II.....	2

## Elective Courses (18 credits)

Additional courses to be selected from the 2000- or higher-level offerings in computer science (CSCI designation). Students opting for the game development concentration must include the following in their choice of electives.

CSCI3333	
Computer Algorithms.....	3
CSCI3388	
Introduction to Game Programming.....	3
CSCI3998	
Artificial Intelligence.....	3
CSCI4488	
Advanced Game Programming.....	3
CSCI electives from levels 3000 and 4000 (CSCI3268 Database Systems is recommended).....	6

## Additional Cognate Requirements

MATH1203	
Calculus I.....	4
MATH2202	
Calculus II.....	3
MATH3220	
Linear Algebra.....	3
PHYS2003, PHYS2013, PHYS2023	
General Physics with	
Calculus I.....	4
PHYS2004, PHYS2014, PHYS2024	
General Physics with	
Calculus II.....	4
Students should also select three cognates from the following.	
ANIM2240	
Low Poly 3D Modeling.....	3
ANIM2500	
3D Computer Animation.....	3
ANIM3330	
3D Environment Modeling.....	3
ANIM3341	
Character Animation Using CAT.....	3

## Computer Science Minor

The computer science minor is for students *not* majoring in computer science. Students who wish to minor in computer science must take 15 credits in computer science, distributed as follows:

## Required Courses (12 credits)

CSCI1205	Introduction to Computer Programming
CSCI2215	Introduction to Computer Science
CSCI2216	Introduction to Computer Science II
CSCI2255	Discrete Structures

## Elective Courses (6 credits)

Six credits of additional course work in computer science to be selected from the 2000- or higher-level offerings in computer science (CSCI designation).

## Five-year Combined Degree Program — B.S./M.S. in Computer Science

The department also offers a five-year B.S./M.S. in computer science program. For more information see page 238.

# Creative Writing Major (B.A.)

## School of the Arts

The B.A. in creative writing offers wonderful opportunities for emerging writers as they prepare for careers in a variety of fields. Students have the chance to study with nationally celebrated professional authors and editors and to play a valued role in a vital community of writers and readers. The distribution of course requirements provides students with a solid background in literary studies, an introduction to creative writing in a number of genres, an advanced focus in a particular genre and an opportunity to choose from dozens of complementary minors to tailor the major to the student's particular interests and needs.

Students have the chance to work as interns at *The Literary Review*, one of the most prestigious literary magazines in the country heading into its 61st year of publishing important writers from around the world. FDU's online student magazine, *Sphere*, offers students the chance to work in all aspects of publishing as they collaborate to create the world's first international student literary journal while making friends and contacts here and around the world.

The program is devoted to providing students with the best possible foundation for careers both in and out of the creative writing field. The program's students are editors, lawyers, writers, teachers, professors and advertising and marketing executives — and many choose to go on to graduate school in creative writing or literature. Students will have many opportunities to volunteer in the community and discover just how much their particular talents are valued in the world while making a significant contribution to it.

## Requirements for the Bachelor of Arts Degree

Students majoring in creative writing must complete 30–36 credits of writing courses and 9 credits of literature courses. An internship in an appropriate setting can be used as a writing elective.

## Required Courses (24 credits)

	Credits
CREW1001	
Introduction to Creative Writing.....	3
CREW2002	
Creative Writing: Fiction.....	3
CREW2003	
Creative Writing: Poetry.....	3
CREW2255	
Playwriting and Dramatic Structure	
or	
CREW2250	
Screenwriting I.....	3
CREW3020	
Reading as Writers	
(by spring of junior year).....	3
CREW4001	
Senior Writing Project I	
(by fall of senior year).....	3
CREW4002	
Senior Writing Project II	
(by spring of senior year).....	3

## Required Electives (6–12 credits)

Students must take an advanced (3000-level) course in at least two of the four genres; students must have completed the 2000-level course before enrolling in the 3000-level course.

Students may elect other CREW 3000-level courses.

CREW2016	
CNF: What's Your Real Story.....	3
CREW3010	
Special Topics: Invented	
Worlds — Speculative and	
Fantastic Fiction.....	3
CREW3011	
Advanced Fiction Writing.....	3
CREW3012	
Advanced Poetry Writing.....	3
CREW3013	
Advanced Dramatic Writing.....	3
CREW3023	
Special Topics: Telling the Truth.....	3

## Additional Electives

CREW4498	
Internship (Creative Writing).....	3

# Criminology

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## Literature Electives (9 credits)

	Credits
LITS2001 Survey I: Ancient to Early Modern or	
LITS2002 World Literature II: 13th–18th Centuries or	
LITS2003 Survey III: Approaches to World Literature.....	3
and	
6 additional credits in LITS at the 2000–4000 level Wroxton ENGL courses may be applied to these electives.	

## Creative Writing Minor

For students *not* majoring in creative writing.

### Required Course (3 credits)

CREW1001 Introduction to Creative Writing.....	3
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### Electives (12 credits)

Select three of the following creative writing courses:

CREW2002 Creative Writing: Fiction.....	3
CREW2003 Creative Writing: Poetry.....	3
CREW2016 CNF: What's Your Real Story.....	3
CREW2255 Playwriting and Dramatic Structure.....	3

Select one of the following advanced writing courses after having completed the 2000-level course in the same genre or with the permission of the instructor:

LITS2001 Survey I: Ancient to Early Modern.....	3
LITS2002 World Literature II: 13th–18th Centuries.....	3
LITS2003 Survey III: Approaches to World Literature.....	3

## Accelerated Combined Degree Program — B.A. in Creative Writing/M.F.A. in Creative Writing Program

For the accelerated combined B.A. in creative writing/M.F.A. in creative writing degree program, see page 215.

# Criminology Major (B.A.)

## Department of Social Sciences and History

### Requirements for the Bachelor of Arts Degree

The criminology major focuses on the nature and causes of crime and on the operation of the criminal justice system both nationally and internationally. Courses focus on the biological, psychological and sociological factors that cause crime; the consequences of crime; the impact of crime on victims and offenders; and the various mechanisms of enforcement and control at the local, state, federal and international levels. Additional courses focus on the social, political and economic factors that underlie crime; theories of punishment; the administration of justice in the United States; and some of the major trends in the field during the last 35 years, which include an examination of mandatory drug laws, zero-tolerance policing and sex-offender legislation. Students majoring in criminology take a minimum of 36 credits. These include the required foundation courses (15 credits); four electives drawn from criminology and/or sociology (12 credits); two electives drawn from government and law, psychology, anthropology or history (6 credits); and a required criminology internship (3 credits).

### Major Requirements (36–45 credits)

#### Required Major Courses (18 credits)

	Credits
CMLGY1201 Introduction to Sociology.....	3
CMLGY1306 Introduction to Crime and Criminology.....	3
CMLGY2203 Research Methods in Criminology.....	3
CMLGY2307 Deviance and Social Control.....	3
CMLGY3309 Policy Analysis.....	3
CMLGY3997 Internship in Criminology.....	1–6

### Criminology Internship (3–6 credits)\*

Students must take at least one of the following:

	Credits
CMLGY3997 Internship in Criminology.....	1–6
CMLGY3998 Internship in Criminology.....	1–6

### Criminology Electives (18–27 credits)

Students must each take a minimum of 18 elective credits; 12 of these credits must be drawn from criminology/sociology courses, with at least 6 additional credits drawn from designated courses from at least two of the following fields: anthropology, history, government and law and psychology.

#### Anthropology

ANTH2430	Anthropology of Law
ANTH2441	Forensic Anthropology
ANTH3349	War and Crime

#### Criminology

CMLGY2300	Wrongful Convictions
CMLGY2431	Anthropology of Crime
CMLGY2701	Penology
CMLGY3301	Women and Crime
CMLGY3307	Civil Liberties and Civil Rights
CMLGY3310	Juvenile Delinquency
CMLGY3316	Global Terrorism

#### Government and Law

GOVT1200	Introduction to Law
GOVT2230	Judicial Process
GOVT3200	American Constitutional Law
GOVT3210	Civil Liberties and Civil Rights
GOVT3220	Criminal Law
GOVT3240	Law and Society

Additional relevant courses may be permitted through the substitution and waiver process.

#### History

HIST2349	Contemporary America: 1968–Present
HIST3250	Crime and Punishment in South Africa

#### Psychology

PSYC3005	Abnormal Psychology
PSYC3310	Social Psychology
PSYC3334	Psychopharmacology
PSYC3360	Forensic Psychology

\*Students may also satisfy the criminology internship requirement through approved participation in The Washington Center for Internships.

# English Language and Literature

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<i>Sociology</i>	
SOCI2248	Globalization, Culture and Identity
SOCI2307	Social Deviance
SOCI2308	Gender and Deviance
SOCI2310	Social Problems
SOCI2316	Sociology of the Family
SOCI2319	Nationalism and Ethnicity
SOCI3308	Drugs in American Society
SOCI3310	Juvenile Delinquency

## **Criminology Minor**

The minor in criminology enables students to examine the following as they relate to race, class, gender and sexuality:

- Nature and causes of crime,
- Deviant and criminal behavior and
- Aspects of the criminal justice system (e.g., police, courts, prison, etc.)

## **Required Course (3 credits)**

CMLGY1306	Introduction to Crime and Criminology
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## **Electives (12 credits)**

Students should select the remaining four courses from the following list:

CMLGY1201	Introduction to Sociology
CMLGY2203	Research Methods in Criminology
CMLGY2204	Qualitative Research Methods
CMLGY2300	Wrongful Convictions
CMLGY2307	Deviance and Social Control
CMLGY2317	Probation and Parole: Theory and Practice
CMLGY2333	Criminal Law
CMLGY2360	Victimology
CMLGY2431	Anthropology of Crime
CMLGY2701	Penology
CMLGY3005	Abnormal Psychology
CMLGY3012	Crisis Intervention
CMLGY3030	Surveillance and Security
CMLGY3040	Capture and Control
CMLGY3207	Offender Reentry and Reintegration
CMLGY3301	Women and Crime
CMLGY3307	Civil Liberties and Civil Rights
CMLGY3308	Law and Society
CMLGY3309	Policy Analysis
CMLGY3310	Juvenile Delinquency
CMLGY3316	Global Terrorism
CMLGY3349	War and Crime
CMLGY3360	Forensic Psychology

CMLGY3404	International Criminal Law
CMLGY3841	Torture
CMLGY3997	Internship in Criminology

Students must have approval from criminology program director to count courses not found on this list toward the criminology minor.

## **English Language and Literature Major (B.A.)**

### ***Department of Literature, Language, Writing and Philosophy***

In the 21st century, literature is a global art that transcends borders, illuminating human concerns, beliefs and experiences. Through the study of a wide range of literary works from past and present and from throughout the world, English language and literature majors in the Maxwell Becton College of Arts and Sciences develop insights needed to understand the diverse aesthetic, cultural and historical bases of literature, and enhance their ability to read with critical understanding and write clearly and analytically.

The English language and literature major offers two options: a track in **English and American literature** and a track in **world literature**. In addition, there are options for students in the five-year QUEST program.

### **Requirements for the Bachelor of Arts Degree**

Students majoring in literature must complete 15 credits of required courses and 27 credits of literature electives.

### **English and American Literature Track**

#### **Required Courses (15 credits)**

	Credits
LITS2001	
Survey I: Ancient to Early Modern.....	3
LITS2002	
World Literature II: 13th–18th Centuries.....	3
LITS2003	
Survey III: Approaches to World Literature.....	3
LITS2004	
Introduction to Literary Criticism.....	3
LITS4001	
Senior Seminar: English and World Literatures.....	3

# English Language and Literature

Maxwell Becton College of Arts and Sciences  
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## Literature Electives (24 credits)

### National Traditions

Choose three courses (9 credits) from the following:

	Credits
LITS3011	
American Literature I.....	3
LITS3012	
American Literature II.....	3
LITS3013	
African-American Literature.....	3
LITS3020	
18th-century British Literature.....	3
LITS3021	
Victorian Age.....	3
LITS3051	
Medieval Literature.....	3
LITS3054	
Romanticism.....	3
LITS3201	
British Writers.....	3
LITS3202	
American Writers: Race in Black and White.....	3
LITS3212	
Chaucer.....	3
LITS3213	
Shakespeare I.....	3
LITS3221	
Medieval and Renaissance Women Writers.....	3
LITS3230	
Jane Austen: Fiction and Film.....	3

### Genres

Choose three courses (9 credits) from the following (only one course from LITS3151 Detective Fiction, LITS3152 Science Fiction and LITS3153 Comic Books and Graphic Novels):

LITS3101	
Greek and Roman Drama.....	3
LITS3102	
Studies in Drama.....	3
LITS3103	
Modern Drama: 1880–1930.....	3
LITS3104	
Contemporary American Drama.....	3
LITS3105	
Contemporary European Drama.....	3
LITS3106	
Contemporary World Drama.....	3
LITS3107	
Hispanic Drama.....	3
LITS3111	
Studies in Poetry.....	3

	Credits
LITS3112	
20th-century Poetry.....	3
LITS3121	
Studies in the Novel.....	3
LITS3122	
20th-century Novel.....	3
LITS3123	
Contemporary Fiction.....	3
LITS3151	
Detective Fiction.....	3
LITS3152	
Science Fiction.....	3
LITS3153	
Comic Books and Graphic Novels.....	3
LITS3154	
Women's Autobiography.....	3

### Topics

Choose three courses (9 credits) from the following:

LITS2008	
Literary Perspectives on Global Cultures.....	3
LITS3014	
American Dreams, American Tragedies.....	3
LITS3072	
Latin-American Women Writers.....	3
LITS3301	
The English Language.....	3
LITS3302	
Myth and Sacred Texts.....	3
LITS3303	
World Folk Literature.....	3
LITS3311	
Children's Literature.....	3
LITS3312	
Young Adult Literature.....	3
LITS3321	
Post-modern Literature.....	3
LITS3322	
Post-colonial Studies.....	3
LITS3331	
Ethnic American Literature.....	3
LITS3341	
Queer Literature.....	3
LITS3351	
Literary Perspectives on the Environment.....	3

## World Literature Track

### Required Courses (15 credits)

	Credits
LITS2001	
Survey I: Ancient to Early Modern.....	3
LITS2002	
World Literature II: 13th–18th Centuries.....	3
LITS2003	
Survey III: Approaches to World Literature.....	3
LITS2004	
Introduction to Literary Criticism.....	3
LITS4001	
Senior Seminar: English and World Literatures.....	3

### Electives (24 credits)

Fifteen credits must emphasize non-Western literature. Courses emphasizing non-Western literature are designated with an asterisk.

### National Traditions

Choose three courses (9 credits) from the following:

LITS3050	
Classical Tradition.....	3
LITS3051	
Medieval Literature.....	3
LITS3052	
Renaissance World.....	3
LITS3053	
18th- and 19th-century European Fiction.....	3
LITS3054	
Romanticism.....	3
LITS3061	
Contemporary World Literature*.....	3
LITS3064	
Vietnam in Film and Literature.....	1
LITS3070	
Voices of Contemporary India*.....	3
LITS3071	
Contemporary African Literature and Culture*.....	3
LITS3081	
Hispanic Traditions*.....	3
LITS3082	
Francophone World*.....	3
LITS3211	
Dante.....	3
LITS3215	
Cervantes.....	3

\*Courses emphasizing non-Western literature.

	Credits
LITS3221	
Medieval and Renaissance Women Writers.....	3
LITS3230	
Jane Austen: Fiction and Film.....	3
<b>Genres</b>	
Choose three courses (9 credits) from the following (only one course from LITS3151 Detective Fiction, LITS3152 Science Fiction and LITS3153 Comic Books and Graphic Novels):	
LITS3101	
Greek and Roman Drama.....	3
LITS3102	
Studies in Drama.....	3
LITS3103	
Modern Drama: 1880–1930.....	3
LITS3104	
Contemporary American Drama.....	3
LITS3105	
Contemporary European Drama.....	3
LITS3106	
Contemporary World Drama.....	3
LITS3107	
Hispanic Drama*.....	3
LITS3111	
Studies in Poetry.....	3
LITS3112	
20th-century Poetry.....	3
LITS3121	
Studies in the Novel.....	3
LITS3122	
20th-century Novel.....	3
LITS3123	
Contemporary Fiction.....	3
LITS3151	
Detective Fiction.....	3
LITS3152	
Science Fiction.....	3
LITS3153	
Comic Books and Graphic Novels.....	3
LITS3154	
Women’s Autobiography.....	3
LITS3155	
The Gothic in Fiction and Film.....	3
LITS3156	
The Novel in Letters.....	3
<b>Topics</b>	
Choose three courses (9 credits) from the following:	
LITS2008	
Literary Perspectives on Global Cultures.....	3
LITS3014	
American Dreams, American Tragedies.....	3

\*Courses emphasizing non-Western literature.

	Credits
LITS3072	
Latin-American Women Writers*.....	3
LITS3301	
The English Language.....	3
LITS3302	
Myth and Sacred Texts*.....	3
LITS3303	
World Folk Literature*.....	3
LITS3311	
Children’s Literature.....	3
LITS3312	
Young Adult Literature.....	3
LITS3313	
Nobel Literature.....	3
LITS3321	
Post-modern Literature*.....	3
LITS3322	
Post-colonial Studies*.....	3
LITS3331	
Ethnic American Literature.....	3
LITS3341	
Queer Literature.....	3
LITS3351	
Literary Perspectives on the Environment*.....	3

## English Language and Literature Minor

The English language and literature minor is for students who are *not* majoring in English language and literature.

### Required Courses (6 credits)

Choose two of the following:

LITS2001	
Survey I: Ancient to Early Modern.....	3
LITS2002	
World Literature II: 13th–18th Centuries.....	3
LITS2003	
Survey III: Approaches to World Literature.....	3

### Electives (12 credits)

Any four LITS courses at the 2000-level or above or FREN, ITAL and SPAN 3000-level courses.

## Film and Animation Major (B.A.)

### School of the Arts

The B.A. in film and animation is the choice for students who want to produce, direct, animate, write and shoot their own creative projects, as well as work in the growing field of film, video and digital entertainment. Within the major are seven concentrations: **2D animation, 3D animation, cinematography, directing, editing, film and video game animation.**

### 2D, 3D Animation Concentrations

FDU’s undergraduate animation program offers three concentrations (3D animation, 2D animation and video game animation [see page 84 for video game animation]). Upon entry, animation majors select one of these concentrations to be their area of focus. As they work their way through the curriculum, students have the option to switch concentrations should they decide to do so. Anyone interested in doing double concentrations should meet with the program director on an individual basis to determine if that is possible.

2D animation exists in space that consists of height and width. The motion is comprised of one drawing followed by another in a slightly different pose, followed by another in a slightly different pose and so on. 2D computer software is used to execute the elements needed to produce today’s two-dimensional animations.

Animations created in 3D computer software packages exist in an X, Y and Z world. The elements created for these kinds of projects are treated almost as physical objects that can be lit to emulate real-world situations, textured realistically and cameras can be placed to view these environments from any angle.

In addition to the credits required for each concentration shown below, students must fulfill the college general education requirements (see pages 54–55).

\*Courses emphasizing non-Western literature.

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## 3D Animation Concentration Requirements

### Required Theory and Production (30 credits)

	Credits
ANIM1500	
Storyboarding.....	3
ANIM1750	
Motion Graphics with After Effects®.....	3
ANIM1850	
3D Computer Modeling.....	3
ANIM2270	
ZBrush Digital Sculpting Human Anatomy.....	3
ANIM2500	
3D Computer Animation.....	3
ANIM3350	
3D Environment Modeling.....	3
ANIM3331	
Logo and Product Animation.....	3
ANIM3541	
Character Animation Using CAT.....	3
ANIM4500	
Thesis I.....	3
ANIM4600	
Thesis II.....	3

## Major Electives (12–15 credits)

4–5 ANIM1000- to 4000-level courses

### Cognate Requirement (3 credits)

CGD1313	
Creative Imagery with Photoshop.....	3

## 2D Animation Concentration Requirements

### Required Theory and Production (27 credits)

ANIM1300	
Writing for Animation.....	3
ANIM1400	
Character Design.....	3
ANIM1500	
Storyboarding.....	3
ANIM1501	
Fundamentals of Animation Principles.....	3
ANIM1750	
Motion Graphics with After Effects®.....	3
ANIM1800	
Vector Animation Using Animate CC.....	3
ANIM2100	
Tradigital Animation.....	3
ANIM4500	
Thesis I.....	3
ANIM4600	
Thesis II.....	3

## Major Electives (15–18 credits)

5–6 ANIM1000- to 4000-level courses

### Cognate Requirements (12 credits)

	Credits
ART1201	
Drawing I.....	3
CGD1313	
Creative Imagery with Photoshop.....	3
CGD1314	
Illustrator Graphics and Design.....	3

Select one from the following:

ART1202	
Drawing II.....	3
ART1250	
Art of the Graphic Novel.....	3
ART3302	
Life Drawing.....	3

## Cinematography Concentration

Cinematography is an art form unique to motion pictures, and the director of photography contributes in areas as diverse as the look of the film, what lighting instruments to use, production design and camera movement. The cinematography concentration will train cinematographers in both the technical and aesthetic skills of the cinematographer. Students also complete courses in other skill areas, as required of a film and animation major.

### Core Major Requirements (27 credits)

CINE1350	
History of Film.....	3
CINE1501	
Cinematic Storytelling.....	3
FILM1005	
Filmmaking I: Basic Production.....	3
FILM2208	
Filmmaking II: The Professional Crew...3	
FILM2210	
Postproduction I.....	3
FILM2250	
Screenwriting I.....	3
FILM3209	
Filmmaking III: Mastering the Art and Craft of Film Production.....	3
FILM4311	
Producing and Directing the Thesis Film I.....	3
FILM4312	
Producing and Directing the Thesis Film II.....	3

## Concentration Requirements (9 credits)

Select three courses from the following:

	Credits
FILM3211	
Cinematography: Lighting.....	3
FILM3214	
Cinematography: Camerawork.....	3
FILM3401	
Advanced Cinematography.....	3
FILM3430	
Reality TV Production.....	3
FILM4465	
Client-driven Production I.....	3

## Major Electives (6–9 credits)

### Cognate Requirements (10–16 credits)

ART1191	
Photography I.....	3
CGD1313	
Creative Imagery with Photoshop.....	3
COMM3549	
Introduction to Television.....	3
THEA3112	
Lighting for the Stage.....	3
THEA3351	
Production and Crew I.....	1
Any survey or auteur course.....	3

## Directing Concentration

The directing concentration is an area that covers a wide array of skills. Directors for the film medium must be educated in both technical and aesthetic areas that encompass what goes on both behind and in front of the camera. Directors must work with other artists to make the film, all the while keeping in mind the experience of the audience. Story structure, performance, camera, editing, sound, set and production design — all come under the auspices of the film director. Students also complete courses in other skill areas, as required of a film and animation major.

### Core Major Requirements (27 credits)

CINE1501	
Cinematic Storytelling.....	3
CINE3350	
Twentieth-century Cinema.....	3
FILM1005	
Filmmaking I: Basic Production.....	3
FILM2208	
Filmmaking II: The Professional Crew...3	
FILM2210	
Postproduction I.....	3
FILM2250	
Screenwriting I.....	3

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	Credits
FILM3209	
Filmmaking III: Mastering the Art and Craft of Film Production.....	3
FILM4311	
Producing and Directing the Thesis Film I.....	3
FILM4312	
Producing and Directing the Thesis Film II.....	3
<b>Concentration Requirements (9 credits)</b>	
CINE2350	
The American Film Director.....	3
FILM3363	
Film Directing.....	3
FILM survey or auteur course (with department approval).....	3
<b>Major Electives (6–9 credits)</b>	
Note: Three credits in internship experience may be used to fulfill major elective require- ments.	
<b>Cognate Requirements (10–16 credits)</b>	
CGD1313	
Creative Imagery with Photoshop.....	3
COMM2210	
Popular Culture and the Media.....	3
MUSIH2205	
Music for the Movies.....	3
PHIL1106	
Ideas of Happiness.....	3
PHIL1107	
Dreams and the Imagination.....	3
PHIL1436	
Asian Philosophy.....	3
PHIL2102	
Space and Time.....	3
PSYC3015	
Theories of Personality.....	3
PSYC3331	
Theories of Learning.....	3
PSYC3333	
Sensation and Perception.....	3
PSYC4291	
History and Systems of Psychology.....	3
THEA1110	
Introduction to Acting.....	3
THEA2005	
Directing I.....	3
THEA3351	
Production and Crew I.....	1

## Editing Concentration

Editing concentration is where all the elements involved in making a film are put together. Orson Welles once said, “Editing isn’t just one part of filmmaking, it is film-

making.” The editing room is where a story can be put together and taken apart; it’s where music and sound can be placed to enhance a story. And managing all the elements of postproduction — from syncing sound to cutting picture, to sound mixing and finalizing special effects — are under the management of the editor and postproduction supervisor. Students also complete courses in other skill areas, as required of a film and animation major.

## Core Major Requirements (27 credits)

	Credits
CINE1501	
Cinematic Storytelling.....	3
CINE3350	
Twentieth-century Cinema.....	3
FILM1005	
Filmmaking I: Basic Production.....	3
FILM2208	
Filmmaking II: The Professional Crew...3	
FILM2210	
Postproduction I.....	3
FILM2250	
Screenwriting I.....	3
FILM3209	
Filmmaking III: Mastering the Art and Craft of Film Production.....	3
FILM4311	
Producing and Directing the Thesis Film I.....	3
FILM4312	
Producing and Directing the Thesis Film II.....	3

## Concentration Requirements (9 credits)

FILM2214	
Audio for Film and Video.....	3
FILM3212	
Postproduction II.....	3
FILM3430	
Reality TV Production	
FILM4461	
Documentary Filmmaking	
or	
FILM4465	
Client-drive Production I.....	3

## Major Electives (6–9 credits)

Note: Three credits in internship experience may be used to fulfill major elective requirements.

## Cognate Requirements (10–16 credits)

ANIM1750	
Motion Graphics with After Effects® ....	3
CGD1313	
Creative Imagery with Photoshop.....	3

COMM2210	
Popular Culture and the Media.....	3
MUSIH2205	
Music for the Movies.....	3
THEA3351	
Production and Crew I.....	1
FILM survey or auteur course (with department approval).....	3

## Film Production Concentration

In the film production concentration, students learn modern digital film production, which has begun to take over the independent film circuit by storm, as well as industry-standard video and film production, shooting projects with HD, (HL), 24p digital cameras, professional Betacam and Arriflex 16mm cameras. Students learn nonlinear postproduction in Becton College’s Final Cut and Avid Editing Rooms. Courses in screenwriting, directing, lighting and cinematography complete production and postproduction courses. The program culminates in senior thesis projects screened at a public movie theater.

## Required Theory and Production (27 credits)

CINE1501	
Cinematic Storytelling.....	3
CINE3350	
Twentieth-century Cinema.....	3
FILM1005	
Filmmaking I: Basic Production.....	3
FILM2208	
Filmmaking II: The Professional Crew...3	
FILM2210	
Postproduction I.....	3
FILM2250	
Screenwriting I.....	3
FILM3209	
Filmmaking III: Mastering the Art and Craft of Film Production.....	3
FILM4311, FILM4312	
Producing and Directing the Thesis Film I, II.....	6

## Major Elective Courses (Film Production) (15–25 credits)

## Cognate Requirements (15–16 credits)

CGD1313	
Creative Imagery with Photoshop.....	3
THEA3351	
Production and Crew I.....	1

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	Credits
Any survey or auteur course.....	3
Art course.....	3
Communications course.....	3
Theater course.....	3

## Video Game Animation Concentration

The video game animation program focuses on the artistic side of video-game production. Students study the formulation of the visual and interactive content, goals and gameplay of video games. The course work for this concentration emphasizes the visual and design components while learning the software necessary to produce animation for video games by constructing practical projects which are commonly produced in professional gaming companies. The faculty are working professionals who bring wealth of real-world experience and knowledge to share with students.

### Required Theory and Production (30 credits)

ANIM1650	Game Design.....	3
ANIM2240	Low Poly 3D Modeling.....	3
ANIM2270	ZBrush Digital Sculpting Human Anatomy.....	3
ANIM2500	3D Computer Animation.....	3
ANIM3330	3D Environment Modeling.....	3
ANIM3341	Character Animation Using CAT.....	3
ANIM3350	3D Game Creation Using Unreal.....	3
ANIM3450	3D Game Creation Using Unity.....	3
ANIM4500	Thesis I.....	3
ANIM4600	Thesis II.....	3

### Major Electives (12–15 credits)

4–5 ANIM1000- to 4000-level courses

### Cognate Requirements (6 credits)

ART1201	Drawing I.....	3
CGD1313	Creative Imagery with Photoshop.....	3

## All Concentrations

### Concentration Electives (14–16 credits)

Electives may be selected from a variety of courses in concentration and cognate disciplines. It is recommended that each student select courses from the elective category that fit into the following tracks:

### Cinematography, Film, Directing and Editing Concentrations

ANIM1750	Motion Graphics with After Effects®
ANIM1850	3D Computer Modeling
ANIM2500	3D Computer Animation
ANIM3330	3D Environment Modeling
ANIM3341	Character Animation Using CAT
CGD2213	2D Design with the Computer
CGD3303	Web Design
CINE1350	History of Film
CINE2404	Films of Alfred Hitchcock
CINE2405	American Film Comedy
CINE3011	Film Noir: Mystery Films 1940s–50s
CINE3215	Introduction to World Cinema
CINE4801	Horror and Science Fiction Movies
COMM3012	Newswriting
COMM3020	Art and Theory of Film
COMM3349	Introduction to Television
FILM3211	Cinematography: Lighting
FILM3212	Postproduction II
FILM3214	Cinematography: Camerawork
FILM3363	Film Directing
FILM3401	Advanced Cinematography
FILM3425	16mm Motion Picture Photography
FILM3426	Producing Movies
FILM3427	Distributing Movies and Media
FILM3430	Reality TV Production
FILM3462	Advanced Production
FILM4409	Music Scoring for Film-Video
FILM4422	Internship in Film I
FILM4423	Internship in Film II
FILM4461	Documentary Filmmaking
FILM4463	Sports Video Production
FILM4465	Client-driven Production I
FILM4466	Producing the Digital Film I
FILM4467	Producing the Digital Film II
FILM4470	Client-driven Production II

FILM4800	Independent Study
Any survey or auteur course	

### Animation Concentration

ANIM2243	Advanced After Effects®
ANIM2245	3D Character Modeling
ANIM2285	3D Asset Creation for Video Games
ANIM2300	Texturing for 3D Production
ANIM3225	Vector Animation II
ANIM3250	3D Particle Animation and Effects
ANIM3343	Advanced Character Animation
ANIM3345	Custom 3D Character Rigging and Animation
ANIM4100	Design and Development of Video Games
ANIM4422	Internship in Animation I
ANIM4423	Internship in Animation II
ANIM4800	Independent Study in Animation
ANIM4900	Faculty/Student Research
ANIM4901	Faculty/Student Research
ANIMH1202	History of Special Effects and Animation

### Video Game Animation Concentration

ANIM1500	Storyboarding
ANIM1750	Motion Graphics with After Effects®
ANIM1850	3D Computer Modeling
ANIM2243	Advanced After Effects®
ANIM2245	3D Character Modeling
ANIM2285	3D Asset Creation for Video Games
ANIM2300	Texturing for 3D Production
ANIM3250	3D Particle Animation and Effects
ANIM3331	Logo and Product Animation
ANIM3343	Advanced Character Animation
ANIM3345	Custom 3D Character Rigging and Animation
ANIM4422	Internship in Animation I
ANIM4423	Internship in Animation II
ANIMH1202	History of Special Effects and Animation

### Animation Minor

Animation is the process of creating the illusion of motion through a variety of techniques. The 15-credit minor in animation prepares students to understand the various types of digital 2D motion graphics (which focus on image manipulation) and 3D computer animation (which takes

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place in virtual worlds) and their uses. The flexibility of this minor allows students to target their area of interest whether it is commercial-style motion graphics, special effects or 3D character animation.

## Required Courses (9 credits)

	Credits
ANIM1850 3D Computer Modeling.....	3
ANIM2500 3D Computer Animation.....	3
CGD1313 Creative Imagery with Photoshop.....	3

## Elective Courses (6 credits)

Select two of the following courses:

ANIM1750 Motion Graphics with After Effects®....	3
ANIM2243 Advanced After Effects®.....	3
ANIM3250 3D Particle Animation and Effects.....	3
ANIM3331 Logo and Product Animation.....	3
ANIM3341 Character Animation Using CAT.....	3

## Cinema Studies Minor

The 15-credit cinema studies minor (previously called the film studies minor) is designed for students interested in studying movies as texts and as popular culture. Traditionally, students of this discipline study the history, production processes and the aesthetics of film as well as the theories that analyze the ways in which film, culture and audience interact to negotiate and construct meaning. The two required courses provide the foundations for these four areas of investigation (history, production, aesthetics, theory). The electives offer an opportunity for a wider breadth of experience or a more tightly focused study.

## Required Foundation Courses (6 credits)

CINE1501 Cinematic Storytelling.....	3
CINE3350 Twentieth-century Cinema.....	3

## Non-American Film Course (3 credits)

Select from the following:

CINE2005 French Cinema	or
FREN2005 French Film.....	

Credits

CINE2015 Italian Cinema.....	3
CINE2207 East Asian Cinema.....	3
CINE2515 Spanish Film.....	3
CINE3015 Japanese Culture Through Film.....	3
CINE3215 Introduction to World Cinema.....	3

## Auteur Course (3 credits)

Three credits on a director, such as:

CINE2010 Films of Spike Lee.....	3
CINE2350 The American Film Director.....	3
CINE2404 Films of Alfred Hitchcock.....	3
CINE2406 Clint Eastwood — The Total Artist.....	3
CINE2408 The Films of Woody Allen.....	3
CINE3345 Films of Steven Spielberg.....	3

## Cinema Studies Course (3 credits)

Three credits of cinema survey such as:

CINE2205 Blondes and Bombshells.....	3
CINE2405 American Film Comedy.....	3
CINE3335 The American Film.....	3
CINE3010 Film Noir: The Dark Side of Cinema.....	3
CINE3011 Film Noir: Mystery Films 1940s–50s.....	3
HIST2100 Medieval History in Film.....	3

## Film Production Minor

The film production minor is for students *not* majoring in film and animation. The minor in film consists of six courses that will prepare students to understand the filmmaking process, analyze the strengths of different genres in the medium and create short films in a digital medium in one of the genres that they have studied.

The courses in this minor will cover the foundations of the three stages of production, 1) conception and development of an idea, 2) preproduction and production and 3) postproduction. Students will choose to emphasize either their writing or production skills.

Credits

CINE1501 Cinematic Storytelling.....	3
FILM1005 Filmmaking I: Basic Production.....	3
FILM2208 Filmmaking II: The Professional Crew...3	
FILM2210 Postproduction I.....	3
FILM2250 Screenwriting I	or
FILM3209 Filmmaking III: Mastering the Art and Craft of Film Production.....	
Any survey or auteur course.....	3

## Screenwriting/Dramatic Writing Minor

The screenwriting/dramatic writing minor is designed for students interested in studying the art and craft of writing for the screen and/or stage. The rationale for the proposed required courses for this minor is that knowledge of all forms of creative and dramatic writing contribute to each other and is necessary for a student to become a well-rounded writer no matter what the format. The most talented, acclaimed and successful screenwriters and playwrights often cross genres. For information contact School of the Arts.

## Required Courses (9 credits)

CREW2255 Playwriting and Dramatic Structure.....	3
FILM2250 Screenwriting I.....	3
FILM2251 Screenwriting II.....	3

## Electives (6 credits)

Select two of the following courses:

COMM2005 Narrative Communication in Media and Everyday Life.....	3
CREW2002 Creative Writing: Fiction.....	3
FILM3303 Advanced Screenwriting I.....	3
FILM3304 Advanced Screenwriting II.....	3
THEA3255 Advanced Playwriting.....	3

# Fine Arts

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## 3D Video Game Animation Minor

With the advancement of 3D-accelerated graphics, video games now go far beyond the sprite-based 2D graphics to display visuals that are more realistic and lifelike. In the 15-credit video game animation minor, students learn how to create optimized 3D graphics and animations that will respond well for the player, and then apply interactivity to those pieces using industry-standard game-creation platforms. Both first-person (rendered from the perspective of the player's character) and third-person (shown from a distance away from the player's character) games are explored.

### Required Courses (9 credits)

	Credits
ANIM2240	
Low Poly 3D Modeling.....	3
ANIM2500	
3D Computer Animation.....	3
CGD1313	
Creative Imagery with Photoshop.....	3

### Elective Courses (6 credits)

Select two of the following courses:

ANIM1650	
Game Design.....	3
ANIM3350	
3D Game Creation Using Unreal.....	3
ANIM3450	
3D Game Creation Using Unity.....	3

## Accelerated Combined Degree Program — B.A. in Film and Animation/M.A. in Animation Program

For the accelerated combined B.A. in film and animation/M.A. in animation degree program, see page 216.

## Accelerated Combined Degree Program — B.A. in Film and Animation/M.F.A. in Animation Program

For the accelerated combined B.A. in film and animation/M.F.A. in animation degree program, see page 217.

# Fine Arts Major (B.A.)

## School of the Arts

### Requirements for the Bachelor of Arts Degree

The School of the Arts offers a concentration in studio arts.

Students should see College requirements on pages 54–55 for details of the general education requirements.

### Studio Arts Concentration (42–45 credits plus 6 cognate credits)

The studio arts concentration offers a program of study for students interested in careers in the fine arts and related fields, such as art education, art therapy and museum studies. This innovative approach to the studio arts matches courses across disciplines from the unique ART1250 Art of the Graphic Novel and ART1260 Ceramic Character Sculpture to the traditional ART3302 Life Drawing and ART3337 Life Sculpture. Students gain a strong foundation as they are individually encouraged to develop their own artistic voice in an interdisciplinary approach. Knowledge of traditional skills is emphasized along with contemporary art and ideas. Offerings include a wide range of classes at multiple levels in drawing, painting, ceramics, sculpture, photography, two- and three-dimensional design, color theory, printmaking, computer graphics and art history. Students are exposed to a range of professional practices which prepare them for diverse careers in the arts.

### Major Requirements (42–45 credits plus 6 cognate credits)

#### Required Courses (33 credits/ 27 Studio Arts plus 6 cognate credits)

	Credits
ART1201	
Drawing I.....	3
ART1202	
Drawing II.....	3
ART1225	
Painting I.....	3
ART1231	
2-Dimensional Design I.....	3
ART1235	
Sculpture I.....	3

	Credits
ART1315	
Ceramics I.....	3
ART2233	
3-Dimensional Design.....	3
ART2236	
Introduction to Color.....	3
ART2316	
Ceramics II	
	or
ART2336	
Sculpture II.....	3
ART3237	
Junior Portfolio Preparation I.....	0
ART4371	
Senior Portfolio Preparation.....	0

### Cognate Requirements — Art History (6 credits)

ARTH1205	
Art History: Prehistoric Through Medieval.....	3
ARTH1206	
Art History: Renaissance Through Today.....	3

### Major Electives (15–18 credits)

It is suggested that electives be taken in studio arts and/or art history. See adviser for updated elective list.

ART1157	
Printmaking I.....	3
ART1169	
Watercolor Painting I.....	3
ART1191	
Photography I.....	3
ART1250	
Art of the Graphic Novel.....	3
ART1260	
Ceramic Character Sculpture.....	3
ART2060	
Advanced Character Sculpture.....	3
ART2061	
Animal Sculpture.....	3
ART2062	
Advanced Animal Sculpture.....	3
ART2269	
Watercolor Painting II.....	3
ART2316	
Ceramics II.....	3
ART2319	
Drawing III.....	3
ART2320	
Drawing IV.....	3
ART2326	
Painting II.....	3
ART2336	
Sculpture II.....	3
ART3302	
Life Drawing.....	3

	Credits
ART3307	
Ceramics III.....	3
ART3308	
Ceramics IV.....	3
ART3313	
Ceramics V.....	3
ART3314	
Ceramics VI.....	3
ART3327	
Painting III.....	3
ART3328	
Painting IV.....	3
ART3337	
Life Sculpture.....	3
ART4422	
Internship in Art I.....	3
ART4423	
Internship in Art II.....	3
ARTH1402	
Museums of New York.....	3
ARTH2218	
20th-century Art.....	3
ARTH3217	
Late 19th-century Art.....	3
ARTH3219	
Art in America.....	3
ARTH3423	
Women Artists.....	3
ARTH3803	
Modern Art in the New York Museum.....	3

## Art History Minor

The minor in art history is designed for students interested in studying the history of visual art as an academic discipline. The required six courses have been selected to prepare students in the fundamentals of this discipline and to cover a range of historical periods — spanning prehistoric to contemporary — as well as a variety of media. One studio art class is included to enhance the students' appreciation of the creative process and to strengthen their ability to write accurately about art.

### Required Courses (9 credits)

ARTH1205	
Art History: Prehistoric Through Medieval.....	3
ARTH1206	
Art History: Renaissance Through Today.....	3
ARTH2218	
20th-century Art.....	3

### Art History Elective (3 credits)

	Credits
ARTH1402	
Museums of New York or	
ARTH2265	
History of Photography or	
ARTH3423	
Women Artists or	
ARTH3803	
Modern Art in the New York Museum.....	3

### Studio Arts Elective (3 credits)

ART1201	
Drawing I or	
ART1225	
Painting I or	
ART1231	
2-Dimensional Design I or	
ART1235	
Sculpture I or	
ART1315	
Ceramics I or	
ART2233	
3-Dimensional Design.....	3

## Studio Arts Minor

The minor in studio arts consists of five courses (15 credits) that will prepare students in the fundamentals of two-dimensional and three-dimensional visual language, allowing them to express themselves in a range of methods and materials.

These courses instill in students the conceptual foundations for understanding the creative process as well as the technical skills to implement their ideas. Student art exhibitions and faculty-led trips to museums and galleries enrich the learning experience.

### Required Courses (12 credits)

	Credits
ART1201	
Drawing I.....	3
ART1225	
Painting I.....	3
ART1235	
Sculpture I and	
ART1231	
2-Dimensional Design I or	
ART2233	
3-Dimensional Design.....	3
ART1315	
Ceramics I.....	3

### Elective (3 credits)

Select any one of the following:

ART1250	
Art of the Graphic Novel.....	3
ART1260	
Ceramic Character Sculpture.....	3
ART2316	
Ceramics II.....	3
ART2326	
Painting II.....	3
ART3302	
Life Drawing.....	3
ART3337	
Life Sculpture.....	3

# Government and Law • Graphic Design

Maxwell Becton College of Arts and Sciences  
Florham Campus

## Government and Law Major (B.A.)

*Department of Social Sciences and History*

### Requirements for the Bachelor of Arts Degree

Students majoring in government and law must complete 30–45 credits of course work in GOVT courses or approved substitutions. The following courses are required.

	Credits
GOVT1000	
American Government and Politics.....	3
GOVT1100	
Global Politics.....	3
GOVT2400	
Political Ethics.....	3
GOVT2500	
Social Analysis.....	3
GOVT3801	
Current Events Seminar.....	3
GOVT4498	
Internship in Government and Law.....	3

Students may also take specially designed tracks in **global politics** and **legal studies**. Students shall select the remaining credits of course work from the 2000-, 3000- and 4000-level courses in government and law with the guidance of their faculty adviser.

Government and law is favored by students preparing for law school. It is not required but students interested in law may wish to major with the legal studies concentration and/or double major with criminology (pages 78–79) or pursue a criminology minor (page 79).

Government and law majors interested in a career in teaching may also be admitted to QUEST, the five-year accelerated preparation program for teaching certification.

Students should see College requirements on pages 54–55 for details of the general education requirements.

### Global Politics Concentration

Students majoring in government and law with a concentration in global politics must complete 33–42 credits of course work in the area of government and law.

The goal of the global politics concentration track is to prepare students for careers in international corporations, non-governmental organizations (NGOs) and

departments and agencies of the federal government which manage foreign affairs.

In addition to the courses required of all government and law majors, students in this track must take a minimum of 12 GOVT credits with a global politics emphasis at a 2000 or higher level. These courses will be designated GOVT2100–2199, GOVT3100–3199 and GOVT4100–4199.

### Legal Studies Concentration

Students majoring in government and law with a concentration in legal studies must complete 33–42 credits of course work in the area of government and law.

The goal of the legal studies concentration is to prepare students for law school or to provide students with a basic overview of law and legal institutions to help them in a variety of careers in government service, public policy or the private sector.

In addition to the courses required of all government and law majors, students in this concentration shall take the following courses:

	Credits
GOVT1200	
Introduction to Law	
or	
GOVT3240	
Law and Society.....	3
GOVT2230	
Judicial Process	
or	
GOVT2030	
The Supreme Court.....	3
GOVT3210	
Civil Liberties and Civil Rights	
or	
GOVT3220	
Criminal Law.....	3
An additional government and law course cross-listed in another field (such as anthropology, criminology, sociology or literature). These courses will be designated GOVT2380–2399, GOVT3380–3399 and GOVT4380–4399.	

### Government and Law Minor

The government and law minor is for students *not* majoring in government and law. Students minoring in government and law must take five courses (15 credits) of government and law (GOVT).

## Graphic Design Major (B.A.)

*School of the Arts*

The graphic design major provides individuals with the opportunity to learn the skills, principles and latest industry-standard tools needed to prepare for a wide variety of careers in the graphic design industry. The courses focus on the art of communication and problem solving through the use of type, space, visual imagery and computer software. This rigorous curriculum merges creative visual aesthetics with modern technology, which is necessary for mastering print, illustration or web media production.

Completion of this program will result in a Bachelor of Arts in graphic design with a concentration in illustration, print design or web design awarded by Fairleigh Dickinson University. Admission decisions are made in accordance with criteria, policies and procedures established by FDU. Students must maintain a grade point ratio of 2.00 in their courses at FDU subsequent to admission.

For more information regarding this major contact the graphic design adviser or the director of the graphic design program at the Florham Campus, Madison, New Jersey.

### Requirements for the Bachelor of Arts Degree

#### Illustration Concentration

Illustration allows for a personal style, giving students a competitive edge in their design careers. The illustration concentration gives students the opportunity to develop their abilities in a wide range of marketing, advertising and editorial-art arenas, through the development of critical-thinking skills in visual communication. Students will learn a variety of digital and real-media techniques, with an emphasis on design principles and concept development.

#### Required Theory and Production Courses (33 credits)

	Credits
CGD1212	
Introduction to Graphic Design.....	3
CGD1313	
Creative Imagery with Photoshop.....	3



# Graphic Design

Maxwell Becton College of Arts and Sciences  
Florham Campus

## Cognate Requirements (9 credits)

	Credits
ANIM1750 Motion Graphics with After Effects®.....	3
ANIM1850 3D Computer Modeling or	
ART1260 Ceramic Character Sculpture or	
ART2233 3-Dimensional Design.....	3
ART1201 Drawing I.....	3

## Web Design Concentration

The web design concentration encompasses a variety of skills in the design and production of websites and other internet products including interface design, authoring and coding through the use of proprietary software. Students study how websites work in order to produce the front-end user interface as well as developing the functionality, navigation and interactivity of web-based products.

## Required Theory and Production Courses (30 credits)

CGD1212 Introduction to Graphic Design.....	3
CGD1313 Creative Imagery with Photoshop.....	3
CGD1314 Illustrator Graphics and Design.....	3
CGD2213 2D Design with the Computer.....	3
CGD3303 Web Design.....	3
CGD3315 WordPress.....	3
CGD3358 Project-based Web Design.....	3
CGD4420 Thesis.....	3
CGD4500 Portfolio Preparation.....	3
CGDH2020 History of Graphic Design.....	3

## Concentration Electives (12 credits)

Choose four from the following:

CGD1050 Creative Concept Drawing.....	3
CGD1552 The Digital Children's Book.....	3
CGD2170 Branding Design.....	3

	Credits
CGD2212 Typography 1.....	3
CGD2215 Editorial Design and Illustration.....	3
CGD2243 Children's Book Publishing.....	3
CGD2370 Print Layout.....	3
CGD3351 Illustration Design.....	3
CGD3352 Typography 2.....	3
CGD3355 Package Design.....	3
CGD3360 Freelance Practices.....	3
CGD3362 Mobile App Design.....	3
CGD3363 Interactive Publishing.....	3
CGD3373 Email Blast Design and Implementation.....	3
CGD3374 Online Ad Design and Implementation.....	3
CGD3380 Social Media Marketing Design.....	3
CGD3385 E-commerce Design.....	3
CGD4422 Graphic Design Internship I.....	3
CGD4423 Graphic Design Internship II.....	3
CGD4900 Faculty/Student Research I.....	3
CGD4901 Faculty/Student Research II.....	3
CGDH2216 Design for Social Responsibility.....	3

Note: Six credits in internship experience may be used to fulfill major elective requirements.

## Cognate Requirements (9 credits)

ANIM1750 Motion Graphics with After Effects® or	
ANIM1850 3D Computer Modeling.....	3
ART1201 Drawing I.....	3
ART1260 Ceramic Character Sculpture or	
ART2233 3-Dimensional Design.....	3

## Graphic Design Minor

The 15-credit minor in graphic design will prepare students to understand, formulate and create design solutions for a variety of visual communication problems in print, the web and other two-dimensional design contexts.

To achieve this goal, the courses in this minor seek to instill in students the conceptual foundations for understanding design, the desire to develop visual sensitivity and the requisite traditional and software skills necessary to confront real-world design situations competitively.

## Required Courses

	Credits
CGD1313 Creative Imagery with Photoshop.....	3
CGD1314 Illustrator Graphics and Design.....	3
CGD2213 2D Design with the Computer.....	3
CGD2370 Print Layout.....	3
CGD3303 Web Design.....	3

Note: Students who previously declared an 18-credit minor must complete a Declaration of Minor form (available in the Records Office) in order to convert to the revised, 15-credit minor. Students who convert to the revised minor MUST complete all requirements affiliated with the 15-credit minor. *No course substitutions will be permitted.*

## Web Design Minor

This 15-credit minor will allow students to explore the field of web design, learning the industry-standard tools and software for development of personal and commercial websites for the computer and mobile devices. The focus is on design, composition, color theory, typography, interaction and responsive design.

## Required Courses (9 credits)

CGD1313 Creative Imagery with Photoshop.....	3
CGD3303 Web Design.....	3
CGD3315 WordPress.....	3

## Electives (6 credits)

Select two of the following courses:

	Credits
ANIM1750 Motion Graphics with After Effects®.....	3
ANIM1850 3D Computer Modeling.....	3
CGD3358 Project-based Web Design.....	3
CGD3360 Freelance Practices.....	3
CGD3361 Mobile Web Design.....	3
CGD3362 Mobile App Design.....	3
CGD3373 Email Blast Design and Implementation.....	3
CGD3374 Online Ad Design and Implementation.....	3
CGD3380 Social Media Marketing Design.....	3
CGD3385 E-commerce Design.....	3

## History Major (B.A.)

### Department of Social Sciences and History

#### Requirements for the Bachelor of Arts Degree

History is the study of the human past, which is an ongoing process of learning and discovery. The major is designed to provide students with a nuanced understanding of the past and to equip them with the tools and skills necessary to become effective critical thinkers, researchers and writers. History majors interested in a career in teaching may also be admitted to QUEST, the five-year accelerated preparation program for teaching certification.

#### Required Courses (15 credits)

	Credits
HIST1150 World History I.....	3
HIST1151 World History II.....	3
HIST3802 Historical Methods.....	3

#### Choose one of the following courses

HIST2400 The Indian Ocean.....	3
HIST2401 Pacific Worlds.....	3
HIST2402 Atlantic Worlds.....	3
HIST2405 Mediterranean Worlds.....	3

#### Choose one from a 4000-level seminar

(Prerequisite: HIST3802 Historical Methods)

#### Major Elective Courses (18–21 credits)

Note: Select three credits from each of the following areas. At least six credits of major electives must be at the 3000 level.

- A. Africa and Asia
- B. Europe
- C. Latin America
- D. United States

Note: Three credits in internship experience (HIST4498 Internship in History) may be used to fulfill major elective requirements.

#### Cognate Requirements (9 credits)

	Credits
ECON1111 Introduction to Economics.....	3
GEOG1102 Geography and World Issues.....	3
GOVT1000 American Government and Politics.....	3

#### Elementary Education Specialization

#### Major Elective Courses (18–21 credits)

Note: Select three credits from each of the following areas. At least six credits of major electives must be at the 3000 level.

- A. Africa and Asia
- B. Europe
- C. Latin America
- D. United States

Note: Three credits in internship experience (HIST4498 Internship in History) may be used to fulfill major elective requirements.

#### Cognate Requirement (3 credits)

GEOG1102 Geography and World Issues.....	3
---------------------------------------------	---

#### Secondary Education Specialization

#### Major Elective Courses (18–21 credits)

Note: Select three credits from each of the following areas. At least six credits of major electives must be at the 3000 level.

- A. Africa and Asia
- B. Europe
- C. Latin America
- D. United States

Note: Three credits in internship experience (HIST4498 Internship in History) may be used to fulfill major elective requirements.

#### Cognate Requirement (3 credits)

ECON1111 Introduction to Economics.....	3
GEOG1102 Geography and World Issues.....	3
GOVT1000 American Government and Politics.....	3

# Humanities

Maxwell Becton College of Arts and Sciences  
Florham Campus

## Elementary Education and Special Education Specialization

### Major Elective Courses (18–21 credits)

Note: Select three credits from each of the following areas. At least six credits of major electives must be at the 3000 level.

- A. Africa and Asia
- B. Europe
- C. Latin America
- D. United States

Note: Three credits in internship experience (HIST4498 Internship in History) may be used to fulfill major elective requirements.

### Cognate Requirement (3 credits)

GEOG1102	Credits
Geography and World Issues.....	3

### History Minor

The history minor is *not* for students majoring in history. The history minor consists of 15 credits in history (HIST) courses.

## Humanities Major (B.A.)

*Department of Literature, Language, Writing and Philosophy*

### Requirements for the Bachelor of Arts Degree

The humanities major is designed for students who desire to pursue a broadly based liberal arts education. It offers an integrated experience built around two seminars taken in the sophomore or junior year and the senior year.

Majors will complete a total of 36–39 credits. Two options are available.

#### Standard Program (for students not in the QUEST/Teacher Preparation Program)

A. *Humanities Seminar* — 6 credits  
HUMN2201 Humanities Seminar I — 3 credits completed no later than the first semester of the junior year

HUMN3211 Humanities Seminar II — 3 credits completed in the senior year

B. *Basic Humanities Electives* — 24 credits (No more than one course at the 1000-level in any one discipline)

Literature — 6 credits (any 2000- or 3000- level ENGL, LITS or courses in literature in translation in modern languages)

History — 6 credits

Philosophy — 6 credits

Arts (music, art history, theater, film) — 6 credits in courses emphasizing historical or generic content; production and studio courses are not counted toward the humanities major.

C. *Advanced Electives* — 6–9 credits at 2000- or 3000-level in any combination of disciplines in Category B. An internship experience may be included in this group of courses.

#### Humanities B.A./QUEST/Teacher Preparation — Elementary Education

This option provides sufficient credits in English and history courses to permit QUEST students to qualify for middle-school certification as well.

A. *Humanities Seminar* — 6 credits  
HUMN2201 Humanities Seminar I — 3 credits completed no later than the first semester of the junior year

HUMN3211 Humanities Seminar II — 3 credits completed in the senior year

#### B. Humanities Electives

Literature — 9 credits (any 2000- to 4000-level courses in ENGL, LITS or literature in translation in modern languages)

History — 12 credits (at least 3 credits in world history and 3 credits in American history)

Philosophy — 3 credits

Arts — 3 credits (any course in art history, music, theater, film emphasizing historical or generic content; production and studio courses are not counted toward the major)

Additional electives in history, literature, philosophy, art or internship — 3–6 credits

Note that ENGW1101 College Writing Workshop and ENGW1102 Research Writing Workshop count toward the credits in English, and GOVT1000 American Government and Politics is counted toward the credits in history required for certification. GOVT1000 American Government and Politics is taken to fulfill the College's general education requirements in social and behavioral sciences.

### Humanities Minor

The humanities minor is for students *not* majoring in humanities. Students minoring in humanities must take 18 credits distributed as below:

#### Required Course (3 credits)

HUMN2201	Credits
Humanities Seminar I.....	3

#### Introductory Humanities Electives (6 credits)

Introductory (1000- to 2000-level) courses in English, literature, film (non-production), history, philosophy, theater (non-studio), art (non-studio) and music (non-performance).

#### Advanced Humanities Electives (9 credits)

Any advanced courses (2000-, 3000-, 4000-level) in subjects above; no more than 6 credits in a single discipline.

## Mathematics Major (B.A.)

*Department of Mathematics, Computer Science and Physics*

### Requirements for the Bachelor of Arts Degree

Students should see College requirements (pages 54–55) for details of the general education requirements. Majors must complete 40–41 credits of courses in mathematics and computer science and 8 credits in physics to be distributed as follows:

#### Required Courses (26 credits)

CSCI2215	Introduction to Computer Science
MATH1205,	Calculus I, II, III
MATH2202,	
MATH2203	
MATH2255	Discrete Structures
MATH3220	Linear Algebra
MATH3251	Introductory Analysis
	or
MATH3232	Multivariable Advanced Calculus
MATH3303	Probability

#### Elective Courses (15 credits)

Five courses to be selected from the mathematics offerings (MATH designation) above the level of MATH2255 Discrete Structures or, with the permission of the department, from the graduate offerings in mathematics. With the permission of the department, up to 6 credits from the 2000- or higher-level offerings in computer science (CSCI designation) may be substituted for mathematics electives.

At least one of the following pairs of courses must be completed.

##### Pair I

MATH3251	Introductory Analysis
MATH3335	Complex Variables
	or

##### Pair II

MATH3309	Numerical Analysis
MATH3318	Differential Equations
	or

##### Pair III

MATH3210	Number Theory
MATH3225	Abstract Algebra
	or

##### Pair IV

MATH3318	Differential Equations
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MATH3371	Modeling and Simulation
	or

##### Pair V

MATH2255	Discrete Structures
MATH3306	Combinatorics
	or

##### Pair VI

MATH3220	Linear Algebra
MATH3331	Higher Geometry
	or

##### Pair VII

MATH3303	Probability
MATH3305	Advanced Probability and Statistics

#### Required Physics Courses (8 credits)

Majors must also complete PHYS2003, PHYS2013, PHYS2023 and PHYS2004, PHYS2014, PHYS2024 General Physics with Calculus I and II. PHYS2003, PHYS2013 will be applied to the science requirements of the general education requirements.

Students are urged to take CHEM1201 General Chemistry I and CHEM1203 General Chemistry Laboratory I in fulfillment of the additional science requirement of the general education requirements.

#### Actuarial Science Concentration

Students planning to major in mathematics with a concentration in actuarial science should complete all requirements for the B.A. degree in mathematics with the selection of the following courses as electives in the major:

MATH3305	Advanced Probability and Statistics
MATH3309	Numerical Analysis

To fulfill the general education requirements, they are required to take:

ECON2001	Introduction to Microeconomics
ECON2102	Introduction to Macroeconomics

Additional cognate requirements include:

ACCT2021	Introductory Financial Accounting
CSCI1205	Introduction to Computer Programming
CSCI2215	Introduction to Computer Science
FIN3250	Principles of Financial Analysis
FIN3310	Intermediate Financial Analysis

The above requirements will assist students in preparing for actuarial exams 1 and 2, which are jointly administered by the Society of Actuaries and the Casualty Actuarial Society.

Independent-study courses are also available to further develop the fundamental mathematical/statistical concepts applicable to insurance problems. Specifically, the student may

1. Study the Theory of Interest and Life Contingencies to strengthen their preparation for exam 2 and/or
2. Study Actuarial Mathematics and Models to begin preparation for exam 3.

#### Computer Science Concentration

Students planning to major in mathematics with a concentration in computer science should choose CSCI1205 Introduction to Computer Programming in fulfillment of the quantitative analysis requirement of the general education requirements.

#### Required Courses (34 credits)

CSCI2215	Introduction to Computer Science.....	3
CSCI2216	Introduction to Computer Science II.....	3
CSCI2233	Data Structures and Algorithms.....	3
CSCI2255	Discrete Structures.....	3
MATH1203	Calculus I.....	4
MATH2202	Calculus II.....	4
MATH2203	Calculus III.....	4
MATH3220	Linear Algebra.....	3
MATH3251	Introductory Analysis	
	or	
MATH3232	Multivariable Advanced Calculus.....	3
MATH3303	Probability.....	3

#### Elective Courses (15 credits)

Two courses (3 credits each) to be selected from the mathematics offerings (MATH designation) above the level of MATH2255 Discrete Structures or, with the permission of the department, from the graduate offerings in mathematics and three courses (3

# Mathematics

Maxwell Becton College of Arts and Sciences  
Florham Campus

credits each) to be selected from the 3000- or higher-level offerings in computer science (CSCI designation).

## Required Physics Courses (8 credits)

Majors must also complete PHYS2003, PHYS2013, PHYS2023 and PHYS2004, PHYS2014, PHYS2024 General Physics with Calculus I and II. PHYS2003, PHYS2013 will be applied to the laboratory science requirement of the core curriculum.

Students are urged to take CHEM1201 General Chemistry I and CHEM1203 General Chemistry Laboratory I in fulfillment of the additional science requirement of the general education requirements.

## Financial Mathematics Concentration

Students planning to major in mathematics with a concentration in financial mathematics should complete all requirements for the B.A. degree in mathematics with the selection of the following courses as electives in the major:

MATH3307 Mathematics of Finance  
MATH3309 Numerical Analysis  
MATH4007 Financial Mathematics II  
In addition to 12 credits of mathematics electives

To fulfill the general education requirements, students are required to take:

ECON2001 Introduction to Microeconomics  
ECON2102 Introduction to Macroeconomics

Additional cognate requirements include:

ACCT2021 Introductory Financial Accounting  
CSCI1205 Introduction to Computer Programming  
CSCI2215 Introduction to Computer Science  
FIN3250 Principles of Financial Analysis  
FIN3310 Intermediate Financial Analysis  
FIN4341 Financial Markets and Institutions  
FIN4343 Securities and Investments  
FIN4405 Analytical Methods in Finance

## Mathematical Statistics Minor

This 15-credit minor is for students in the Silberman College of Business and Maxwell Becton College of Arts and Sciences.

### Required Courses (15 credits)

	Credits
MATH1203	
Calculus I.....	4
MATH2202	
Calculus II.....	4
MATH3300	
Statistics I.....	3
MATH3303	
Probability.....	3

## Mathematics for Cybersecurity Minor

This 16-credit minor is for non-computer science majors.

### Required Courses (16 credits)

CSCI1205	
Introduction to Computer Programming.....	3
MATH1133	
Applied Statistics.....	3
MATH1203	
Calculus I.....	4
MATH2255	
Discrete Structures.....	3
MATH3355	
Introduction to Cryptography.....	3

## Mathematics for the Business World Minor

### Required Courses (15 credits)

MATH1203	
Calculus I.....	4
MATH2202	
Calculus II.....	4
MATH3303	
Probability.....	3
MATH3371	
Modeling and Simulation	
or	
MATH3305	
Advanced Probability and Statistics	
or	
MATH3307	
Mathematics of Finance.....	4

## Mathematics Minor

The mathematics minor is for students *not* majoring in mathematics. Students minor-ing in mathematics must take 18 credits in mathematics distributed as follows:

### Required Courses (11 credits)

	Credits
MATH1203	
Calculus I.....	4
MATH2202	
Calculus II.....	4
MATH3220	
Linear Algebra.....	3

### Elective Courses (7 credits)

Seven credits of additional course work in mathematics to be selected from the 2000- or higher-level offerings in mathematics (MATH designation).

# Medical Imaging Sciences

Maxwell Becton College of Arts and Sciences  
Florham Campus

## Medical Imaging Sciences Major (B.S.M.I.S.)

### Department of Biological and Allied Health Sciences

Completion of this program will result in a Bachelor of Science in Medical Imaging Sciences with a concentration in diagnostic medical sonography or vascular technology awarded jointly by Fairleigh Dickinson University and the Rutgers School of Health Professions (Rutgers SHP). Students will complete 96 credits during their first three years at FDU. They then must apply for acceptance to the professional component at Rutgers SHP for their senior year. A joint degree is awarded upon completion of the professional component.

Admission to the clinical courses at Rutgers SHP requires a separate application, usually in the junior year. Consult the program adviser for application details and time lines. Admissions decisions for the clinical program are made in accordance with criteria, policies and procedures established by a joint Committee on Admissions and Academic Status for the degree program and cannot be guaranteed by FDU. Students admitted to the clinical program must maintain a minimum grade point ratio of 2.85 and a “C” or better in their prerequisite courses at FDU subsequent to admission.

For more information regarding these degrees, contact the allied health adviser, Florham Campus.

Also see “Allied Health Sciences Majors,” page 64.

### Requirements for the Bachelor of Science in Medical Imaging Sciences Degree

#### Biology Requirements Credits

BIOL1110	
Medical and Pathological Terminology.....	2
BIOL1201, BIOL1203	
Biological Diversity (Lecture and Laboratory).....	4
BIOL1202, BIOL1204	
Introduction to Molecules, Cells and Genes (Lecture and Laboratory).....	4
BIOL1205, BIOL1206	
Anatomy and Physiology I, II*.....	8
BIOL2003, BIOL2004	
Cell Biology (Lecture and Laboratory)....	4
BIOL3009, BIOL3019	
Microbiology (Lecture and Laboratory).....	4
BIOL3256, BIOL3257	
Genetics (Lecture and Laboratory).....	4

#### Chemistry Requirements

CHEM2261, CHEM2262	
Organic Chemistry I, II.....	6
CHEM2263, CHEM2264	
Organic Chemistry Laboratory I, II.....	2

#### Physics Requirements

PHYS1001, PHYS1011;	
PHYS1002, PHYS1012	
General Physics I, II — (Lecture and Laboratory)	
4 credits each semester	
or	
PHYS2003, PHYS2013;	
PHYS2004, PHYS2014	
General Physics with Calculus I, II — (Lecture and Laboratory)	
4 credits each semester.....	8

After completion of three years of study (a minimum of 96 credits) at FDU, the program is completed in 12–15 months at the Rutgers School of Health Professions. With the successful completion of the program at Rutgers SHP, the student will earn the Bachelor of Science in Medical Imaging Sciences.

### Concentrations

There are two concentrations available within this degree:

#### Diagnostic Medical Sonography Concentration

Diagnostic medical sonographers provide patient services using diagnostic ultrasound under the supervision of a licensed physician. Sonographers look for subtle differences between healthy and pathological areas and decide what images to include in their report. The sonographer may provide this service in a variety of medical settings where the physician is responsible for the use and interpretation of ultrasound procedures. For requirements see “Requirements for the Bachelor of Science in Medical Imaging Sciences Degree.” A grade of B- or better in BIOL1205, BIOL1206 Anatomy and Physiology I, II is required for this concentration.

#### Vascular Technology Concentration

Vascular technologists assist physicians in the diagnosis of disorders affecting circulation by use of ultrasound instrumentation. They noninvasively record vascular information such as blood pressure, oxygenation and circulation throughout the body. For requirements see “Requirements for the Bachelor of Science in Medical Imaging Sciences Degree.” A grade of B- or better in BIOL1205, BIOL1206 Anatomy and Physiology I, II and CPR Certification are required for this concentration.

\*A grade of B- or better is required for Diagnostic Medical Sonography and Vascular Technology concentrations.

# Philosophy

Maxwell Becton College of Arts and Sciences  
Florham Campus

## Philosophy Major (B.A.)

*Department of Literature,  
Language, Writing and Philosophy*

### Requirements for the Bachelor of Arts Degree

Philosophy as a major can be combined with any other major and/or minor in the liberal arts and social sciences. Students concentrating in philosophy must complete 30 credits (10 courses) in philosophy.

#### Required Courses (9 credits)

To be taken in the first or second semester:

	Credits
PHIL1101 Introduction to Logic.....	3
PHIL1102 Introduction to Philosophy.....	3

To be taken in the last year:

PHIL4401 Philosophy Seminar.....	3
-------------------------------------	---

#### Elective Courses (21 Credits)

To be chosen from the available courses. The student must consult with his/her adviser to make sure that the distribution is reasonable and representative across the subfields of philosophy.

*History of Philosophy, Metaphysics, Epistemology, Philosophy of Language, Philosophy of Mind, Philosophy of Science*

PHIL1106 Ideas of Happiness.....	3
PHIL1107 Dreams and the Imagination.....	3
PHIL1112 Critical Thinking for College and Life.....	3
PHIL1114 Philosophy Through Movies.....	3
PHIL1439 Nietzsche: Philosopher as Psychologist....	3
PHIL2102 Space and Time.....	3
PHIL2201 Ancient Philosophy.....	3
PHIL2202 Modern Philosophy.....	3
PHIL2205 Contemporary Philosophy.....	3
PHIL2828 Immortality and Reincarnation.....	3
PHIL3306 The Problem of Evil.....	3

*Philosophy of Religion, Ethics, Social and Political Philosophy, Philosophy of Art*

	Credits
PHIL1103 Ethics.....	3
PHIL1106 Ideas of Happiness.....	3
PHIL1119 Legal Issues from a Philosophic Perspective.....	3
PHIL1440 Biomedical Ethics.....	3
PHIL2008 Ethical Issues in the Movies.....	3
PHIL2201 Ancient Philosophy.....	3
PHIL2202 Modern Philosophy.....	3
PHIL2205 Contemporary Philosophy.....	3
PHIL2205 Social and Political Philosophy.....	3
PHIL2207 Philosophy of Religion.....	3
PHIL2208 Crime and Punishment.....	3
PHIL2210 What is Radical Politics?.....	3
PHIL2211 Philosophy and Film.....	3
PHIL2432 Philosophy of Law.....	3
PHIL2777 Formal Logic.....	3
PHIL2828 Immortality and Reincarnation.....	3
PHIL3005 War and Philosophy.....	3

Students majoring in philosophy must complete the humanities area requirement of the general education requirements in areas other than philosophy.

Students should see College requirements on pages 54–55 for details of the general education requirements.

**Philosophy Minor**

The philosophy minor is for students *not* majoring in philosophy. The philosophy minor consists of 15 credits distributed as below:

PHIL1101 Introduction to Logic.....	3
PHIL1102 Introduction to Philosophy.....	3

**Required Courses (6 credits)**

PHIL1101 Introduction to Logic.....	3
PHIL1102 Introduction to Philosophy.....	3

The remaining 9 credits should be selected from the following courses:

	Credits
PHIL1103 Ethics.....	3
PHIL1106 Ideas of Happiness.....	3
PHIL1107 Dreams and the Imagination.....	3
PHIL1112 Critical Thinking for College and Life.....	3
PHIL1114 Philosophy Through Movies.....	3
PHIL1119 Legal Issues from a Philosophic Perspective.....	3
PHIL1120 Language and Communication.....	3
PHIL1440 Biomedical Ethics.....	3
PHIL1439 Nietzsche: Philosopher as Psychologist.....	3
PHIL2008 Ethical Issues in the Movies.....	3
PHIL2102 Space and Time.....	3
PHIL2201 Ancient Philosophy.....	3
PHIL2202 Modern Philosophy.....	3
PHIL2203 Contemporary Philosophy.....	3
PHIL2205 Social and Political Philosophy.....	3
PHIL2207 Philosophy of Religion.....	3
PHIL2208 Crime and Punishment.....	3
PHIL2210 What is Radical Politics?.....	3
PHIL2828 Immortality and Reincarnation.....	3
PHIL3005 War and Philosophy.....	3
PHIL3306 The Problem of Evil.....	3

Note: Students who previously declared an 18-credit minor in this area must complete a Declaration of Minor form (available in the Records Office) in order to convert to the revised, 15-credit minor. Students who convert to the revised minor MUST complete all requirements affiliated with the 15-credit minor. *No course substitutions will be permitted.*

# Physical Education • Psychology

Maxwell Becton College of Arts and Sciences  
Florham Campus

## Physical Education

### Associate Dean's Office

The University encourages student participation in those physical activities that have social significance and allow for lifetime participation and interest. With this philosophy in mind, the emphasis in physical education courses is on those activities that have enduring value.

## Psychology Major (B.A.)

### Department of Psychology and Counseling

#### Requirements for the Bachelor of Arts Degree

The psychology major is designed for students to gain a broad background in the scientific study and philosophical understanding of people, along with the practical applications of the discipline. For those students who wish to pursue advanced degrees, the program provides the basic knowledge and tools necessary for graduate study.

Students majoring in psychology must complete a minimum of 32 credits of course work in psychology. Students should see College requirements on pages 54–55 for details of the general education requirements. The required courses and suggested sequence are:

	Credits
PSYC1201 General Psychology (first or second semester).....	3
PSYC2210 Psychological Statistics (third semester).....	4
PSYC2211 Research Methods (fourth semester).....	4
PSYC4291 History and Systems of Psychology.....	3
In addition, students are required to select one of the listed courses from each of the following content areas of psychology.	
<b>Area I: Experimental Psychology</b>	
PSYC3030 Advanced Experimental Psychology.....	3
PSYC3032 Physiological Psychology.....	3
PSYC3331 Theories of Learning.....	3
PSYC3333 Sensation and Perception.....	3
PSYC3334 Psychopharmacology.....	3
PSYC3335 Cognitive Psychology.....	3

#### Area II: Social Psychology

	Credits
PSYC3011 Group Dynamics.....	3
PSYC3015 Theories of Personality.....	3
PSYC3310 Social Psychology.....	3

#### Area III: Clinical Psychology

PSYC3001 Human Development (Child).....	3
PSYC3005 Abnormal Psychology.....	3
PSYC3302 Human Development (Adolescent).....	3

#### Area IV: Industrial Psychology

PSYC3320 Managerial Psychology.....	3
PSYC3322 Industrial Psychology.....	3

The remaining credits may be electives selected, with the guidance of the students' faculty advisers, from the PSYC3000 and PSYC4000 series of psychology course offerings. It is suggested that those students who seek a professional career in psychology:

1. Avoid an overconcentration in any one area of psychology at the undergraduate level and have as broad an exposure as possible to the entire field.
2. Become involved in an independent study project or internship at some point during their fifth through eighth semester of study.

Students concentrating in psychology must complete the social-behavioral sciences requirement of the general education requirements in an area other than psychology.

#### Behavioral Neuroscience Concentration

The psychology department, in conjunction with the biological and allied health sciences and chemistry departments, offers a course of study leading to a B.A. in psychology with a concentration in behavioral neuroscience. This is designed for students wishing to earn a baccalaureate degree with an emphasis on the physiological basis of behavior. The curriculum of 120 credits is structured to maximize the benefits available through the interdisciplinary study of psychology, biology and chemistry. Undergraduate course requirements provide for the integrated understanding of the phar-

# Sociology

Maxwell Becton College of Arts and Sciences  
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macology of drug action and brain function as they relate to the discipline of behavioral neuroscience. Major core requirements include two semesters of general chemistry and laboratories, one semester of organic chemistry and laboratory, one semester of cell biology and laboratory and one semester of lectures and laboratories on the anatomy and physiology of the human body. Psychology requirements include general psychology, two semesters of statistical and experimental methods, physiological psychology and psychopharmacology. Course study culminates with an advanced neuroscience methods seminar. Graduates would be prepared for graduate study in psychology, biology or neuroscience. Career openings exist in pharmaceutical research, pharmaceutical sales and marketing, hospital laboratory technology and animal care.

## Major Requirements (46 credits)

### Required Major Courses

<b>(40 credits)</b>	Credits
BIOL1202	
Introduction to Molecules, Cells and Genes.....	4
BIOL2003, BIOL2004	
Cell Biology (Lecture and Laboratory).....	4
CHEM1202	
General Chemistry II.....	3
CHEM1204	
General Chemistry Laboratory II.....	1
CHEM2261	
Organic Chemistry I.....	3
CHEM2263	
Organic Chemistry Laboratory I.....	1
PSYC1201	
General Psychology.....	3
PSYC2210	
Psychological Statistics.....	4
PSYC2211	
Research Methods.....	4
PSYC3032	
Physiological Psychology.....	3
PSYC3334	
Psychopharmacology.....	3
PSYC4130	
Behavioral Neuroscience Methods.....	4
PSYC4447	
Medical Psychology.....	3

## Major Elective Courses (6 credits)

Select from the following:

	Credits
CHEM4430	
Selected Topics in Chemistry.....	1–3
CHEM4685	
Pharmacology.....	3
PSYC3333	
Sensation and Perception.....	3
PSYC3335	
Cognitive Psychology.....	3

## Psychology Minor

The psychology minor is for students *not* majoring in psychology. The psychology minor (15 credits) consists of

### Required Course (3 credits)

PSYC1201	
General Psychology.....	3

### Electives (12 credits)

PSYC courses (3 credits each).....12

Note: Students who previously declared an 18-credit minor must complete a Declaration of Minor form (available in the Records Office) in order to convert to the revised, 15-credit minor. Students who convert to the revised minor **MUST** complete all requirements affiliated with the 15-credit minor. *No course substitutions will be permitted.*

## Combined Accelerated B.A./M.A. Program

The department also offers an accelerated B.A./M.A. program. For more information, see page 223.

# Sociology Major (B.A.)

## Department of Social Sciences and History

Students majoring in sociology develop the knowledge and analytical skills needed to pursue entry-level positions and professional careers in law, business, criminal justice, education, government, health and medicine, human resources, public relations, social work and social services. In addition, the bachelor's degree is a first step for graduate work in sociology in preparation for a career as a professor or researcher. Sociology majors interested in a career in teaching may also be admitted to QUEST, the five-year accelerated preparation program for teaching certification.

## Requirements for the Bachelor of Arts Degree

Students should see College requirements on pages 54–55 for details of the general education requirements. Students majoring in sociology must complete 30–45 credits of course work in the area of sociology. The following courses must be included in the 30 credits.

SOCI1201	Introduction to Sociology
SOCI2203	Methods in Social Research
SOCI3021	Classical Sociological Theory or
SOCI3022	Contemporary Social Theory

The remaining 21–36 credits of course work shall be selected from SOCI2000, SOCI3000 and SOCI4000 courses with the guidance of the students' faculty advisers.

Students majoring in sociology may choose to take the criminology or prelaw minor, see page 79 and pages 62–63.

## Anthropology Minor

Students minoring in anthropology must take ANTH1202 Cultural Anthropology (3 credits) plus four other courses (12 credits) in anthropology (ANTH) for a total of 15 credits.

## Sociology Minor

The sociology minor is for students *not* majoring in sociology. Students minoring in sociology must take SOCI1201 Introduction to Sociology plus four other courses (12 credits) in sociology (SOCI) for a total of 15 credits.

## Theater Arts Major (B.A.)

### School of the Arts

The theater arts program at FDU allows a student interested in making a career in theater have a choice of one of six concentrations offered: **acting, design and technical theater, directing, musical theater, playwrighting and theater studies.** Students will begin their studies at the Florham Campus in Madison, New Jersey; spend a semester in England at the University's Wroxton College\*; then return to the Florham Campus to spend two intensive years that will include internships with a choice of casting directors, talent agents or local or Manhattan-based theater companies. Madison's proximity to New York City will also enable students to take advantage of the many opportunities available in the "theater capital of the world."

### Requirements for the Bachelor of Arts Degree

Concentration choices should be made in consultation with an adviser. Students should see College requirements on pages 54–55 for details of the general education requirements.

### Concentrations

Six areas of concentration are offered.

### Acting Concentration

#### Foundation Courses (36 credits)

	Credits
DAN2506	
Movement for the Actor.....	3
THEA1203	
Basic Acting I.....	3
THEA2005	
Directing I.....	3
THEA2204	
Intermediate Acting.....	3
THEA2209	
Stagecraft I.....	3
THEA3336	
Acting for Film and Television.....	3
THEA3358	
Acting Shakespeare.....	3
THEA4405	
Senior Seminar: The Working Actor.....	3

\*To qualify for study at Wroxton College, students must maintain a 3.00 grade point ratio. If students do not qualify to study at Wroxton College, they may choose to minor in fine arts, with a theater concentration.

	Credits
THEA4420	
Advanced Acting.....	3
THEAH1201	
Development of the Theater:	
Ancient to Elizabethan.....	3
THEAH1202	
Development of the Theater:	
Restoration to Today.....	3
THEAH2255	
Playwriting and Dramatic	
Structure.....	3

### Cognate Requirements (9 credits)

One of the following courses offered at Wroxton College, England	
ENGL3421	
Not of an Age ... But for All Time.....	3
ENGL3422	
"The Play's the Thing".....	3
ENGL3424	
"To Hold the Mirror Up to Nature".....	3
ENGL3456	
20th-century Drama.....	3
<i>Plus two of the following</i>	
SPCH1107	
Fundamentals of Speech.....	3
SPCH1204	
Voice for the Actor.....	3
SPCH2004	
Speech and Diction.....	3

### Major Electives (9 credits)

Students should choose three from among the following recommended courses.	
DAN3316	
Stage Combat I.....	1
THEA1005	
Makeup for the Stage.....	1
THEA2510	
Stage Management.....	3
THEA2339	
Musical Theater Workshop.....	3
THEA3339	
The London Theatre Experience.....	3
THEAH3337	
Night at the Theater.....	3
Other courses are offered periodically.	

## Design and Technical Theater Concentration

### Foundation Courses (30 credits)

	Credits
THEA2005	
Directing I.....	3
THEA2209	
Stagecraft I.....	3
THEA2215	
Set Design I.....	3
THEA2310	
Stage Management.....	3
THEA3110	
Stagecraft II.....	3
THEA3112	
Lighting for the Stage.....	3
THEA3351	
Production and Crew I.....	1
THEA3352	
Production and Crew II.....	1
THEA3353	
Production and Crew III.....	1
THEAH1201	
Development of the Theater:	
Ancient to Elizabethan.....	3
THEAH1202	
Development of the Theater:	
Restoration to Today.....	3

### Cognate Requirement (3 credits)

One of the following courses offered at Wroxton College, England	
ENGL3421	
Not of an Age ... But for All Time.....	3
ENGL3422	
"The Play's the Thing".....	3
ENGL3424	
"To Hold the Mirror Up to Nature".....	3
ENGL3456	
20th-century Drama.....	3

### Major Electives (15 credits)

Students should choose five from among the following recommended courses.	
ART1201	
Drawing I.....	3
ART2236	
Introduction to Color.....	3
CGD1313	
Creative Imagery with Photoshop.....	3
THEA2216	
Set Design II.....	3
THEA3325	
Stagecraft III.....	3
THEA4415	
Building the Scenic Model.....	3
THEA4416	
Rendering and Drafting for the	
Theater.....	3

# Theater Arts

Maxwell Becton College of Arts and Sciences  
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## Directing Concentration

### Foundation Courses (45 credits)

	Credits
LITS3103	
Modern Drama: 1880–1930.....	3
THEA1203	
Basic Acting I.....	3
THEA2005	
Directing I.....	3
THEA2209	
Stagecraft I.....	3
THEA2215	
Set Design I.....	3
THEA2310	
Stage Management.....	3
THEA3006	
Directing II.....	1
THEA3112	
Lighting for the Stage.....	3
THEA3351	
Production and Crew I.....	1
THEA3352	
Production and Crew II.....	1
THEA3353	
Production and Crew III.....	1
THEA3358	
Acting Shakespeare.....	3
THEA4800	
Independent Study in Theater/ Directing.....	3
THEAH1201	
Development of the Theater: Ancient to Elizabethan.....	3
THEAH1202	
Development of the Theater: Restoration to Today.....	3
THEAH2255	
Playwriting and Dramatic Structure.....	3
THEAH3337	
Night at the Theater.....	3

### Cognate Requirement (3 credits)

One of the following courses offered at Wroxton College, England	
ENGL3421	3
Not of an Age ... But for All Time.....	3
ENGL3422	
“The Play’s the Thing”.....	3
ENGL3424	
“To Hold the Mirror Up to Nature”.....	3
ENGL3456	
20th-century Drama.....	3

## Musical Theater Concentration

### Foundation Courses (33 credits)

	Credits
DAN1320	
Beginning Dance I	
or	
DAN2505	
Dance II.....	3
MUSIC1015	
Basic Vocal Technique.....	3
SPCH1204	
Voice for the Actor.....	3
THEA1203	
Basic Acting I.....	3
THEA2204	
Intermediate Acting.....	3
THEA2209	
Stagecraft I.....	3
THEA2339	
Musical Theater Workshop.....	3
THEA2340	
Advanced Musical Theater Workshop....	3
THEA4405	
Senior Seminar: The Working Actor.....	3
THEAH1201	
Development of the Theater: Ancient to Elizabethan	
or	
THEAH1202	
Development of the Theater: Restoration to Today.....	3
THEAH3344	
History of the Musical.....	3

### Cognate Requirements (9 credits)

One of the following courses offered at Wroxton College, England	
ENGL3421	3
Not of an Age ... But for All Time.....	3
ENGL3422	
“The Play’s the Thing”.....	3
ENGL3424	
“To Hold the Mirror Up to Nature”.....	3
ENGL3456	
20th-century Drama.....	3
<i>And choose two from the following</i>	
DAN2020	3
Basic Tap.....	3
DAN2021	
Ballet I.....	3
MUSIH2221	
Fundamentals of Music Theory.....	3
SPCH1107	
Fundamentals of Speech.....	3

## Major Electives (12 credits)

	Credits
DAN2506	
Movement for the Actor.....	3
DAN2600	
Theater Dance.....	3
MUSIC1020	
Chorus.....	1
MUSIC1376	
Private Instruction in Voice.....	1
MUSIC2015	
Vocal Technique II.....	3
SPCH2004	
Speech and Diction.....	3
THEA1005	
Makeup for the Stage.....	1
THEA3336	
Acting for Film and Television.....	3
THEA3339	
The London Theatre Experience.....	3
THEA4420	
Advanced Acting.....	3
THEAH3337	
Night at the Theater.....	3

## Playwriting Concentration

### Foundation Courses (31 credits)

CREW4001, CREW4002	
Senior Writing Project I, II.....	6
FILM2250	
Screenwriting I.....	3
THEA1203	
Basic Acting I.....	3
THEA2005	
Directing I.....	3
THEA3351	
Production and Crew I.....	1
THEA4800	
Independent Study in Theater/ Internship with Playwrights Theater of New Jersey.....	3
THEAH1201	
Development of the Theater: Ancient to Elizabethan.....	3
THEAH1202	
Development of the Theater: Restoration to Today.....	3
THEAH2255	
Playwriting and Dramatic Structure.....	3
THEAH3337	
Night at the Theater.....	3
<i>Choose two from the following</i>	
LITS3103	
Modern Drama: 1880–1930.....	3
LITS3104	
Contemporary American Drama.....	3
LITS3105	
Contemporary European Drama.....	3

# Theater Arts

Maxwell Becton College of Arts and Sciences  
Florham Campus

## Cognate Requirement (3 credits)

One of the following courses offered at  
Wroxton College, England

	Credits
ENGL3421	
Not of an Age ... But for All Time.....	3
ENGL3422	
“The Play’s the Thing”.....	3
ENGL3424	
“To Hold the Mirror Up to Nature”.....	3
ENGL3456	
20th-century Drama.....	3

## Theater Studies Concentration\*

### Foundation Courses (29 credits)

DAN2506	
Movement for the Actor.....	3
DAN3316	
Stage Combat I.....	1
THEA1110	
Introduction to Acting.....	3
THEA2005	
Directing I.....	3
THEA2209	
Stagecraft I.....	3
THEA2310	
Stage Management.....	3
THEA3351	
Production and Crew I.....	1
THEAH1201	
Development of the Theater: Ancient to Elizabethan.....	3
THEAH1202	
Development of the Theater: Restoration to Today.....	3
THEAH2255	
Playwriting and Dramatic Structure.....	3
THEAH3337	
Night at the Theater.....	3

### Major Electives (16 credits)

Choose from the selection below.

DAN1320	
Beginning Dance I.....	3
MUSIH2221	
Fundamentals of Music Theory.....	3
THEA1005	
Makeup for the Stage.....	3
THEA2215	
Set Design I.....	3
THEA2220	
Introduction to Acting II (for non-majors).....	3
THEA2339	
Musical Theater Workshop.....	3

\*Students with a theater studies concentration are not required to spend a semester at Wroxton College, England.

	Credits
THEA3112	
Lighting for the Stage.....	3
THEA3336	
Acting for Film and Television.....	3
THEA3339	
The London Theatre Experience.....	3

## Dance Studies Minor

The dance studies minor provides a comprehensive overview of dance as an art form through technique, dance history, dance appreciation and choreographic practice. The minor develops a dancer’s technique, exposes students to a history of the art form and provides study in creative choreographic principles and practice.

### Required Courses (9 credits)

DAN1320	
Beginning Dance I	
	or
DAN2505	
Dance II.....	3
DAN2507	
Choreography.....	3
DANH1322	
Dance History and Appreciation.....	3

### Elective Courses (6 credits)

Select two of the following:

DAN2020	
Basic Tap.....	3
DAN2021	
Ballet I.....	3
DAN2022	
Ballet II.....	3
DAN2505	
Dance II (if not taken to fulfill required course).....	3
DAN2506	
Movement for the Actor.....	3
DAN2600	
Theater Dance.....	3
DAN3020	
Advanced Tap.....	3

## Music Minor

### Required Courses (9 credits)

MUSIH2211	
Survey of Music: Ancient to 1800.....	3
MUSIH2212	
Survey of Music: 1800 to Today.....	3
MUSIH2221	
Fundamentals of Music Theory.....	3

### Electives (9 credits)

MUSIC1015	
Basic Vocal Technique.....	3
MUSIC1020	
Chorus.....	1

	Credits
MUSIC1050	
Band.....	1
MUSIC1361	
Private Instruction in Bass.....	1
MUSIC1375	
Private Instruction in Piano.....	1
MUSIC1376	
Private Instruction in Voice.....	1
MUSIC1377	
Private Instruction in Woodwinds I.....	1
MUSIC1391	
Private Instruction in Guitar.....	1
MUSIC1396	
Private Instruction in Violin I.....	1
MUSIC2339	
Musical Theater Workshop.....	3
MUSIC4430	
Private Instruction in Clarinet.....	1–3
MUSIC4800	
Independent Study in Music.....	1–3
MUSIH1021	
Popular Music and Jazz.....	3
MUSIH2205	
Music for the Movies.....	3
MUSIH3344	
History of the Musical.....	3

## Musical Theater Minor

### Required Courses (9 credits)

DAN1320	
Beginning Dance I	
	or
DAN2505	
Dance II.....	3
THEA1110	
Introduction to Acting.....	3
THEA2339	
Musical Theater Workshop.....	3

### Choose three other courses from the following (9 credits)

DAN2020	
Basic Tap	
	or
DAN2021	
Ballet I.....	3
DAN2506	
Movement for the Actor.....	3
THEA2340	
Advanced Musical Theater Workshop...	3
THEAH3344	
History of the Musical	
	or
MUSIH2221	
Fundamentals of Music Theory.....	3

# Faculty & Staff

Maxwell Becton College of Arts and Sciences  
Florham Campus

## Theater Arts Minor

The theater arts minor offers a foundation in the diverse aspects of contemporary theater. The minor focuses on the collaborative approach to theatrical production allowing students to study both the practical and academic aspects of theater. Students emerge with knowledge of acting, directing, stagecraft and dramaturgy/theater history. Minors are also encouraged to audition for or to crew departmental productions on the Florham Campus' main-stage proscenium theater in Dreyfuss Building and in the Barn Theater. Between these spaces, the School of the Arts mounts a full season of musicals, classics and contemporary productions each year, providing opportunities for hands-on application of classroom learning.

### Required Courses (12 credits)

	Credits
THEA1110	
Directing I.....	3
THEA2005	
Directing I.....	3
THEA2209	
Stagecraft I.....	3
THEAH1201	
Development of the Theater: Ancient to Elizabethan	
or	
THEAH1202	
Development of the Theater: Restoration to Today.....	3

### Select one of the following (3 credits)

THEA2220	
Introduction to Acting II.....	3
THEAH2255	
Playwriting and Dramatic Structure.....	3

Note: Students who previously declared an 18-credit minor must complete a Declaration of Minor form (available in the Records Office) in order to convert to the revised, 15-credit minor. Students who convert to the revised minor MUST complete all requirements affiliated with the 15-credit minor. *No course substitutions will be permitted.*

## Faculty & Staff

### Administration

G. Weinman, Dean  
J. Lehr, Associate Dean for Academic Affairs

### School of the Arts

H. Libov (Film), Chair; R. Barkley (Animation), R. Chace (Creative Writing), J. Cinco (Computer Graphics), D.G. Cochrane (Studio Arts), A. Cohen (Music), D. Daniel (Creative Writing), D. Grand (Creative Writing), E. Hoffman (Film), S. Hollis (Theater), D. Landau (Film), S. Lents (Theater), C. Loewus (Theater), J. Moonelis (Studio Arts), J. O'Neil (Web Design), J. Shaw (Animation), R. Steinke (Creative Writing)

### Department of Biological and Allied Health Sciences

J. Salierno, Chair; J. Agugliaro, M. El-Sherbeini, T. Loreng, P. Melloy, E. Myers-Arnold, B. Narayanan, C. O'Connor-Fitzpatrick, B. Olechnowski, H. Parzer, S. Reynolds

### Department of Chemistry and Biochemistry

A. Teslja, Chair; G. Anderle, S. Bashkova, J. Bogart, M. Elshaer, E. Salaski

### Department of Communication Studies

G. Radford, Chair; C. Caldiero, K. Dunsmore, C. Foster, K. Haspel, S. Latson, J. Lehr

### Department of Literature, Language, Writing and Philosophy

M. Boyd (Literature), Chair; P. Bazán-Figuera (Spanish/Literature), S. Belen-Ramos (Spanish/Literature), P. Benson (Literature), L. Corces (Spanish/Literature), K. Douglas (College Writing), A. Fader (College Writing), N. Ghosh (Literature), O. Makridis (Philosophy), G. Pastorino (French/Italian/Literature), A. Patrick (Literature), F. Pinto (College Writing), B. Rabinowitz (College Writing), E. Reid (College Writing), K. Sammond (College Writing), G. Weinman (Literature), R. Young (College Writing)

### Department of Mathematics, Computer Science and Physics

L. Khreisat, Chair; I. Darwish, R. Mayans, J. Namazi, P. Penrice, D. Richton, K. Sharma, G. Singh, N. Sinha, M. Slaby, Y. Teper, R. Wagner

### Department of Psychology and Counseling

A. Tasso, Chair; D. Brown, D. Calcagnetti, T. Conklin, D. DeNigris, R. Griffo, K. Shirley, V. Viglione, D. Wentworth

### Department of Social Sciences and History

G. Darden (History), Chair; P. Burkholder (History), D. Cassino (Government and Law), F. Degiuli (Sociology), R. Houle (History), L. Huertas Castillo (History), K. Jenkins (Government and Law), R. Nasser (Sociology), R. Nisa (Geography), J. Nowotny (Criminology), B. Peabody (Government and Law), D. Rosen (Anthropology/Sociology), M. Sacks (Criminology), J. Schiemann (Government and Law), A. Shlosberg (Criminology)

### School of Pharmacy and Health Sciences

M. Avaltroni, Dean; A. Carbone, H. Cho, A. Dushenkov, S. Falbaum, A. Gallipani, Y. Guo, J. Han, O. Iwuchukwu, P. Jungsuwadee, N. Kallhoff, J. Kalabalik, D. Kim, C. Lam, M. Leibfried, A.E. Ozdener, J. Palummo, K. Patel, S. Patel, A. Pennoyer, R. Quinn, A. Rivkin, L. Rozaklis, N. Ryba, M. Slugocki, J. Sullivan, G. Vaidean, S. Vansal, L. Westrich, A. Zelinski